The Efficacy of Telehealth in Diminishing Stigmatization for Veterans Experiencing Mental Illness

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Abstract

Mental illness is a complex issue for service members and veterans due to exposure to a range of traumatic events during service. Many veterans in need of mental health treatment are reluctant to seek help due to stigma, which can lead to life-threatening consequences. Being able to reduce or remove stigma associated with mental illness is critical in improving the overall well-being of veterans. The Affordable Care Act galvanized interest in using telehealth to help meet major health care goals and in 2010, the Veterans Administration (VA) established the National TeleMental Health Center to provide veterans access to clinical providers throughout the county. The VA has invested in telehealth to establish timely treatment and potentially overcome stigma as a barrier. With telehealth being one of the most used services among veterans, this synthetized literature view will look at qualitative research on the efficacy of telehealth when compared to in-person mental health treatment in decreasing stigma associated with mental illness.

Objective

The aim of this synthesized literature review was to determine the efficacy of telehealth among veterans with mental illness and to fill in any gaps in the literature.

Methodology

A synthesized literature review of data was undertaken using a broad search approach from various databases. The articles selected for the synthesized review were peer-reviewed journal articles, governmental or private sector research, gray literature, and conference abstracts related to U.S. veterans and mental illness. The database searches expand over a period of 12 years and were limited to the English language. Articles that addressed telehealth services or mental health issues for veterans that served in the uniformed services of other countries were excluded.

Results

The literature review showed that stigma is a primary barrier to treatment seeking for those in the military community, with military masculinity as the common theme and how this institutional structure continues to promote stigma. The study found that those in the

military community most in need of treatment do not access or engage in care because of the fear of stigmatization. The selected articles looked at the use of telehealth when compared to in person (IP) or treatment as usual (TAU) and whether there was an increase in treatment access when stigma and other barriers were removed with the use of telehealth as a treatment modality. The selected articles for inclusion focused on PTSD, major depression, and MST within the veteran and active-duty military community. The review demonstrated the safety, feasibility, and efficacy of using telehealth and web-based interventions as modalities to provide evidence-based treatment and reduce stigma and other barriers to care. The study found that when using telehealth, the types of interventions deployed should be appropriate for this treatment modality and the type of telehealth service (telephone, homebased therapy, office-based telehealth, or video-teleconference) should be tailored to the symptomology of the individual seeking and engaging in treatment. Implications for future practice, policies, and research are discussed.

Key words: telehealth, stigma, veterans, mental illness, qualitative, systematic review, and thematic analysis

Dedication

When you go into a relationship, it is often noted that it is a 50/50 partnership but that is not always the case. While working on my doctorate there were periods that I struggled due to personal challenges and during those times, my husband picked me up and our relationship was 80/20. This showed me that he would always have my six and be a safe harbor when a storm was brewing or during periods of calm. I was fortunate enough to marry my best friend and could not have chosen a better person to move along this journey of life with. If it was not for my husband, Dr. Sye Bennefield, and the support and commitment of our three beautiful children, Alexis (23), Madison (16), and Joshua (14), and my grand-pup Lady to see me succeed, I don't know where I would be. So, this is dedicated to the best parts of my life with love and gratitude.

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To my husband, and three wonderful children, thanks for being editors, photographers, producers, and jokesters when I needed to laugh, providing a shoulder when I needed to cry, or just making me a cup of coffee to show that you cared. My grand-pup Lady was there to make certain that I went outside and engaged in grounding even when I didn't necessarily want to be outside, which turned out to be very beneficial. This would not have been possible without your pertinence, support, and encouragement. Finally, to my fellow DHSc colleagues, hang in there as this chapter of your story is nearing an end.

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List of Abbreviations

AMA..... American Medical Association

AMI..... Any Mental Illness

BATD.....Behavioral Activation Therapy for Depression

BA-TE..... Behavioral Activation Therapeutic Exposure

BRFSS..... Behavioral Risk Factor Surveillance System

CAPS..... Clinician Administered PTSD Scale

CASP..... Critical Appraisal Skills Programme

CDC.....Centers for Disease Control

CPT..... Cognitive Processing Therapy

DOD..... Department of Defense

HBT.....Homebased Therapy

HHS.....Health and Human Services

IHIP.....In Home in-Person

IP..... In-person

MISSION..... Maintaining Systems and the Strengthening Integrated Outside Networks

MLT..... Modified Learning Theory

MST..... Military Sexual Assault

MTF..... Military Treatment Facility

NAMI..... National Alliance on Mental Illness

NASSS.....Non-adoption, Abandonment, Scale-up, Spread, and Sustainability

NIH..... National Institute of Health

NIMH.....National Institute of Mental Health

OBT.....Office-based Telehealth

OEF.....Operation Enduring Freedom

OIF.....Operation Iraqi Freedom

PCL.....PTSD Checklist

PCL-M..... PTSD Checklist-Military

PE..... Prolonged Exposure

PRISMA.....Preferred Reporting Items for Systematic Reviews and Meta-Analysis

PTSD..... Posttraumatic Stress Disorder

RCT..... Randomized Controlled Trial

SAMHSA..... Substance Abuse and Mental Health Administration

SMI..... Serious Mental Illness

SUD..... Substance Use Disorder

TAU.....Treatment As Usual

TBH.....Tele-behavioral Health

TBI.....Traumatic Brain Injury

U.S.....United States

USMC.....United States Marine Corps

USO.....United Service Organization

VA.....Veterans Administration

VC..... Video Connect

VHA.....Veterans Health Administration

VISN..... Veterans Integrated Service Network

VTC.....Video-teleconferencing

VVC.....VA Video Connect

WHO..... World Health Organization

Chapter One

Introduction

Having equitable access to mental health services is a problem in the United States (U.S.), as was made clear on a national stage during the COVID-19 pandemic. In 2020, it was estimated that 52.9 million (21.0%) adults 18 years of age and older suffered from a form of mental illness (National Institute of Mental Health [NIMH], 2022a), and according to the Centers for Disease Control and Prevention (CDC, 2022a), 11.3% of adults have regular feelings of worry, nervousness, or anxiety and 4.5% have regular feelings of depression. However, obtaining mental health treatment is difficult because of the stigma attached to mental illness (Coombs et al., 2021). A subset of the general population for whom mental illness is a serious public health issue is veterans. According to the Substance Abuse and Mental Health Services Administration (SAMHSA) in its 2018 national survey on drug use and health, 24.7% of veterans suffer from serious mental illness (SAMHSA, 2020), with a 2-year median time to engage in mental health treatment following the veterans' last deployment (Maguen et al., 2012).

Mental illness tends to be very complex within the veteran population due to multilevel issues and comorbidities that must be addressed. Veterans might attend one or two mental health treatment sessions and then drop out, with only 9.5% of veterans from Operation Enduring Freedom (OEF) and Operation Iraqi Freedom (OIF) with Post Traumatic Stress Disorder (PTSD) receiving adequate mental health care a year after diagnosis (Maguen et al., 2012). Veterans with PTSD typically have co-occurring conditions of depression, and substance use disorders (Possemato et al., 2018). These conditions result in long-term consequences, because there is no timeline when mental health issues will appear (Inoue et al., 2021). According to Hefner and Rosenheck (2019), in a study of 638,451 veterans diagnosed with PTSD in 2012, only 29.8% suffered from PTSD alone. The study reported that 36.7% of the veterans had a concurrent psychiatric diagnosis, 21.3% had two, and 12.2% had three or more.

Inoue et al. (2021) indicated that veterans are at a greater risk of suicide in the first year after separation from military service. According to the United Service Organizations (2021), 30,177 active-duty personnel and veterans that served after 9/11 have died by suicide, compared to 7,057 service members that died in combat in the same 20 years. For example, veterans with mental health issues in rural areas have 70% lower odds of receiving any mental health treatment when compared to veterans residing in urban areas (Teich et al., 2017). Stigma often impacts a veteran's decision to access treatment for mental health disorders. According to Sharp et al. (2015), 60% of veterans that would benefit from mental health treatment do not seek care because of the role that stigma plays.

The term stigma originated from ancient Greece, where a mark or brand was burned or tattooed in the skin of the members of a castigated group, which signified the devalued status of the carrier (Martinez & Hinshaw, 2016). Stigma can exist in various forms including *self-stigma, anticipated stigma, public stigma, or institutional stigma*, which can all lead veterans in need of mental health treatment not to seek care. Goffman's theory of stigma (1963) can be used to explain the reluctance of veterans who need mental health treatment but do not seek care. This theory focuses on the relationship of devaluation where one person is disqualified from social acceptance due to perceived non-conformist or different behaviors (Fitzpatrick, 2008). Weiner's 1985 attribution theory focuses on how thinking that the individual is responsible for their mental health conditions results in feeling that the person is dangerous, resulting in rejection responses such as avoidance or segregation (Corrigan et al., 2003). Finally, modified labeling theory is the idea that there are shared beliefs in a culture that persons with mental illness are devalued and rejected, which are learned by members of the culture as a part of their socialization (Phelan et al., 2014). Although these frameworks will be discussed in further detail in this literature review, they help to explain barriers to utilizing mental health services and reasons why veterans decline treatment, delay treatment, show reluctance in seeking needed treatment, or do not follow through with mental health treatment.

Problem Statement

There has been a steady increase in extreme distress since data measured by the Behavioral Risk Factor Surveillance System (BRFSS) became available in the early 1990s (Blanchflower & Oswald, 2020). There has been a rise of mental illness among adults prior to the COVID-19 pandemic (Blanchflower & Oswald, 2020) and a considerable elevation of mental health conditions associated with COVID-19 (CDC, 2020). Even with the notable increase in mental disorders and need for mental health services, there continues to be an undeniable reluctance to seek mental health services both within the general population and among U.S. veterans. Veterans in rural areas experience lower health-related quality of life scores and higher rates of depression (Gale & Heady, 2013). The veteran suicide rate is increasing at a greater rate than that of the general population by almost 36% from 2001 to 2019 compared to 30% of the general population during this same time frame (CDC, 2022a). Among the average 17.2 veterans' daily suicides in 2019, 6.8 per day were among veterans who had Veteran Health Administration (VHA) encounters and 10.4 per day were among veterans with no VHA encounters (U.S. Department of Veterans Affairs, 2021).

Although the Veterans Administration (VA) has made it a priority to ensure that veterans receive the required mental health treatment for psychological distress, there continues to be reluctance to veterans being willing to seek mental health treatment, which hinders recovery (True et al., 2015). One of the commonly reported barriers for veterans not utilizing mental health services is associated with stigma. Additional barriers consist of shame, lack of understanding, wait times, provider shortages, and distance (U.S. Department of Veterans Affairs, 2022). According to the American Psychiatric Association (2023), individuals experiencing mental illness often delay or avoid treatment because of stigma, prejudice, and discrimination. The recognition that veterans and active-duty service members face traumatic events that differ from the general population, especially for the estimated 4.7 million veterans who live in rural communities following active-duty careers, punctuates the importance of receiving timely mental health treatment (Office of Rural Health, 2021).

The VA utilizes alternative methods of ensuring veterans in need receive high-quality care by removing barriers and improving hesitancy to receiving treatment with the use of telehealth, with a special emphasis on veterans in rural and remote locations (U.S. Department of Veterans Affairs, 2016). Telehealth can be conducted through telephone encounters or video chat with the use of a computer, tablet, or smartphone. Additionally, messages can be received from a health care provider using secure messaging, email, and secure file exchange (U.S. Department of Health and Human Services, 2022a). According to the World Health Organization (WHO), the use of telehealth increases the accessibility of mental health services and helps patients avoid stigma (Arafat et al., 2021). Telehealth provides access to resources, improves efficiency, reduces travel and wait times, and allows for improved quality of care (Gajarawala & Pelkowski, 2021). The ability to access mental health services through telehealth has the potential to improve outcomes, quality of life, and social support (Fletcher et al., 2018).

Project Purpose

The purpose of the synthesized literature review and thematic analysis was to explore whether the use of telehealth as a treatment modality would show a reduction in the experience of stigmatization for veterans with mental disorders and increase access to care when compared to traditional in-person methods of providing care. The study looked at mental illness among veterans from Operation Iraqi Freedom (OIF) and Operation Enduring Freedom (OEF), and other on-going theaters of operations and provided a better understanding of the phenomenon of stigma as a pivotal barrier for both urban and rural veterans access to care. Moreover, the study brought awareness to the fact that there is still a lot of work to be done when it comes to mental illness and stigmatization.

Research Questions

The following research questions guided the direction of this synthesized literature review and thematic analysis. The questions served to assess the efficacy of telehealth in diminishing the experience of stigmatization as a barrier to care utilization in comparison to traditional in-person means of service delivery.

RQ1: In veterans seeking mental health treatment, does the use of telehealth remote services compared to traditional in-person treatment diminish stigmatization as a barrier to care?

RQ1O: The anticipated outcome from the review will show support that veterans using telehealth experience reduced rates of stigmatization with increased care utilization when compared to traditional means of receiving treatment.

RQ2: In veterans in need of mental health treatment, what type of stigmatization, if any, does the use of telehealth remote services diminish?

RQ2O: The anticipated outcome from this literature analysis will support that for veterans using telehealth experience decreased public and self-stigmatization.

Scope of the Study

The literature review was primarily limited to veterans from OEF/OIF/OND, and other on-going theaters of operation associated with the VA and used telehealth as a treatment modality to address mental illness when stigma was seen as a barrier during the period of 2010 through 2022. Veterans from other eras and active-duty personnel were included in some studies for generalizability.

Chapter Two

Literature Review

The synthesized literature review and thematic analysis was designed to explore the efficacy of telehealth in diminishing the experience of stigmatization for veterans with mental health needs. This chapter focused on the current literature related to the use of telehealth in addressing the mental health needs of U.S. veterans. First, the prevalence and types of mental health issues in veterans were discussed. Next, the difference between telehealth and telemedicine as treatment modalities were addressed. Then the use of telehealth within the Veterans Health Administration prior to the COVID-19 pandemic and the changes brought about related to the telehealth infrastructure as a treatment modality during the pandemic were described. The use of telehealth as a modality to diminish mental health stigmatization long-term was investigated. Theoretical frameworks describing stigma as a barrier to mental health care along with the experience of using telehealth for veterans experiencing mental disorder was explored. Finally, how the use of telehealth assisted veterans in overcoming the barrier of stigma surrounding mental illness was described.

Search Strategies

A search of relevant literature was conducted from the databases of PubMed, Google Scholar, and JSTOR. The National Institute of Health (NIH) Library, Internet searches, and gray literature were also used in addition to the databases. The reference lists of the included studies and grey literature were also searched to identify other potential eligible studies. The keys word(s) used as a search criterion were mental illness, PTSD, suicide, veterans, Veterans Affairs, rural/underserved, telehealth, telemedicine, stigma, discrimination, meta-analysis, qualitative research, thematic analysis/method, attribution, labeling, theories, Operation Enduring Freedom, and Operation Iraqi Freedom. The articles selected for this review were peer-reviewed journal articles, governmental or private sector research and conference abstracts related to U.S. veterans and mental illness published between 2010 and 2022. The database review consisted of 200 articles expanding from 2010 to 2022, limited to the English language. Of the 200 articles reviewed, 30 were eliminated due to overlapping

themes, 20 were eliminated that only addressed telehealth for physical medical reasons, 10 were eliminated because of references to veterans outside of the United States, 20 were eliminated that only pertained to current active-duty military personnel, and five were eliminated due to only referencing veterans dealing with substance use disorder (SUD). The remaining articles selected for this qualitative literature review contained elements consistent with addressing stigma as a barrier with the use of telehealth among U.S. veterans experiencing mental health disorders.

Mental Health

One of the objectives of Healthy People 2030 is to address mental health and mental disorders. The objective focuses on prevention, screening, assessment, and treatment of mental disorders and behavioral conditions. This objective aims to improve health and quality of life for those affected by mental disorders and behavioral conditions (U.S. Department of Health and Human Services [HHS], 2022). Mental health is extremely important to one's overall health and well-being. It determines how we handle stress and how we relate to others (Centers for Disease Control and Prevention [CDC], 2022b). According to the NIH (2022a, p. 1), mental illness falls under two categories: Any Mental Illness (AMI), which encompasses all mental illness, and Serious Mental Illness (SMI), which is a smaller subset of AMI and consists of more severe mental health issues. AMI is a "mental, behavioral, or emotional disorder that can vary from no impairment to mild, moderate and even severe impairments." SMI results in "serious functional impairments that substantially interferes with or limits one or more major life activities." The National Alliance on Mental Illness (NAMI, 2022, p. 1) indicates that one in five adults in the United States experiences mental illness and one in 20 suffer from serious mental illness each year. In the military community, poor mental health prevalence ranges from 15-50% (McDaniel et al., 2018).

Common Mental Health Concerns for Veterans

Veterans face long-term mental health challenges resulting from both combat, general military service and separation from military service. Veterans residing in rural areas

tend to have access to fewer mental health services and have more mental health problems when compared to veterans residing in other parts of the United States (Boscarino et al., 2020). These factors lead to poor quality in mental health care in rural settings being more pronounced (Bosacrino et al., 2020). The most common mental health issues faced by veterans are outlined below.

Posttraumatic stress disorder (PTSD) develops when a person experiences or witnesses a traumatic event. Not everyone that experiences a traumatic event will develop PTSD, but for those who do, the symptoms may be mild in some and devastating in others. Additionally, the presence of PTSD increases the likelihood of individuals experiencing comorbid mental health issues. Symptoms associated with PTSD can appear within 3 months of the traumatic event, or they can appear years later. When symptoms appear, they typically last for 1 month, but can reoccur or intensify in response to reminders of the traumatic events (Social Security Administration, n.d.). Among veterans, military sexual trauma (MST) is one cause of PTSD.

Of those veterans that receive care from the VA, 23% report sexual assault and 55% of women and 38% of men have experienced sexual harassment during their time in the military (National Center for PTSD, 2022). PTSD is 13% more common in female veterans compared to their male counterparts at 6% (National Center for PTSD, 2022). Research examining differences in racial grouping for PTSD has shown conflicting results in which some research found increased risk, prevalence, and severity of symptoms in racial minority veterans where other research has found no differences based on race (Coleman et al., 2019). Additionally, a study reported that rural veterans are more likely to have received a diagnosis of PTSD, depression, or anxiety disorder, but other research has found no difference between rural and urban veteran mental distress based on the Behavioral Risk Factor Surveillance System (BRFSS) survey (Boscarino et al., 2020). Epidemiological studies suggest 14-16% of veterans who fought in Afghanistan and Iraq were diagnosed with mental illnesses such as PTSD and depression (Inoue et al., 2021) and experienced outcomes of mental illness,

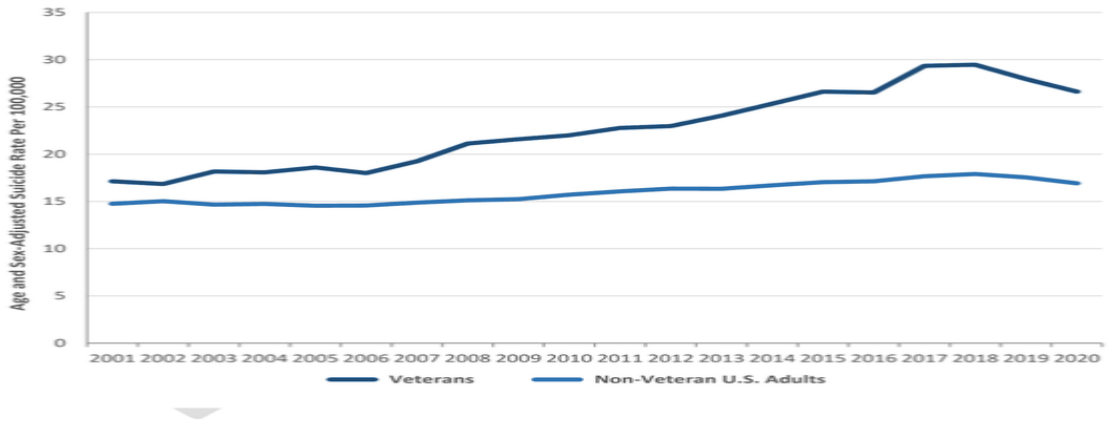
notably suicide at a greater rate than those in the general population (National Academies of Press, 2010).

Suicide, according to the Centers for Disease Control and Prevention (CDC, 2022c), is death occurring due to a person injuring themself with the intent to die. Attempted suicide refers to a person that harms themself with intent to end their life, but they do not die because of their actions. The Veteran Suicide Prevention Annual Report showed that veterans diagnosed with SUD had higher rates of suicides when compared to those with depression or PTSD (U.S. Department of Veterans Affairs, Office of Mental Health, and Suicide Prevention, 2020). According to the CDC, veterans had a 52.3% greater adjusted suicide rate when compared to non-veterans within the U.S. adult population. In 2019, 1.6% of veterans aged 18-25 reported a suicide attempt within the previous 12 months, which increased from 0.9% in 2009 (SAMHSA, 2021).

Individuals living in rural areas have higher rates of suicide when compared to their urban counterparts with the rates increasing as areas become more rural (CDC, 2022c). Veterans living in rural areas have a 20-22% greater risk of dying by suicide when compared to veterans living in urban areas (McCarthy et al., 2012). Among female veterans, the rate of suicide is 35 per 100,000, which is much higher than their civilian counterparts (Hester, 2017) are. As shown in Figure 1, the most recent data from the VA indicates that veterans in the United States are 50% more likely to die by suicide compared with their civilian counterparts after adjusting for age and sex (U.S. Department of Veterans Affairs, 2021).

Figure 1

Age- and Sex-Adjusted Suicide Rates, U.S. Adult Veterans and Non-Veterans, 2001-2020



From "2022 National Veteran Suicide Prevention Annual Report, VA Suicide Preventions, Office of Mental Health and Suicide," by The Veterans Affairs. https://www.mentalhealth.va.gov/80/docs/data-sheets-National-Veteran-Suicide-Prevention-Annual-Report.

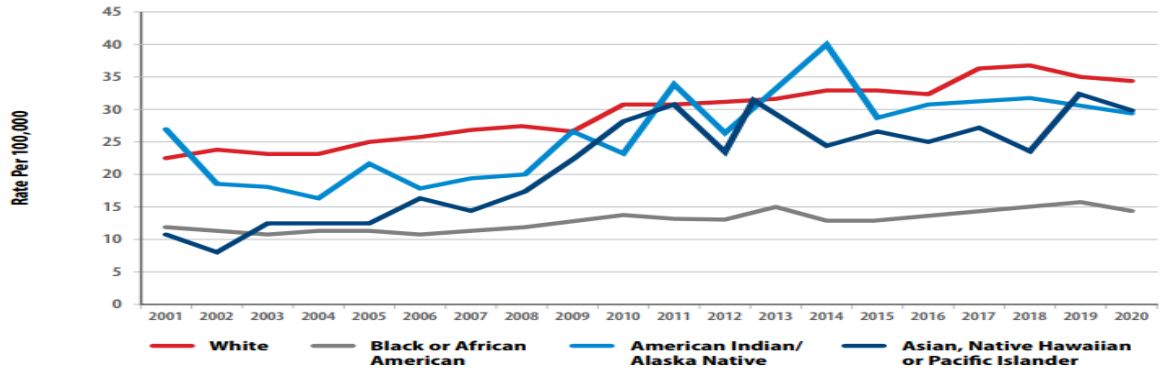
There are almost 20 veterans dying daily by suicide, with the age- and sex-adjusted suicide rate increasing by 36% between 2001 and 2019 compared to an increase in the general population of 30% (U.S. Department of Veterans Affairs, 2021). Although there are known risk factors for suicidal behaviors among veterans, most predict suicidal ideations, rather than suicide attempts (Nock et al., 2018). Being a part of the White race has been identified as a risk factor for completed suicides, with Hispanic veterans being at a lower risk for suicide when compared with non-Hispanic veterans (Lee et al., 2018). Figure 2 shows the unadjusted veteran suicide rates by race according to the VA 2022 suicide prevention annual report. In 2020, the suicide rate per 100,00 veterans was 34.2 for White veterans; 30.2 for Asian, Native Hawaiian, or Pacific Islander veterans; 29.8 for American Indians or Alaska Native veterans; and 14.2 for Black or African American Veterans. In 2020, the suicide rate among White veterans was more than twice the rate for Black or African American veterans (Veterans Affairs, 2022).

Additionally, male veterans are more likely to die by suicide than female veterans (Lee et al., 2018). Figure 3 shows that the rate of suicide for male veterans was highest in 2018 and for female veterans in 2017, with a decline among both sexes through 2020

(Veterans Affairs, 2022) with the Air Force showing a significant decrease (Garamone, 2022). This decline can be contributed to the VA partnering with community mental health providers, Veteran Service Organizations, sharing best practices and transforming the delivery of care to expand available resources to veterans (U.S. Department of Veterans Affairs, 2012)

Figure 2

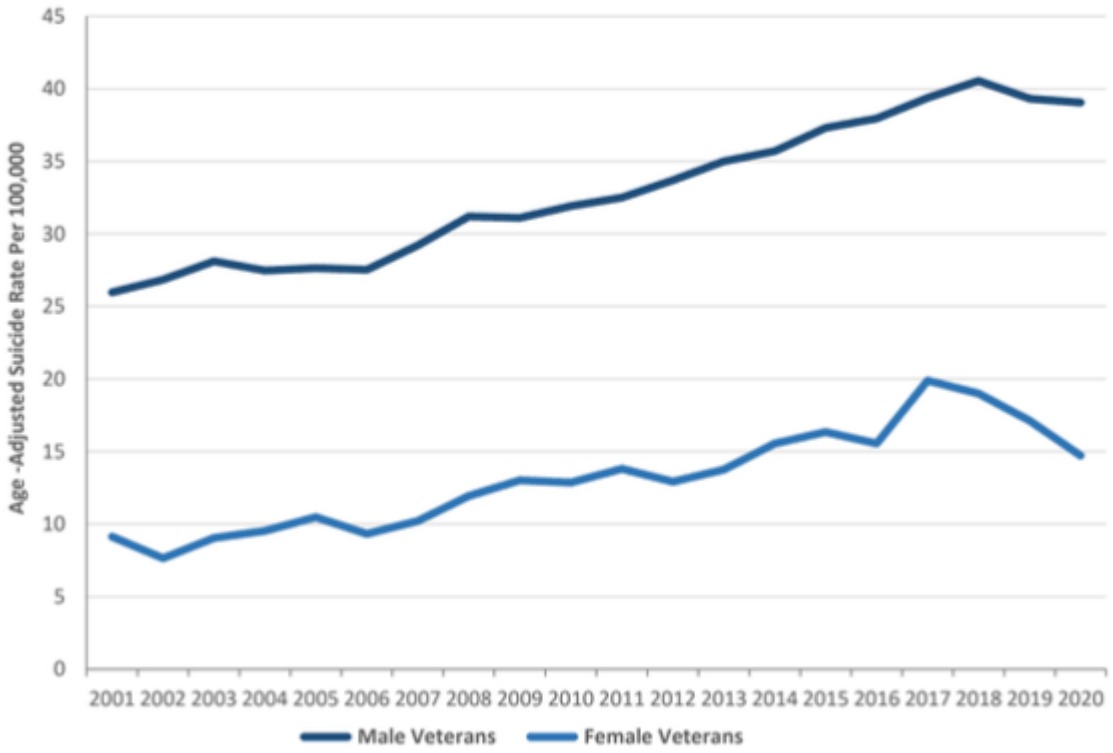
Unadjusted Suicide Rates, Veterans, by Race, 2001-2020



From "2022 National Veteran Suicide Prevention Annual Report, VA Suicide Preventions, Office of Mental Health and Suicide," by The Veterans Affairs. https://www.mentalhealth.va.gov/80/docs/data-sheets-National-Veteran-Suicide-Prevention-Annual-Report.

Figure 3

Age-Adjusted Suicide Rate per 100,000 Male and Female Veterans, 2001-2020



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Several VA studies found that a large portion of veterans do not receive treatment following a mental health diagnosis of PTSD, SUDs or depression (National Academies Press, 2018), and other psychiatric disorders such as anxiety and somatoform symptoms, which have all been noted to be increased predictors for suicide (Lee et al., 2018). Veterans bear a disproportionate rate of suicide than the general U.S. population and most of those who die by suicide are not engaged in care from the VA but depend on community-based resources (U.S. Department of Veterans Affairs, 2021). Figure 4 shows the annual number of veterans' suicide deaths with an increase from 26.2% to 39.7% in 2020 for those with recent encounters within the Veterans Health Administration (U.S. Department of Veterans Affairs, 2022). Table 1 shows the suicide death rates among veterans by mental health and SUD diagnosis. Despite the substantial public health efforts to reduce the rate of veteran suicides in the United States, incidences continue to rise (Nichter et al., 2021). Therefore, the need to

work on diminishing stigma is a critical component in improving the likelihood of those in need seeking treatment, because in 2018, an average of 18 veterans died daily by suicide, with an average of seven having obtained recent care at the VA (U.S. Government Accountability Office, 2021).

Table 1

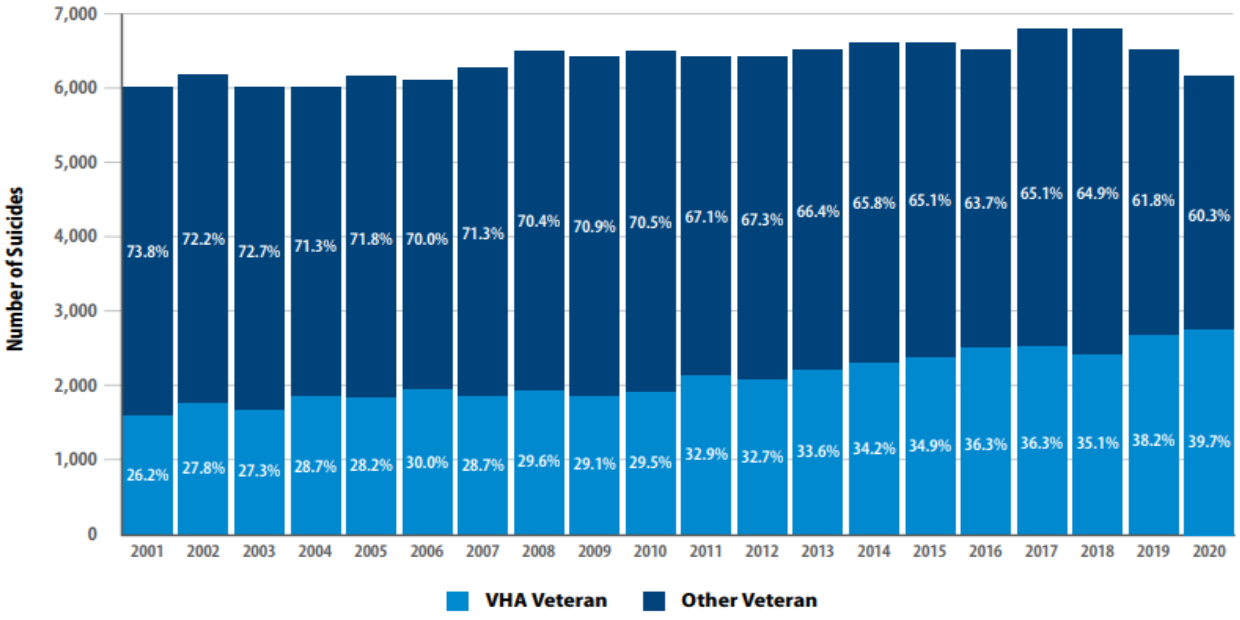
Suicide Deaths and Rates Among Recent VHA Users, by Mental Health and SUD Diagnosis, 2019-2020

	SUICIDE DEATHS		SUICIDE RATES PER 100,000[39]		
Diagnoses[40]	**2019**	**2020**	**2019**	**2020**	**Change[41]**
Without MH Condition/SUD	**1,005**	**1,025**	**28.2**	**29.8**	**+1.7**
With Any MH Condition/SUD	**1,472**	**1,415**	**57.1**	**55.5**	**-1.7**
Anxiety	650	625	68.8	64.8	-4.0
Bipolar disorder	185	184	109.5	111.4	+1.9
Depression	946	859	66.6	60.9	-5.7
Personality disorder	122	112	154.0	147.9	-6.1
Posttraumatic stress disorder	599	595	53.8	52.9	-0.9
Schizophrenia	81	109	87.4	123.5	+36.1
Substance Use Disorder	**623**	**626**	**87.1**	**89.9**	**+2.8**
Alcohol use disorder	491	478	89.9	90.1	+0.2
Cannabis use disorder	177	202	93.0	108.8	+10.2
Cocaine use disorder	63	67	64.6	74.8	+15.8
Opioid use disorder	108	119	114.4	133.1	+18.7
Sedative use disorder	38	33	195.1	185.8	-9.3
Stimulant use disorder	85	93	138.9	159.9	+21.0

From "2022 National Veteran Suicide Prevention Annual Report, VA Suicide Preventions, Office of Mental Health and Suicide," by The Veterans Affairs. https://www.mentalhealth.va.gov/80/docs/data-sheets-National-Veteran-Suicide-Prevention-Annual-Report.

Figure 4

Veteran Suicides, Percentages With and Without Recent VHA Health Care Encounters, 2001-2020



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Depression leads to sadness, loss of interest in activities, withdrawal, and lack of energy (VA, Office of Research & Development, 2021). Major depression is the most common mental health disorder in the United States with the highest level of disability among those with mental and behavioral disorders according to the National Institute of Mental Health (NIMH, 2022b). Experts believe that a combination of genes and stressful events lead to depression (U.S. Department of Veterans Affairs, 2016a). In a VA report in 2008, it was noted that one in three veterans receiving care in primary care clinics had symptoms of depression, with one in five with serious symptoms and one in eight to 10 had major depression, which required treatment (VA, Office of Research & Development, 2021). The National Survey on Drug Use and Health indicated that 6.7% of adults in the United States

had at least one episode of major depression, with 12.0% of adults taking an antidepressant (Liu et al., 2019).

In a retrospective study of veterans serving one tour during OEF and OIF using data from the VA, found that those that received a diagnosis of depression were often younger females and often African American when compared to Caucasian females and their male counterparts (Maguen et al., 2010). Males were more frequently diagnosed with PTSD and alcohol use disorder, with a younger age being associated with a greater risk for PTSD (Maguen et al., 2010). Research has shown that veterans who suffer from PTSD, depression and TBI have the highest levels of difficulty with reintegration (U.S. Department of Veterans Affair, 2016a).

Traumatic brain injury (TBI) is an injury that affects how the brain works and is a major cause of death and disability in the United States (CDC, 2022b). A person suffering from a TBI could be dazed or lose consciousness and may even experience memory loss (U.S. Department of Veterans Affairs, 2022). There have been more than 185,000 veterans diagnosed with mild TBI (concussion) among those receiving care at the VA, which is the most common form of TBI sustained by service members. Female veterans have a lower rate of TBI with it likely being a result of intimate partner violence resulting from head trauma sustained during MST (Cogan et al., 2020). In five retrospective cohort studies, female veterans receiving care in outpatient VHA settings had lower rates of being screened for TBI and if they did receive a positive screen, they were less likely to complete a comprehensive TBI evaluation (Cogan et al., 2020). TBI can lead to both long-term mental and physical issues that could influence a veteran's reintegration into community life (U.S. Department of Veterans Affairs, 2022). The VA policy requires all veterans receiving care within the VA system be screened for TBI and those who receive a positive screening are subject to additional evaluation and treatment (Bagalman, 2013).

Substance use disorder (SUD) is a disease that causes individuals to have difficulty with controlling their use of alcohol, drugs, and other substances to include opioids (Veterans Affairs, 2022). SUDs within the veteran population can affect their mental and

physical health along with work performance, housing status, and social functioning negatively and may even lead to veterans becoming adversely involved in the criminal justice system (VA, Office of Research & Development, 2021). The VA has attempted in conjunction with other agencies to reduce the incidence of SUDS over the past two decades, but the rates among veterans continue to increase (Teeters et al., 2017). More than one in 10 veterans have a diagnosis of SUD and is more common among males than female veterans and they tend to be young and unmarried (Teeters et al., 2017). An epidemiological study found that the overall prevalence of SUD was lower among male veterans when compared to their civilian counterparts when age was not a factor (Hoggatt et al., 2017).

However, when males ages 18-25 are accounted for, SUD among male veterans was higher when compared to their civilian counterparts, with reports of heavy use of alcohol being the most common in 1 month for veterans at 7.5% compared to their civilian counterpart at 6.5% (Teeters et al., 2017). Veterans who present with SUD higher rates of suicidal ideations and attempts with 30% of completed suicides resulting from alcohol or drug use prior to death and an estimated 20% of high-risk behaviors resulting in death were associated with alcohol or drug overdose (Teeters et al., 2017).

Schizophrenia, according to the National Institute of Mental Health (NIMH, 2022c), is a SMI that influences how a person thinks, feels, and behaves. Individuals with schizophrenia can present with psychotic symptoms of hallucinations, delusions, thought disorders, and movement disorders. Individuals may also present with cognitive symptoms such as problems with attention, concentration, or memory (NIMH, 2022c). Schizophrenia affects approximately 120,000 veterans who receive treatment at the VA. In a study conducted from January 2013 through September 2019, there was a higher rate of SUD disorder, 42% among veterans with a diagnosis of schizophrenia when compared to those without schizophrenia at 25% (Lin et al., 2022). Additionally, young veterans (31%) with schizophrenia experienced PTSD and 11% had suicidal ideations with only 19% of those without schizophrenia experiencing PTSD and 0.3% experienced suicidal ideations (Lin et al., 2022). Individuals with schizophrenia have a 15–20-year shorter life expectancy when

compared to individuals without schizophrenia (U.S. Department of Veterans Affairs, 2021b) and occur earlier in men than in women (World Health Organization [WHO], 2022). Individuals who suffer from schizophrenia often must deal with human rights violations both inside mental health institutions and in the community due to intense widespread stigma that contributes to discrimination (WHO, 2022).

Bipolar disorder, according to the WHO (2019), consists of both manic and depressive episodes separated by periods of normal mood. During periods of mania, individuals display irritable mood, over-activity, rapid speech, and inflated self-esteem with a decreased need for sleep. On the low side, individuals may experience feelings of crippling depression. In a study between 2011 and 2014 of 8,049 male veterans and 1,290 female veterans with schizophrenia or bipolar, female veterans with a diagnosis of bipolar had higher rates of suicidal behaviors and suicidal attempts, but only suicidal ideations were present in males (Boyle, 2020). Despite the increase in veterans receiving mental health treatment, fewer than 50% of veterans returning from Afghanistan or Iraq receive any treatment for mental illness (U.S. Department of Veterans Affairs, 2022).

The unique and often complex mental health conditions faced by veterans can be treated effectively, but discrimination and stigma leave those with mental illness to die prematurely (WHO, 2022). There is a belief that all veterans have access to mental health treatment within the VA; however, this is not accurate. The reality is less than half of the veterans in the United States receive care via the VA, which results in nearly one in 10 veterans relying on health care with limited mental health benefits or without benefits at all (Abrams, 2017). Additionally, veterans residing in rural areas have 70% lower odds of receiving any mental health treatment. Veterans in rural areas with a mental health condition had approximately 52-64% lower odds of receiving outpatient treatment and medication when compared to those living in urban areas (Teich et al., 2017).

The evolution of technology and policies has made way to new and innovative approaches to delivery of mental health services (Fletcher et al., 2018). The use of telehealth increases the accessibility of mental health services and helps patients avoid stigma (Arafat

et al., 2021). The WHO noted that by harnessing the power of digital technology, there could be global attainment of health (WHO, 2022) with the use of telehealth or telemedicine. The use of technology assisted with research and evaluation, education of health care providers, and provided rapid access to specialists who are unavailable in person, according to the WHO (Arafat et al., 2021). The introduction of technology into the realm of mental health has led way to a new frontier of mental health support.

Telehealth Versus Telemedicine

The use of technology to provide care is not new; it began when face-to-face interactions were difficult because of cost, distance, or the unavailability of transportation (Gogia, 2020). Although the use of telehealth and telemedicine are used interchangeably, they are not the same. The Substance Abuse and Mental Health Services Administration (SAMHSA, 2021) defines telehealth as the use of telecommunication technologies and electronic information to supply care and facilitate client-provider interactions. Telemedicine is under the umbrella of telehealth and only deals with using technology to deliver clinical care at a distance (American Academy of Family Physicians, 2022). Telehealth and telemedicine cover similar services to include education, remote monitoring, consultations via videoconferencing, wireless health applications, transmission of imaging and medical reports, improvements in health care information technology, and the expansion of access (Gajarawala & Pelkowski, 2021). Care provided under the umbrella of telehealth can be either clinical or non-clinical. During this synthesized literature review, the term telehealth will be used when referring to the delivery of mental health treatment with the use of technology.

Modalities of Telehealth

There are two modalities for providing telehealth services. One method of supplying telehealth is synchronously, which is the interaction between a patient and provider in real time. With synchronous telehealth, patients and providers interact usually by phone or video where patients and providers communicate directly often resulting in a diagnosis, treatment plan, or prescription (Health and Human Services [HHS], 2021). Synchronous telehealth can

also include blood pressure or heart rate monitor, thermometer, oximeter, camera, or scale to assist providers in making accurate assessments if necessary (HHS, 2021). Synchronous telehealth has the advantage of reducing patient no-shows, increasing patient retention, and offering appointments before or after the traditional workday to meet the needs of patients (HHS, 2021).

The second method is asynchronously, which is the collection of health information at one point in time and responded to at another point in time (SAMHSA, 2021). Asynchronous telehealth is also known as "store-and-forward" when providers review submitted patient information later to provide a diagnosis or treat issues (HHS, 2021). Clinical digital samples, still images, video, audio, or text files are captured in one location and are transmitted to a remote location for interpretation by health care professionals without requiring the simultaneous patient's presence (Deshpande et al., 2009). Asynchronous telehealth is used to evaluate whether an office visit is warranted. Additionally, health care professionals utilize telehealth modality for the purpose of professional consultations to improve patient care (American Medical Association, 2022).

Telehealth History

Telehealth is not a new phenomenon; it has been used for decades. The inventor of the electrocardiogram published a paper in 1906 on the tele-cardiogram and since the 1920s, the use of a radio to provide medical advice to ships (Nesbitt, 2012). In 1925, the magazine cover of *Science and Invention* displayed a doctor diagnosing a patient by radio. Inside the magazine was a device that would allow video examinations (Nesbitt, 2012). The first clinicians to use video communication for medical purposes were at the University of Nebraska in 1959. During this time, the university created a two-way television setup to send information across campus to medical students, and 5 years later, the university linked to a state hospital to provide video consultations ("When Did it Start," 2020). Home monitoring fully developed in the Mercury space program when the National Aeronautics and Space Administration began performing physiologic monitoring at a distance (Nesbitt, 2012).

The original intent of telehealth was to eliminate barriers to care commonly associated with those in rural communities such as travel time, distance, expense, and lack of local providers with specialized or culturally competent training (Gagnon et al., 2003). Alaska was the model for the development of telemedicine. Community health aides in small villages in Alaska would perform otoscopy and audiometry, which was sent to a specialist in Anchorage or Fairbanks to make the determination whether a patient required more definitive in-person treatment (Nesbitt, 2012). Since the 1900s, there has been an expansion of telehealth, with use in various settings. One of the most famous uses of telehealth was in the late 1950s and early 1960s in a hospital setting where they established a closed-circuit television link between the Nebraska Psychiatric Institute and Norfolk State Hospital for psychiatric consultations (Nesbitt, 2012). Since that time, telehealth has continued to expand within various medical settings to include the Veteran Administration (Centers for Disease Control and Prevention [CDC], 2022c). The VA began using telehealth in the late 1990s and grew to a nationwide system by 2003 (Caudill & Sager, 2015) with a reported 2,749,000 telehealth encounters since fiscal year 2002 (Veterans Administration, 2018).

In 2008, the VA created a comprehensive telehealth training program to educate clinicians on best practices for telehealth (National Academies of Sciences, 2018). There has been increasing recognition that there are veterans who are not receiving needed mental health treatment (Teich et al., 2017) due to uneven access, which echoes the disparities in the general population (Hester, 2017). With the introduction of the COVID-19 pandemic, telehealth became the standard method of providing services in many health care arenas including increased utilization within the VA. The recognition that veterans and active-duty service members face traumatic events that differ from the general population, especially for the estimated 4.7 million veterans who live in rural communities following active-duty careers, punctuates the importance of having access to culturally competent mental health treatment (Office of Rural Health, 2021).

Telehealth and the Veteran Administration

The comorbidities faced by veterans have made health care access a priority for the VA, with transportation and distance being the biggest impediments (Zulman et al., 2019). Among the nine million veterans enrolled and receiving care at the VA, a third reside in rural, highly rural, and insular island areas (Zulman et al., 2019). The geographic location where some veterans reside has been a deterrent in accessing care coupled with the internalized stigma associated with mental illness. The VA was an early adopter of technology to address barriers associated access, which resulted in telehealth becoming the cornerstone to enhance access (Zulman et al., 2019). In fiscal year 2016, more than 702,000 veterans received care through telehealth. However, until recently, the use of telehealth was reserved for those in rural areas.

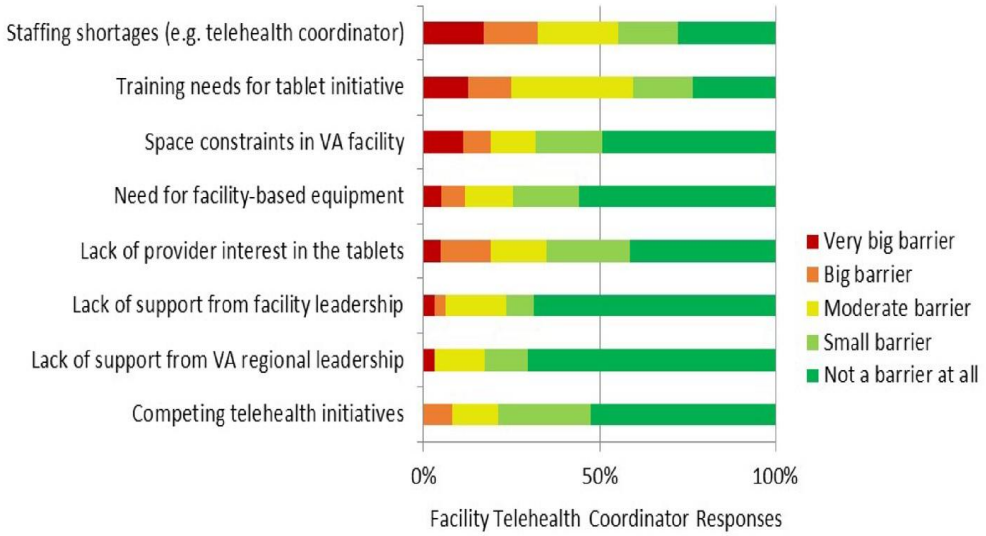
The VA has supported the use of technology to remove barriers and improve access. Prior to the COVID-19 pandemic, telehealth was limited to veterans who could travel to a community-based outpatient clinic to connect with providers at other facilities (Slightam et al., 2020). This process presented some issues, because providers felt that these video visits disrupted the clinic workflow and could potentially be perceived as impersonal by some patients (Brooks et al., 2013). To extend its access to care beyond the community-based outpatient clinics, the VA launched a pilot initiative between May 1, 2016, and September 30, 2017, and distributed 5,000 video-enabled tablets to 6,745 patients at 86 VA facilities. Most of the tablet recipients lived in rural areas and 75% had a diagnosis of mental illness (Slightam et al., 2020). Providers and patients both gave informed consent to use telehealth and providers were trained on using the video technology to connect to the patient's tablets (Slightam et al., 2020).

The response of 68 facility coordinators that completed the survey associated with the initiative showed that 86% of providers and 82% of veterans responded well to the initiative (Zulman et al., 2019). The survey showed barriers to implementation consisted of staffing shortages (59%), training needs (55%), and lack of provider interest (33%). Additional barriers that were noted in interviews were competing demands and technical

issues (Zulman et al., 2019). Figure 5 shows additional barriers indicated by the facility telehealth coordinators based on severity. The feedback obtained from this initiative was timely, in relation to the VA Maintaining Systems and the Strengthening Integrated Outside Networks (MISSION) Act enacted in 2018, which extended legislative authority to clinicians working at any VA facility to offer telehealth services irrespective of clinician or patient location by 2020 (Zulman et al., 2019).

Figure 5

VA Tablet Initiative Implementation Barriers



Note. The colors indicate the severity of the perceived barriers to implementation of the VA's nationwide tablet initiative according to the survey response (N = 68 Facility Telehealth Coordinators). From "Making connections: nationwide implementation of video telehealth tablets to address access barriers in veterans," by Donna M. Zulman, Emily P. Wong, Cindie Slightam, Amy Gregory, Josephine C. Jacobs, Rachel Kimerling, Daniel M Blonigen, John Peters, Leonie Heyworth, 2019, JAMIA Open, Volume 2, Issue 3, p. 323-329 (https://doi.org/10.1093/jamiaopen/ooz024).

The VA Mission Act was expedited in response to COVID-19 pandemic. The pandemic made the use of telehealth critical and with the onset of the COVID-19 pandemic, there was rapid advancement in the provision of telehealth services moving from a preference to a critical method for maintaining continuity of care (Rosen et al., 2021). In the face of the pandemic, the VA accelerated training to prepare clinicians to perform telehealth via video and demonstrated techniques for establishing a positive experience for both the provider and the patient (Rosen et al., 2021). The VA also required a review of the video technology platform and provided troubleshooting tips. Providers could also conduct

telephone telehealth visits. There were no formal trainings required by clinicians to conduct telephone telehealth visits. However, providers followed some of the same protocols established for video telehealth (Rosen et al., 2021). A review of 38 studies on the attitude of providers towards telehealth found that it was effective and valued in its ability to improve access, save money, and increase flexibility (Rosen et al., 2021).

The pandemic demonstrated the feasibility of delivering high quality, evidence-based care with the use of telehealth (Rosen et al., 2021). However, some clinicians reported using telehealth created more work, issues with poor audio or visual quality, or disconnections during sessions (Rosen et al., 2021). In the beginning phase of the pandemic, the VA clinicians provided most telehealth encounters by phone, because some patients lacked reliable internet or devices to use video (Rosen et al., 2021). In April 2020, 65% of mental health visits were conducted by phone and 14% were conducted by video with only 1% conducted in person for essential services such as methadone dosing, transcranial stimulation, and inpatient acute care (Rosen et al., 2021). By June telephone encounters declined to 59% with the video visits increasing to 305,000. Even with this increase, most of the visits conducted in June were still by phone (Rosen et al., 2021).

The reluctance of some clinicians to transition to video visits was due to difficulty reeducating veterans and clinicians who initially began using the phone for treatment to shift to video. Additional reasons why phone treatment was still higher than video was due to limited administrative support in launching telehealth, difficulty in preparing veterans who were not tech savvy, the difficulty of some clinicians being comfortable with video visits, and the lack of good internet connectivity in some areas (Rosen et al., 2021).

Frameworks Guiding Study

Factors Influencing Telehealth Implementation

The VA had the ability to pivot to telehealth services easily during the COVID-19 pandemic because of its previous telehealth infrastructure prior to the pandemic. However, even with its preparation, there were still challenges that the VA had to address. When addressing the implementation of new health technologies, the Non-adoption,

Abandonment, Scale-up, Spread, and Sustainability (NASSS) framework outlines seven factors that new technology implementation is based upon. The factors are (1) the value of the innovation; (2) the availability and complexity of the technology; (3) the clinical complexity of the condition and population being treated; (4) the degree to which adopters need to develop new skills; (5) the organizations' s capacity for change; (6) the regularity and financial context; and finally, (7) the organizations' s ability to adapt and embed the technology into work processes (Greenhalgh et al., 2017). The original intent of telehealth was to reduce travel and logistical burdens and increase access for specialty care for patients in rural communities. However, the pandemic forced a drastic shift to telehealth services. Appendix A summarizes the prior preparation, the immediate response, and the challenges that emerged during the VA's expansion of telehealth before and after COVID-19. The NASSS developed a framework to summarize the challenges to adoption and expansion of telehealth (Appendix A). The framework summarizes the reasons that the VA felt that telehealth should be used. Some of the suggestions provided included the complexity associated with telehealth utilization, risk management, the support for change, reimbursement, and the integration process (Greenhalgh et al., 2017).

The recent COVID-19 pandemic demonstrated how telehealth assisted providers in expanding access to a larger geographic area, with the reduction of the burden of travel, and decreased cost. Moving towards telehealth as a standard modality of care showed an increase in the likelihood of veterans accessing treatment when there may have been resistance in the past due to stigma. The benefits that telehealth provided during the pandemic encouraged the continued utilization of telehealth as the country moved out of the critical stages of the pandemic towards post pandemic, because the mental health needs of veterans and those in the general population are not being adequately met with just in-person encounters. Veterans and those in the general population should have a choice in how they receive care that is convenient, effective, and without stigmatization.

Factors Influencing Seeking Treatment

In 2014, the VA faced a wait time scandal. The scandal involved excessive delays in providing outpatient services resulting in the Veterans Access, Choice, and Accountability Act of 2014 (Gurewich et al., 2021). The act established the Veterans Choice Program, which allowed the VA to purchase care from a network of community providers for veterans who were eligible for care through the VA, lived 40 miles from the nearest VA facility, were unable to receive care within 30 days, or experienced specific hardships in accessing the VA (Gurewich et al., 2021). The implementation of community care benefited rural veterans who often face greater obstacles due to geographic and distance barriers, and hospital closings (Gurewich et al., 2021). To address the unique needs of rural veterans, the Office of Rural Health was established in 2006. Additionally, community-based outpatient clinics were implemented in rural communities, veterans were reimbursed for travel to the VA for treatment, and telehealth services were established (Gurewich et al., 2021).

In 2018, Maintaining Systems and the Strengthening Integrated Outside Networks (MISSION) Act was implemented (Gurewich et al., 2021). Even with the implementation of these acts, a study indicated that a large proportion of veterans experienced wait times that exceeded the standards set for access (Feyman et al., 2022). It was found that 44.2% of appointments with the VA exceeded wait time standards and 49.9% with community care clinicians exceeded wait time standards and suggested that additional work needs to be conducted to determine whether disparities in wait times are associated with race and ethnicity, gender, age, or health status (Feyman et al., 2022). For veterans, health beliefs related to mental illness and stigma plays a large role in utilization of services. Veterans who perceived a higher rate of public stigma related to seeking treatment for mental health issues showed lower rates of service utilization. A small number of veterans indicated that they would judge another veteran if they sought treatment for mental health issues (Kulesza et al., 2015).

The most frequent reason given by veterans for not using mental health services was the concern of judgment by others (Kulesza et al., 2015). Veterans weigh their own belief in

needing to handle problems on their own against the actual need for care and their perceived need for care (Graziano & Elbogen, 2017). Graziano and Elbogen (2017) found that veterans who preferred to address problems on their own did not have positive treatment seeking behaviors and when in treatment were more likely to drop out. The actual need for care and perceived need for care do not occur in a vacuum. Individuals who have support from others have different perceptions regarding the need for treatment (Graziano & Elbogen, 2017). The presence of low mental health literacy contributes to low perceived need for treatment (Kantor et al., 2017).

Veterans also deal with anticipated stigma as part of their beliefs. Anticipated stigma occurs when the veteran believes that if family members or friends found out they had a mental health disorder, they would feel uncomfortable in the veteran's presence (Randles & Finnegan, 2022). To reduce stigma surrounding mental disorders, it is important to improve mental health literacy (Williston & Vogt, 2022). Mental health literacy is defined as having knowledge about mental disorders, which assists with recognition, management, and prevention. Knowledge should include being able to identify a mental health problem, risks and protective factors, strategies for coping, prognosis, the course of a mental health disorder, evidence-based treatments, and ways in which to seek treatment (Williston & Vogt, 2022). To make additional resources available to veterans, there needs to be incentives provided to clinicians for relocating, more opportunities to provide telehealth, or the use of mobile deployment units (Feyman et al., 2022) in the furtherance of reducing stigma and improving utilization of mental health services.

The Barrier of Stigma

Stigma appears in various forms and seems to be the main catalyst for most military personnel not seeking care (Schreiber & McEnany, 2015). Public stigma related to individuals with mental health disorders lends to prejudice as well as discrimination formed from beliefs related to socially learned stereotypes (Caldwell & Lauderdale, 2021). Public stigma leads to fewer job opportunities, difficulties obtaining safe housing, and reduced access to resources for the stigmatized individuals within the general population (Correll et

al., 2021). Individuals with mental health disorders that anticipate stigma or have internalized stigma, as well as those who have experienced being stigmatized, report increased emotional distress, decreased treatment utilization, and diminished quality of life (Caldwell & Lauderdale, 2021). Research has shown that individuals experiencing mental health disorders do not all experience the same degree of public stigma. Findings have shown that those with PTSD, schizophrenia, and substance use disorders experience a higher level of stigma when compared with those experiencing depression or anxiety disorders (Caldwell & Lauderdale, 2021).

There have been over 100 peer-reviewed articles supporting the fact that stigma is a barrier to treatment (Corrigan et al., 2014). In 1963, Goffman identified three types of stigmas that consisted of the stigma of character, physical stigma, and stigma of group identity (Crossman, 2019). In 2001, Link and Phelan defined stigma with four components that describe stigma as involving the cooccurrence of labels that individuals attach to themselves after receiving a mental health diagnosis and stereotyping of those that are perceived as being different. The labels are used to separate “us” from “them”; and label and separation lead to status loss and discrimination (Corrigan et al., 2014). Link and Phelans’ (2001) components of stigma were extrapolated into a matrix, provided in Figure 6. The matrix shows four types of stigmas and provides a better understanding of each and the impact each has on the person suffering from mental disorders and experiencing one of the four stigmas (Corrigan et al., 2014).

Figure 6

Matrix Describing Stigma Associated With Mental Illness

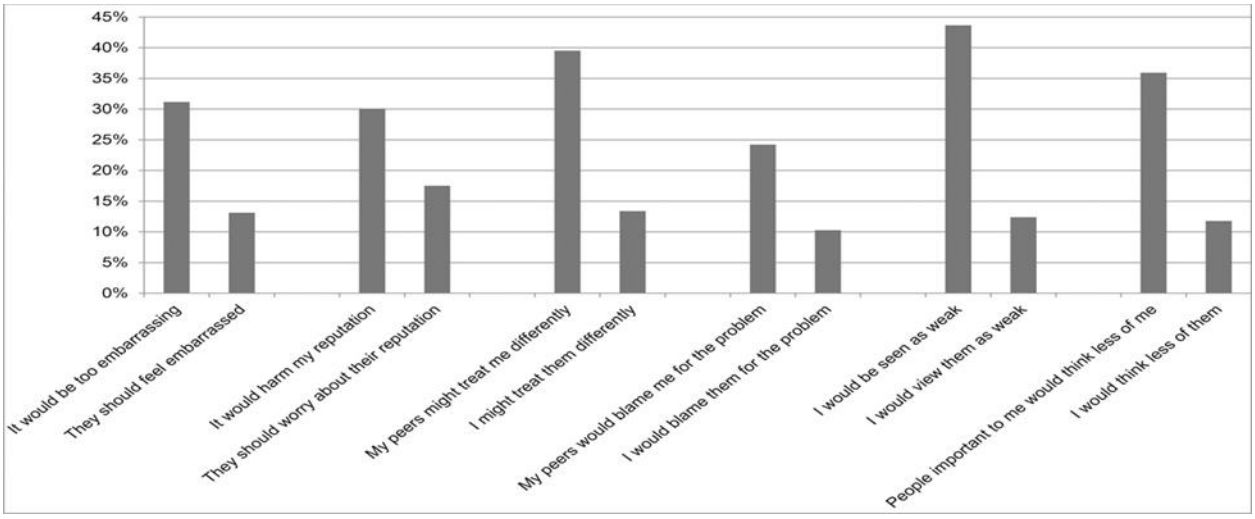
TYPES			
Public	Self	Label Avoidance	Structural
People with mental illness are dangerous, incompetent, to blame for their disorder, unpredictable.	*I am dangerous, incompetent, to blame.* [Leads to lowered self-esteem and self-efficacy]	*I perceive that the public disrespects and discriminates against people with mental illness.*	Stereotypes are embodied in laws and other institutions.
Therefore, employers will not hire them, landlords will not rent to them, primary care providers will offer a worse standard of care.	*Why try: Someone like me is not worthy or unable to work, live independently, have good health.*	*I do not want this. I will avoid the label by not seeking out treatment.*	Leads to intended and unintended loss of opportunity.

From "The Impact of Mental Illness Stigma on Seeking and Participating in Mental Health Care," by Corrigan, P. W., Druss, B. G., & Perlick, D. A. (2014). *Psychological Science in the Public Interest*, 15(2): 37–70. https://doi.org/10.1177/1529100614531398

Within the military culture, there is an emphasis on core values of confidence, toughness, responsibility (Currier et al., 2017), being self-reliant, shutting down one's emotions, and doing one's best to cope and deal alone with negative emotions (Kulesza et al., 2015). This makes the military culture a likely culprit in exacerbating stigma, because of the focus on strength above everything else and avoiding showing signs of vulnerability or weakness (Bettmann et al., 2022). Research has indicated that veterans face self-stigma and public stigma (Brown & Bruce, 2015), which dictates treatment resistance, because of beliefs that they will be treated differently or seen as weak if they seek treatment (Horsfield et al., 2019). Figure 7 displays the results of a study where participants were asked to rate how they felt they would be perceived by the public if they sought treatment and how they themselves would perceive others who sought treatment (Kulesza et al., 2015). Participants were asked to rate from 1 "strongly disagree" to 4 "strongly agree" how each item affected their decision to seek treatment for psychological problems (Kulesza et al., 2015). Participants for public stigma were asked to rate a hypothetical veteran from 1 "strongly disagree" to 4 "strongly agree" related to imposed negative judgment towards the hypothetical veteran who was struggling with psychological problems and decided to seek treatment (Kulesza et al., 2015).

Figure 7

Study Sample of Veterans who Agreed With Perceived and Public Stigma Statements



Note. Statements on the left in the pair would affect the veteran's decision to seek treatment and statements in the pair on the right showed agreement of how the veteran felt if the veteran knew another veteran that decided to seek care. From "Help-Seeking Stigma and Mental Health Treatment Seeking Among Young Adult Veterans," by Kulesza M, Pedersen E, Corrigan P, Marshall G., Military Behavioral Health. 2015;3(4):230-239. (doi: 10.1080/21635781.2015.1055866.) Epub 2015 Jun 26. PMID: 26664795; PMCID: PMC4672863

According to Erwin (2019), the stigma associated with mental illness continues to discourage veterans from seeking mental health treatment. In a qualitative analysis of articles related to veterans from Iraq and Afghanistan, the common theme used to describe these veterans was of being broken and disoriented, although many of these veterans do not suffer from any psychiatric disabilities (Wilbura, 2016). Weiner's 1985 attribution theory demonstrates how veterans' help seeking behaviors are influenced by self-stigma and public stigma (Kulesza et al., 2015). Both forms of stigma are comprised of stereotypes, prejudice, and dissemination (Corrigan & Watson, 2002). According to Correll et al. (2021), in the framework of the attribution theory, stigmatized attributions are assigned to others for their development of mental disorders.

If the person suffering from a mental disorder is perceived to be in control of the disorder, the response results in punishing behavior, such as segregation, coercion, avoidance, anger, or criticism. However, if the person is perceived not to be in control of their disorder, the response is pitying or helping behavior. A study using the attribution

questionnaire (AQ-27) to determine public stigma found that veterans dealing with PTSD were viewed as having personal responsibility and controllability due to their choice to join the military within recent years, compared to previous times when the draft was present (Correll et al., 2021). Veterans suffering from PTSD who accept stigmatized beliefs and perceive themselves as being dangerous and weak for experiencing mental disorders (Kulesza et al., 2015), resist seeking treatment, because of a sense of feeling responsible for their mental health problems and having concerns about labeling (Currier et al., 2017). Those that perceive themselves as being responsible for their mental disorder also perceive a higher level of stigma when compared to those who attribute the mental disorder to something that is not under their personal control (Greene-Shortridge et al., 2007).

This perceived stigma is likely to heighten the veteran's own negative perceptions about seeking treatment (Hom et al., 2017) and has led to the veteran's reliance on their own ability to handle their mental health problems (DeViva et al., 2016). The negative perception of the public is partly the result of media accounts that focus on veterans as violent, dangerous, withdrawn, or portrayed as physically and mentally damaged (Correll et al., 2021). Although some of the portrayals are well-intentioned campaigns to raise awareness of the issues that veterans face (Markowitz et al., 2020), this can lead to overt and subtle forms of discrimination as well as self-stigma (Markowitz et al., 2020). This may lead veterans to self-medicate with alcohol to cope and obtain short-term relief (Clary et al., 2021). Veterans face unique challenges reintegrating back into civilian life after their military career and the perception of the public and its attitude towards them have significant consequences on their well-being. A holistic approach needs to be taken to address both public and internalized (self) stigma to improve the quality of life of veterans as well as their civilian counterparts (Correll et al., 2021).

The modified labeling theory (MLT) purports that individuals labeled for attributes of being different either respond by not internalizing the societal label or the target of the label applies the label and reacts by being secretive about the mental disorder to protect themselves or they reserve interactions only with those within their stigmatized group

(Kranke et al., 2017). MLT suggests that perceived stigma and the labeling of differences makes the targeted individual discrete about their label to avoid rejection. The awareness that negative thoughts and feelings exist towards those with mental health issues as part of cultural socialization leads to the development of perceived public stigma and expectations of negative judgement (Link et al., 1997). Having a belief that you are part of a devalued group, avoidance of care completely is one way in which a veteran avoids membership to the devalued group and circumvents stigma (Campbell et al., 2016). In other words, to avoid societal discrimination or having the label of mental illness, individuals may not seek treatment.

The impact of stigma and labeling can result in negative implications for the quality of life and overall health of the stigmatized individual (Kranke et al., 2017). *Internalized (self) stigma* increases suicide and profoundly impacts veterans in negative ways contributing to depression, hopelessness, lowered self-esteem/efficacy, increased symptoms, and a reduced quality of life (Wastler et al., 2020). Internalized (self) stigma can also lead to demoralization and social isolation, which is synonymous with the term “why try” (Markowitz et al., 2020). Therefore, it is important to improve mental health literacy among veterans facing both public and self (internalized) stigma, within the context of the veterans’ specific mental disorder (Williston & Vogt, 2021).

Telehealth as a Solution

Veterans with mental health issues face clinically complex multilevel mental health issues that make treatment an ethical responsibility (McDaniel et al., 2018). This begins with the removal of the barrier of stigmatization experienced by veterans related to psychological distress. Within the veteran population, there is an underutilization and resistance to mental health treatment because of stigma and the availability of treatment providers. According to Elliott (2019), the VA utilized telehealth to improve the challenge facing veterans in their ability and willingness to access care. Prior to the COVID-19 pandemic, telehealth used in the VA focused on treatment delivery to rural areas where it was difficult for veterans to access in-person care. The COVID-19 pandemic exacerbated mental health risks among an already

vulnerable veteran population and profoundly changed the delivery method of mental health treatment (Fortier et al., 2022).

The use of telehealth became critical during the pandemic with the transition within the VA being rapid in part to its previous telehealth infrastructure. During the pandemic, the VA platform developers rapidly worked to increase capacity and increased technology availability (Connolly et al., 2021). Some of the long-standing barriers such as provider hesitancy lessened during the pandemic along with the loosening of national restrictions regarding reimbursement, controlled substance prescribing, and the use of Health Insurance Portability and Accountability Act compliant platforms (Connolly et al., 2021). During the pandemic, the VA issued a national memorandum directing mental health visits conversion to telehealth and encouraged its providers to utilize telehealth. Telehealth modalities may be more appropriate to address the issue of access for all veterans and not just those residing in rural America. Using telehealth modalities may also assist veterans with severe mental health issues to seek treatment, when they would not otherwise access care (Lu et al., 2014).

The anonymity that telehealth modalities provide and the greater access to services (Lu et al., 2014) would reduce the potential for public visibility and perceived stigma. The privacy these modalities offer is beneficial to veterans who have been reluctant to receive care due to internalized stigma (Berger et al., 2005) and the perceived social and employment consequences (Cartreine et al., 2010). Within the general population, a study found that for individuals who perceived stigmatization related to their mental illness were more likely to utilize technology for health information and to communicate with clinicians about their medical condition when compared with those individuals with non-stigmatized illnesses (Berger et al., 2005). Telehealth modalities can further encourage compliance with follow-up treatment, establish therapeutic alliances, decrease isolation, and assist in connecting veterans with mental health practitioners specializing in providing evidence-based treatment, which may contribute to suicide prevention (Lu et al., 2014). Implementing telehealth treatment modalities could further help veterans overcome barriers to treatment and logistics of scheduling especially due to limited mental health providers that are

adequately trained (Cartreine et al., 2010) to meet the complex mental health needs of veterans.

In summary, public stigma and internalized (self) stigma were the common themes described throughout the literature review as the largest barriers to veterans accessing and receiving mental health treatment (Correll et al., 2021). Research has shown that one in four veterans struggle with mental illness (SAMHSA, 2020) when compared to the national average of one in five (NIMH, 2023). In some instances, veterans will also experience comorbidities of both physical and mental illnesses, which can lead to worse outcomes. When comorbidities faced by veterans are poorly managed, they lead to increased morbidity, mortality, and decreased functional status and quality of life (Fortier et al., 2022). Therefore, understanding barriers at the patient, provider, health care system, insurer, and legislative levels will be critical in informing the long-term growth and sustainability of telehealth (Connolly et al., 2021), which could serve as the solution to stigmatization.

Chapter Three

Methodology

The synthesized literature review and thematic analysis focused on determining the efficacy of telehealth in diminishing stigma as a barrier to care for veterans and in some instances active-duty service members for generalizability experiencing mental illness. There is a high rate of distress experienced by veterans for whom mental health treatment would be beneficial but there continues to be reluctance to seek help (Blais et al., 2014) related to the barrier of stigma in which the military culture may play a role (Dickstein et al., 2010). It is important to understand how stigmatization impacts a veteran's willingness to access treatment (Ben-Zeev et al., 2012) for mental illness. In the military culture, there is a perception of strength where veterans believe that seeking help for psychological problems will be perceived as a sign of weakness or mental illness (Bush et al., 2011). When faced with the possibility of stigma, online tools and resources may be the key to providing access to treatment for reluctant veterans in need of care (Bush et al., 2011).

This literature review and thematic analysis utilized the databases of PubMed/NIH Library, Google Scholar, and JSTOR where the search strategy consisted of key words and phrases as seen in Table 2. The study consisted of data collected between 2010 and 2022. Selection process was recorded in a flow chart using the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) as shown in Figure 8 (Haddaway et al., 2022). The review was conducted using literature from January 2010 to December 2022 relevant to veterans in combination with active-duty military personnel for generalizability of the United States (U.S.) uniformed services. The combination of the initial database search resulted in 17,600 articles that addressed veterans and, in some cases, active-duty personnel as well with mental illness. Search criterion was narrowed to 5,670 articles with the addition of specific key terms. From those articles an even more advanced search was conducted resulting in 974 articles once duplicates were removed and this number was further decreased by 814 once additional articles were excluded due to not meeting inclusion

criteria. This left 130 articles to be reviewed to determine whether they would be included or excluded from the review.

Table 2

Search Strategy

Stages	Search Terms
Phase 1 Limited Key Terms Initial Search	qualitive approach, qualitative meta-synthesis, methodology, phenomenology, thematic synthesis, thematic method, qualitative health research, veterans, suicide prevention mental illness, PTSD, mental disorders, stigma, mental health literacy, attribution theories, modified labeling theory, theory of stigma, veteran's, rural/underserved, Veterans Administration, U.S. population
Phase 2 Keywords and Phrases	('mental illness" or "mental disorder" or "mental health" or "PTSD" or "suicide") AND ("veterans" or "military" or "active duty" or "veteran masculinity" or "Veterans Affairs" or "U.S. population") AND ("rural/underserved" or "clinical providers") AND ("telehealth" or "telemedicine") AND ("Operation Enduring Freedom" or "Operation Iraqi Freedom") AND ("stigma" or "prejudice" or "discrimination" or "disparities" or "bias" or "perception" or "equity") AND ("social stigma" or "internalized stigma" or "destigmatizing") AND ("meta-synthesis" or "research methods" or "qualitative methodology" or" qualitative research" or "qualitative research" or "qualitative health research") AND ("attribution" or "labeling" or "stigma" or "theory") AND ("thematic method" or 'thematic analysis")
Phase 3 Title & Abstract Review	Two reviewer process of titles and abstracts
Phase 4 Full Text Review	Two-reviewer process of full text articles.

The records identified during the initial search were recorded with the duplications being excluded. The title of each publication was then reviewed, with irrelevant titles being excluded. Once the articles were narrowed to those that could potentially address the premise of this review, the abstracts of those articles were reviewed by two reviewers to further establish their relevance related to the target population being studied for purpose of inclusion or exclusion. Finally, articles that were identified for inclusion were reviewed and the data was documented in the data extraction table (please see Appendix H).

The articles that met the inclusion criteria were included in the final synthesis. The data collected was summarized to show how the experience of stigmatization served as a barrier to access and the impact that the implementation of telehealth had on those experiences. The data also provided a better understanding of the contribution of the

military culture on experiences of stigmatization. The belief system of toughness and self-sufficiency contributes to help seeking being seen as a sign of weakness. Instead, veterans retain the notion that they should be strong and self-reliant when facing any problem or injury (Dickstein et al., 2010). The data showed how the use of telehealth provides evidence-based treatment and is non-inferior to in-person treatment or TAU in addressing PTSD and other mental health disorders. Additionally, data showed how telehealth as a treatment modality has the ability to address stigma as a barrier to care for veterans experiencing mental illness. Finally, the data led to recommendations as to how peer-to-peer, web-based interventions, education, high-ranking superiors who have struggled with mental illness, and using non-stigmatizing language and other stigma reduction programs, can help veterans receive care.

Institutional Review Board Approval

The review did not require Institutional Review Board approval because there were no human contacts made related to the information obtained in this review.

Target Population

The literature review focused on veterans that were enrolled in the VA residing in both urban and rural areas who participated in the use of telehealth in comparison to in-person or TAU between 2010 and 2022. Most of the studies pertained to veterans associated with Operation Enduring Freedom (OED), Operation Iraqi Freedom (OIF), Operation New Dawn, and other ongoing theaters of operation. Veterans from other eras and military personnel were also included in some of the studies for generalizability who experienced stigma as a barrier to accessing needed mental health treatment before and after COVID-19.

Inclusion and Exclusion Criteria

Inclusion criteria focused on veterans with the inclusion of active-active personnel in some instances for generalizability of the U.S. uniformed services that participated in OEF/OIF or other ongoing theaters of operations and were associated with the VA. The articles were limited to the English language and ranged from January 2010 through December 2022. Studies consisted of randomized controlled trials, surveys, meta-analysis,

and cohort designs conducted between 2011 and 2022. Research was relevant to stigma as a barrier to care and veterans who participated in telehealth compared to in-person treatment (IP) or treatment as usual (TAU). The test population were enrolled in the VA and had a diagnosis of a mental disorder based on International Classification of Diseases -10 codes, the DSM-IV, or DSM-5. If studies only pertained to telehealth or remote services for medical reasons, they were excluded.

Research Design

There was no direct contact with veterans, but a thematic synthesis was used to integrate findings from multiple studies to answer the following research questions based on the phenomena of stigma:

RQ1: In veterans seeking mental health treatment, does the use of telehealth remote services compared to in-person or TAU diminish stigmatization as a barrier to care?

RQ2: In veterans in need of mental health treatment, what type of stigmatization, if any, does the use of telehealth remote services diminish?

Coding

The 19 published articles were reviewed using the 10 questions on the Critical Appraisal Skills Programme (CASP, 2021), shown in Appendix G. This tool was used to assess the trustworthiness, relevance, and results of the published articles included in this thematic synthesis. Two reviewers reviewed a subset of the 19 articles based on the inclusion criteria. Any discrepancies were resolved through discussions. An established protocol (Appendix B) was used to review the selected studies based upon inclusion and exclusion criteria. Data was extracted from the studies and coding was conducted independently by the author and another reviewer. Responses to questions related to inclusion and exclusion were documented as either “Yes” or “No” by each rater. Cohen’s Kappa (Tang et al., 2015) formula (Appendix C) was used to measure inter-rater reliability with the interpretation (Appendix F) for two raters (McHugh, 2012) based upon percentage with .81 or higher being “near perfect agreement” and 1.00 being “perfect agreement.”

Instruments

No instruments were used. Information was collected and analyzed from published studies that address the identified phenomenon of stigmatization.

Proposal Summary

The synthesized literature review and thematic analysis was designed to provide a better understanding of the phenomena of stigma as an access barrier faced by veterans of OIF/OEF/OND, Gulf War on Terror, and other ongoing theaters of operations who are dealing with mental disorder and the role of telehealth. Additionally, the review was designed to provide a better understanding of the need to diminish stigmatization as a barrier and increase the willingness of those in need of care for psychological distress to utilize treatment to improve outcomes.

Chapter Four

Results

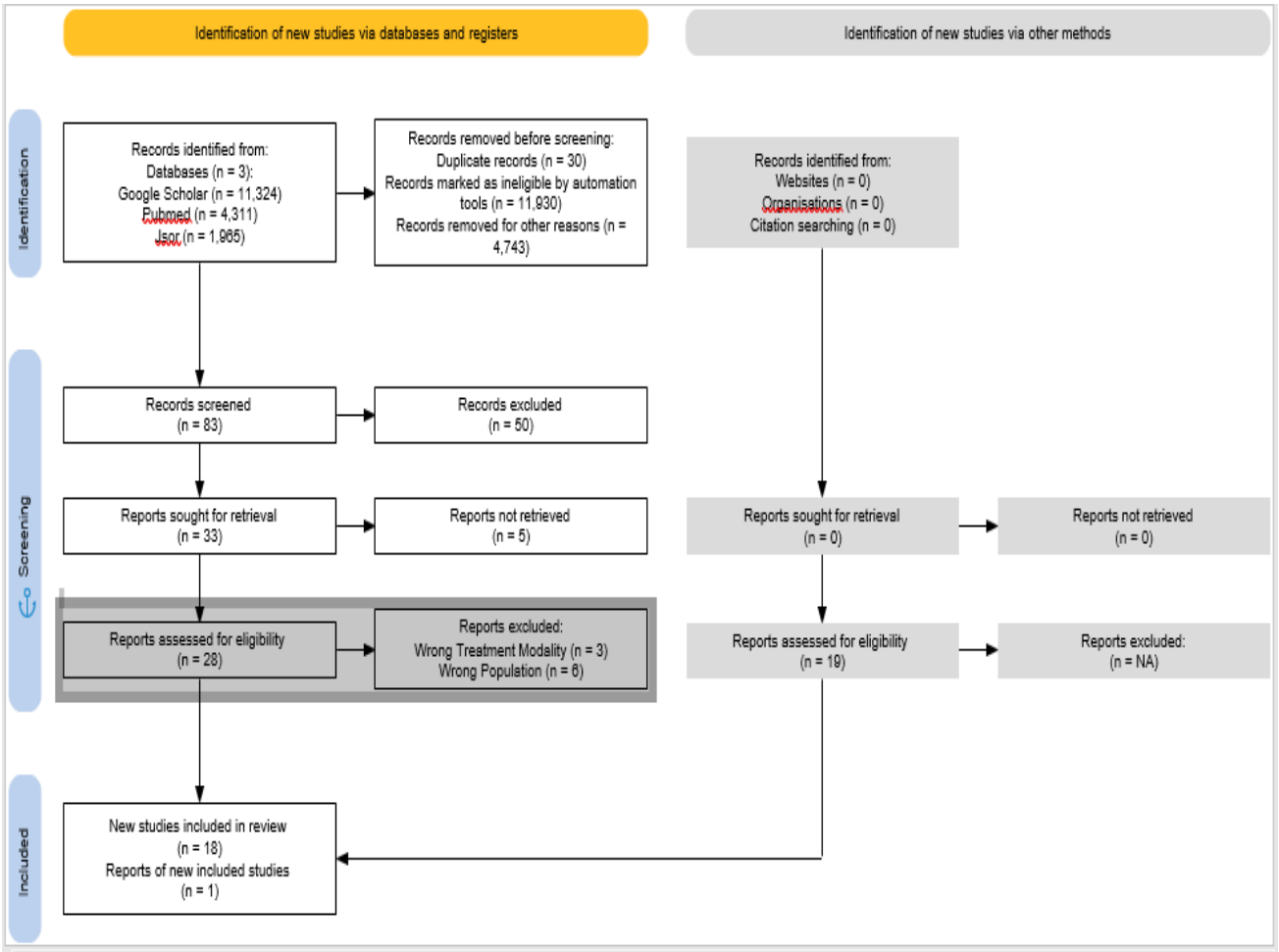
The synthesized literature review examined the efficacy of telehealth in diminishing the barrier of stigma to care associated with mental illness within the veteran population. Thematic analysis was used to identify themes in studies of the veteran's experience of stigma and the identified intervention of telehealth. The initial data search resulted in 17,600 articles covering January 2010 through December 2022. This number was reduced to 5,670 with a modified search with additional key terms and reduced even further to 927 with a more refined search of key phrases as shown in Table 3. Of the remaining 927 articles, 30 were excluded due to duplications, leaving 897 titles to be reviewed, which resulted in 814 additional articles being excluded because the titles did not address the inclusion criteria. This exclusion process led to the abstract of 83 articles being reviewed for the inclusion of the use of telehealth within the veteran population for the treatment of mental illness when stigma was noted to be a barrier to care.

The review resulted in an additional 50 articles being excluded due to not meeting the full inclusion criteria of U.S. veteran and active-duty personnel where stigma was noted to be a barrier and telehealth was offered as a treatment modality and an additional five after not retrieving the full-text articles. This resulted in 28 articles being considered for inclusion and assessed based upon the inclusion/exclusion protocol in Appendixes D and E. The inclusion and exclusion criteria for the review of the studies had a perfect agreement of 1.0 (see Appendix C). Finally, 19 articles were included in the review (please see Appendix C with an additional nine being excluded; see Appendix C based upon the protocol and not meeting the inclusion criteria). The studies in which both the inclusion criteria were present and exclusion criteria was absent included Randomized Control Trials (RCT), two retrospective cohorts, five surveys, one review, one pilot study, and one meta-analysis. Eighteen of the included studies were peer-reviewed full-text articles for thematic analysis and synthesis. The 19th study was focused on the review of interventions. Articles for inclusion focused on PTSD, depression, and MST within the veteran population and the underutilization of

treatment due to stigma being noted as a barrier to care. Selected articles looked at the use of telehealth when compared to in-person (IP) or treatment as usual (TAU) and whether there was an increase in treatment access when barriers were removed with the use of telehealth as a treatment modality.

Figure 8

PRISMA



Haddaway, N. R., Page, M. J., Pritchard, C. C., & McGuinness, L. A. (2022). PRISMA2020: An R package and Shiny app for producing PRISMA 2020-compliant flow diagrams, with interactivity for optimized digital transparency and Open Synthesis Campbell Systematic Reviews, 18, e1230. https://doi.org/10.1002/cl2.1230 Download citation (.ris)

Inter-rater reliability for each of the 19 studies was in “almost perfect agreement” at a kappa 1.00 value for each of the included 18 studies with a “substantial agreement” .70 on the review of interventions included in this review. There were nine studies that both raters reached “perfect agreement” with a kappa of 1.00 that should not be included in the review. The 18 studies and one intervention review included addressed stigma as a barrier to treatment seeking for veterans and active-duty service members experiencing psychological distress and not accessing care due to the stigma attached to treatment seeking with telehealth being introduced as an alternative method of accessing care without having to be seen in the traditional manner of in office face-to-face. The studies included in this review were published in the United States and included one from 2011, 2012, 2014, 2015, 2018, and 2020; two from 2013, 2016, and 2022; three from 2019 and four from 2021. These articles focused on stigma as a significant deterrent against seeking mental health treatment within the military culture (Dickstein et al., 2010) with almost 2.1 million veterans who are experiencing mental illness, avoiding care due to expectations of prejudice, discrimination (Amsalem et al., 2021), being perceived as weak, or fearing a breach in confidentiality (Schreiber & McEnany, 2015). Some statements provided by veterans relate to concerns that “My friends and family members might treat me differently” or “I would be seen as weak” (Amsalem et al., 2021). Studies have shown a negative relationship between utilization of treatment and stigma among veterans experiencing mental illness (Amsalem et al., 2021).

Mental illness left untreated adversely impacts the veteran’s social, emotional, and physical health with a greater risk of suicide (Brown & Bruce, 2015). To improve access to mental health services, the VA adopted telehealth as a treatment modality (Jacobs et al., 2019) with its original treatment modality being Hub-and-Spoke. This method of service provision did not alleviate the issue of perceived stigma as a barrier to care (Jacobs et al., 2019). The study focused on the efficacy of telehealth and diminishing stigma as a barrier to care; the findings from each study were summarized to address the research questions. Additional detailed data from the studies are provided in the data extraction table, Appendix H.

Research Question 1

In veterans seeking mental health treatment, does the use of telehealth remote services compared to traditional in-person treatment diminish stigmatization as a barrier to care?

There were six articles included in the study that addressed this research question. A subsequent detailed summary of each of the supporting articles was provided.

Morland et al. (2014) conducted a randomized control trial with male veterans with PTSD due to treatment underutilization and attrition to determine if video teleconferencing (VTC) could address clinical and logistical barriers in rural populations access to care. Among veterans in need of treatment for PTSD, between 50-90% attend an insufficient number of sessions or do not seek treatment at all. Additionally, among those who do seek treatment, between 20-40% drop out due to avoidance, fear of stigmatization, and logistical problems, which is compounded for veterans in rural communities. This was reported to be the first study to focus on the efficacy of delivering cognitive processing therapy-clinical in a group setting with the use of VTC compared to IP treatment. Participants for the study were male veterans recruited from four VA clinical sites and three Vet Centers in the Hawaiian Islands of Hawaii, Maui, and Oahu between March 2009 and June 2013.

There were 125 participants in the Moreland et al. (2014) study with all being rural residents and 54% being racial minorities in the intent to treat sample with (n = 7) from the IP dropping out and (n = 12) of the VTC group with no significant difference between those that dropped out between the randomization process and the first session. The remaining 96 participants were randomized with IP (n = 50) and VTC (n = 46) attended 10 of the 12 90-minute treatment sessions occurring twice weekly for 6 weeks. A noninferiority design was used to evaluate the treatment modalities' impact on PTSD. The participants were assessed at baseline, mid-treatment, post-treatment immediately, and at 3 and 6 months posttreatment. The severity of PTSD was assessed with the clinician administered PTSD scale (CAPS) at baseline and during each of the phases of follow-up. All follow-ups were

conducted in person by an assessor not involved in treatment delivery and blinded to the treatment modality assigned to participants.

Of the participants in the Moreland et al. (2014) study who completed CAPS at each follow-up, 29.0% no longer met the criteria for PTSD at posttreatment follow-up, with 29.8% at 3 months, and 26.4% at 6 months. Additionally, 57.1% reported a significant change in CAPS scores posttreatment, with 58.7% and 52.9% maintained significant changes at 3- and 6-month follow-ups with a 95% CI for changes in CAPS scores over time. These results show that providing group therapy for PTSD with VTC is noninferior to IP as a treatment modality and could be a practical solution to clinical, logistic, and long-standing disparities that exist for rural and ethnically diverse veterans. The results also showed that the use of VTC as a treatment modality has the potential to decrease stigma due to the improved CAPS scores and the veterans' engagement in treatment.

Luxton et al. (2016) conducted a randomized trial looking at lessening the apprehension about seeking mental health treatment due to stigma for veterans and military service members through home-based therapy (HBT). The feasibility and effectiveness of tele-behavioral health (TBH) has been supported in several pilot studies and randomized controlled trials and HBT has shown promise within the veteran population. However, there is still a question of the feasibility, within the military setting. The non-inferiority randomized control trial was designed to evaluate the safety and feasibility of providing home based telebehavioral health for depression to veterans and military service members when compared to IP or TAU. Based upon screening data, depression for deployed services members is 12% and among OIF/OEF it is 20%. Therefore, behavioral activation treatment for depression (BATD) was selected as the target treatment for this trial. Treatment was focused on the depressed individual becoming more engaged in their daily lives, through activation strategies, which are intended to counter inactivity, withdrawal, and negative affect, which should alleviate depressed mood and create patterns of activity. Among military personnel, BATD is also a compatible form of treatment because it is problem focused, with interventions that are less stigmatizing.

The recruitment process in the Luxton et al. (2016) study for the trial began in August of 2012 and ended in July 2014. Participants were recruited from a military treatment facility located at Joint Base Lewis-McChord in Washington State and a VA in Portland, Oregon and were diagnosed with both major and minor depressive disorders to provide a more generalized representation of patients seen at both facilities. A total of 92 participants met all inclusion requirements and were randomized at Joint Base Lewis-McChord and 29 at the Portland VA in a 1:1 ratio. Participants in the home-based group were provided with Dell M6500 laptops and Tandberg Precision High-Definition Webcams. The treatment consisted of eight sessions based upon the BATD protocol with the first session focusing on psychoeducation, treatment rationale, and the introduction to the concept of monitoring activities daily. Session two focused on identifying goals and values and sessions three through eight focused on making plans consistent with the identified goals and values.

Both the HBT and IP groups in the Luxton et al. (2016) study received the same BATD treatment for 50-60 minutes during an 8-week period. Assessments were conducted at baseline, 4-week mid-point, 8-week treatment completion, and 3-month follow-up. There was a total of 40 participants who completed all eight sessions with 16 withdrawals, three losses to follow-up, and three who didn't begin treatment as part of the HBT group. For those in the IP group, 42 completed all eight sessions with nine withdrawals, five losses to follow-up, and three that did not begin treatment. There were no statistically significant differences in the proportion of participants between the groups who did not complete treatment (HBT = 35.48% and IP = 28.81%, $x2 = 0.62$, $df = 1$, $p = .433$). The results of the trial did not show noninferiority of HBT compared to IP. It did show the safety and feasibility of HBT in the Military Health System and VA. It also showed the value of HBT to increase access to care and overcome barriers of stigma, frequent relocations, deployment, and demanding work.

Acierno et al. (2021) focused on MST, which is experienced by 38.4% of active-duty female personnel and veterans. In examining VA medical records, 32.4% of female veterans who screened positive for MST also had a diagnosis of PTSD when compared to 10.7% of those with a negative MST screening. MST is inconsistent with the mission of the military

and the victims are often assaulted in isolation by comrades in arms. Female veterans and those veterans who have tested positive for MST are more likely to receive mental health treatment in a primary care setting where space constraints prevent the VA from complying with privacy requirements, resulting in female veterans and victims of MST being reluctant to participate in TAU over an extended period. Additionally, stigma, self-blame, negative cognitions about others, sexual harassment within the VA setting, and victim blaming behaviors by staff members also deter MST victims from seeking care. In a telephone survey, victims of MST indicated at a ratio of 2:1 that they would be more likely to receive services if they were available via home-based telehealth.

The randomized clinical trial conducted by Acierno et al. (2021) was used to look at the differences in treatment dropout, dose received, and the effectiveness of HBT in comparison to TAU among female veterans with PTSD and depression related to MST. The trial contained 79.1% (n = 136) of veterans with MST related PTSD out of the 172 that were screened. The HBT group consisted of 50.74% (n = 69) and the TAU consisted of 49.26% (n = 69) recruited from a VA in the Southeastern United States. The participants were provided with Prolonged Exposure (PE), which is the first-line treatment recommended for veterans with PTSD (VA/Department of Defense, 2017) either through HBT or TAU. The eligible veterans were randomized, and the study personnel were blinded to treatment conditions. Participants in the TAU group completed an average of 6.28 sessions with the HBT completing 6.80 sessions. The dose received did not differ between the two groups, $t(134) = -0.71$, $p = .481$. Both groups completed eight or more sessions with 49.3% of the participates from each group completing treatment. The baseline and post-treatment took place in person and the 3- and 6-month follow-ups were by telephone.

The results of the Acierno et al. (2021) study showed that the delivery of PE via HBT was non-inferior to providing PE in person. In other words, having access to HBT did not lead veterans to take part in more sessions of PE than in person nor was HBT more effective on PTSD and depression outcomes compared to in person. This was surprising because, with the barrier of stigma and fear conditioning being removed, the thought was that HBT would

yield higher dose of treatment when compared to in-person deliver of PE. Therefore, additional research is needed to identify barriers to PE completion for female veterans with MST-related PTSD.

Knowlton and Nelson (2021) conducted a naturalistic retrospective cohort study with data from 581 veterans who began PE or cognitive processing therapy (CPT) for PTSD in the Fargo VA catchment area of the Veterans Integrated Service Network (VISN). The VISN is one of the most rural areas in the nation. There is a higher prevalence of PTSD for veterans in these communities compared to their urban or suburban counterparts, with 38% of veterans in need of care underutilizing treatment. Veterans in rural communities have heightened levels of stigma surrounding their mental health, differences in support systems, and face geographical constraints to accessing treatment. These factors adversely influence their ability to attend or complete treatment.

The purpose of the Knowlton and Nelson (2021) study was to examine the effectiveness of telehealth when delivered in-person via clinic-to-clinic connections, or telehealth delivered via Veteran video connect (VVC) to compare treatment outcomes for PTSD with the interventions of PE and CPT. The treatment for PTSD took place between January 2017 and February 2020. The participants were from various branches of the Armed Forces and included 35% of OIF/OEF veterans, 47% of Gulf War veterans, and 18% of Vietnam veterans. The data from the study was provided by the VA records department. Of the 581 veterans, 236 initiated PE and 343 started CPT with no significant differences within treatment conditions. Of the 581 veterans, 53% did not complete a minimum of eight sessions and 83% terminated early due to geography or work. Those in the VCC group had the highest completion rate of 56% with an average of 8.9 sessions being attended. The in-person completion rate was 50% with an average of 7.5 sessions attended and the clinic-to-clinic completion rate was 46% with an average of 6.2 sessions attended.

The findings in the Knowlton and Nelson (2021) study showed that delivering treatment for PTSD via video could assist veterans in having access to needed mental health treatment by removing the stigma associated with treatment seeking and a willingness of

veterans to engage in treatment with the use of telehealth. However, the scarcity of data and gaps in providing the results of these types of studies to the public has inadvertently contributed to continued biases surrounding the use of telehealth to meet the mental health needs of veterans, especially for those residing in rural communities. Therefore, the dissemination of these findings could assist in the de-stigmatization of telehealth as a treatment modality.

Fortier et al. (2022) also looked at the feasibility of VVC, but this trial was focused on the provision of group therapy in the veterans' home with VVC. The complexity and comorbidities faced by Post 9/11 veterans lead to increased morbidity and mortality with an increased risk of suicide and decreased quality of life. Faced with these complexities, resistance to treatment continues to be significant and often stems from stigma related to mental health treatment along with perceptions that their impairments are not severe enough for treatment. Stigma is often greatest among veterans that are in the greatest need of mental health treatment; therefore, telehealth has been adopted to address these barriers. In 2017, telehealth within the VA system expanded to include VVC, which is a videoconferencing telehealth platform that can be accessed on a desktop, smartphone, or tablet. Prior to COVID-19, telehealth services were mainly geared towards those veterans in rural areas, but since the pandemic its utilization has expanded exponentially. The VA use of telehealth services has increased, but there is a need to assess the feasibility of providing group therapy in this format before it is widely implemented.

The pandemic led to social isolation and exacerbated mental health risk to a population that is already vulnerable. The STEP-Home intervention is a cognitive behavioral group workshop designed to engage those veterans who might be resistant to treatment (Fortier et al., 2022). The intervention consists of 12 weekly, 90-minute group workshops focused on understanding emotions, thoughts, and behaviors because of stressors and then provides strategies to solve problems and facilitate reintegration after military service. Participants in the study were selected from the VA Boston Healthcare System and via a study outreach coordination and social media and randomized using a 1:1 ratio to STEP-

Home vs present centered group therapy (PCGT) conditions. There were 91 participants in this study of which 29 were assigned to IP and 45 to online VC. The participants were assessed at baseline, 12 weeks post treatment, and 24-week follow-up.

Fortier et al. (2022) noted there were no significant differences found between the STEP-Home versus PCGT assignments with no adverse events either in the IP or VC workshops. The VC groups showed higher enrollment and attendance rates and group cohesion when compared to the IP group. The study found that the online delivery of group mental health is safe, feasible, and results in group cohesion, veteran-to-veteran support and enrollment when compared to TAU. This supports the finding that stigma leads to reluctance in seeking treatment and the provision of treatment via VC increased enrollment; therefore, it could be inferred that the opportunity to receive HBT reduces the stigma associated with receiving treatment. This supports feedback received from veterans struggling with high levels of mental illness to include PTSD and indicated a willingness to participate in VC instead of TAU sessions.

McClellan et al. (2021) noted that not all veterans returning home have mental health problems, but they all face a period of adjustment as they reintegrate into the community. For those who do experience issues with PTSD and major depression, these veterans often have other comorbid diagnoses with elevated death and suicide rates and do not seek treatment due to the barriers of access and transportation. Additionally, veterans do not seek treatment due to the negative stigma associated with utilizing mental health services and concerns how they would be viewed by others if they knew the veteran was seeking mental health treatment. Telepsychology is viewed as a potential solution to increased access, increased privacy, and reducing the negative stigma associated with seeking treatment. The meta-analysis was conducted to determine the efficacy of telepsychology with the treatment modalities of videoconference and phone. This was the first meta-analytic study that evaluated the reduction of mental health symptoms in veterans with the use of telepsychology showing effectiveness and equivalence to IP treatment.

In the study conducted by McClellan et al. (2021), 27 published studies were located that met inclusion criteria and of those 25 provided pretest and posttest data, 18 were RCT designs and 19 examined more than one psychological outcome measure. Sample sizes were often greater for pretest data than posttest due to participant dropout; therefore, where reported, the sample size for the posttest or follow-up were used. A total of 1,667 participants received telepsychology from the 30 samples and 981 received IP in the RCT. The results of the pre-posttest design showed improvements in the areas of trauma and depression for veterans who used telepsychology services. In the RCT designs, the results showed that telepsychology was as effective as IP therapy. The findings from this study suggest that telepsychology can play an important role in addressing issues surrounding barriers to mental health services including the reduction of stigmatization associated with accessing treatment.

Research Question 2

In veterans in need of mental health treatment, what type of stigmatization, if any, does the use of telehealth remote services diminish?

There were 12 articles included in the study that addressed the question. A detailed summary of the subsequent supporting articles was provided.

Niles et al. (2012) conducted a randomized experimental design pilot study to assess the efficacy of telehealth to provide mindfulness and psychoeducation to veterans dealing with anger associated with PTSD. Studies have shown that telehealth treatment for PTSD is as potentially as effective as those delivered IP. This study looked at the use of a telephone delivery method of treatment since it can be easily scheduled, and the veteran bypasses the perceived stigma associated with receiving mental health treatment, because they do not have to appear in a clinic. The participants were recruited from the Boston Health Care System through clinician referrals and an electronic participant recruitment database. All the participants (n = 33) were males between the ages of 23 and 66 who were exposed to trauma in either a warzone or theaters of peacekeeping. Of the participants in the study (n = 15 of 27), 66% were receiving one or more individual sessions with a mental health provider in

addition to participating in the study with PTSD being the focus of at least one session for 33% (n = 9 of 27).

The participants in the Niles et al. (2012) study were administered the clinician administered PTSD scale (CAPS), which is a 30-item structured interview that assesses all DSM-IV diagnostic criteria for PTSD. The military version of the PTSD checklist (PCL-M), which is a 17-item self-report measure that parallels the DSM-IV PTSD criteria, was also administered in addition to the participant satisfaction questionnaire (PSQ). The clinicians and participants were blinded to the treatment condition until the completion of the first assessment. The participants were randomized in a stratified manner to balance the number of OEF/OIF veterans in each of the 8-week sessions. The first two sessions were IP followed by 6 weeks of telephone sessions. In the first two 45-minute sessions, rapport was established, and participants were provided with a handbook specific to treatment conditions. The 6-week telephone sessions were 20 minutes in length. In the mindfulness groups, participants were given CD players and CDS with 5- to 15-minute guided mindfulness exercises to practice and the psychoeducation group received information that was received during the two initial IP sessions in addition to other topics such as trust, safety, and self-care.

Twenty-seven (82%) of the veterans in the Niles et al. (2012) study completed the 8-week sessions and 24 (72%) completed the 6-week follow-up. The study shows the feasibility of delivering telehealth treatments for PTSD with 80% completing the study and over 70% completing the follow-up. This study supports other studies that show that telehealth modalities are feasible and associated with high levels of satisfaction in treating veterans experiencing PTSD. In terms of mindfulness, this may not be the most appropriate treatment option for some veterans, because it could trigger and exacerbate symptoms or dissociative reaction although the scores dropped for PTSD in the mindfulness group. There were no significant clinical changes in the psychoeducational group as it relates to PTSD symptom improvements, but there were a few participants where there was a worsening of their PTSD symptoms as result of the psychoeducational component of this study. This study shows that

telehealth as a treatment modality either by telephone is a feasible manner to provide treatment for veterans experiencing PTSD due to the removal of perceived stigma of being seen in a clinic and the ease of scheduling appointments, but the interventions of psychoeducation and mindfulness may not be the best interventions to use with this delivery method due to the reported increase in symptoms associated with PTSD as a result of the interventions used within this study.

Acierno et al. (2016) noted that veterans experience high incidences of trauma resulting in mental health difficulties with the most prevalent being PTSD and major depression. However, only a small percentage of those veterans receive the needed psychiatric treatment. There is a disconnect between those experiencing mental illness and the effective delivery of treatment, which may be a result of perceived stigma associated with going to a mental health facility and/or the treatment modality. It was found that 65% of service members diagnosed with a mental health disorder indicated that "I would be seen as weak" and 59% indicated "Members of my unit might have less confidence in me" if they were to seek treatment. In an initial effort to address these barriers, telehealth was delivered through a hub and spoke model. This approach still required patients to travel to satellite clinics, which did not address the barrier of perceived stigma.

This randomized trial conducted by Acierno et al. (2016) was designed to determine whether Behavioral Activation and Therapeutic Exposure (BA-TE) delivered via HBT was noninferior to BA-TE delivered IP. Participants for the trial were recruited from a large Southeastern VA medical center through provider referrals to the VA PTSD clinic. To enhance the likelihood of the results being the same in the future, veterans from the major conflicts served by the VA were included in this study (OEF/OIF/OND, Persian Gulf, and Vietnam). Participants were mostly married Black or White males with the mean age being 45. Of the participants, 50.9% (n = 118) were associated with OEF/OIF/OND, 23.7% (n = 55) with the Persian Gulf War, and 25.4% (n = 59) the war in Vietnam. The participants were randomly assigned (1:1) to either the HBT or in-person groups. Treatment consisted of pre-treatment, posttreatment, 3-month, and 12-month follow-ups.

Treatment conditions established by Acierno et al. (2016) were the same for both groups based upon the BA-TE manual and consisted of eight, 1.5-hour sessions during the hours of 7:30 am and 6:00 pm. The sessions consisted of weekly behavior activation, situational exposure, safe anxiety stimuli, and imagined exposure to traumatic event memories. As a result of this study, both treatment modalities showed improvements in mental health functioning over time, especially in PTSD symptoms for participants who completed five or more sessions. However, the fact that HBT would reduce veterans leaving treatment by minimizing logistical and stigma related barriers were not directly supported, because the dropout rate for both groups were about the same. The study shows that BA-TE-HBT is noninferior to BA-TE-IP treatment for PTSD and MD, but it has tremendous advantages over the hub and spoke model in relation to perceived stigma and other logistical obstacles to care. The findings suggest that HBT could be effective in addressing barriers to evidence-based psychotherapy to include perceived stigmatization.

Jacobs et al. (2019) also looked at the barrier of perceived stigma associated with treatment seeking along with privacy concerns. In addressing the need to increase access, the VA's early model to address this issue was hub and spoke. Although this increased access to mental health treatment, it did not facilitate access for those veterans with the barrier of perceived stigma. In 2016, the VA initiated a program to distribute video-enabled tablets to veterans with geographic, clinical, or social barriers to receive services through HBT with 76% of the recipients having a diagnosis of mental illness. This retrospective matched cohort study was designed to determine whether video-enabled tablets for veterans with barriers to access was associated with utilization of care. The study entailed the matching of tablets with veterans diagnosed with mental disorder (N = 728) in comparison to the control group of veterans (N = 1,020) based on sociodemographic characteristics, mental health diagnosis and utilization, and wireless coverage.

The VHA purchased 5,000 tablets according to Jacobs et al. (2019) with data plans, which were distributed to veterans who were able to use the device or who had a caregiver that could assist them. The participants were referred by providers and had to be enrolled in

the VA. The random selection of controlled patients with a mental health diagnosis and at least one mental health encounter during the same period of May 1, 2016, and September 30, 2017, were matched at a five-to-one ratio relative to the tablet cohort. Veterans within the controlled cohort were excluded if they received home-based clinic video telehealth encounters within the 12 months prior to date tablets were received, resulting in a cohort of 25,370. These patients were assigned an index date identical to the matched tablet recipient's date of tablet receipt.

The study conducted by Jacobs et al. (2019) found that veterans with mental health disorders who obtained treatment through the video-enabled tablets demonstrated an increase in psychotherapy visits and medication management. Between the 6 months before the baseline and 6 months after, tablet recipients experienced and increase in psychotherapy visits 0.80 to 2.42 sessions and medication from 1.60 to 1.80 sessions. During this same timeframe, the control group experienced a decline in these outcomes from 0.62 to 0.30 for psychotherapy sessions and from 1.21 to 0.36 for medication management visits. Additionally, tablet patients were more likely to meet the continuity of care measures set by the VA for psychotherapy when compared to similar patients who did not receive a tablet. The patients in the tablet cohort represented a decline in missed opportunities for mental health treatment. These findings demonstrated that the use of video-enabled tablets appeared to improve access and continuity of mental health services for veterans with mental health disorders. From this it could be inferred that using HBT diminished perceived stigma due to the noted improved accessibility and continuity of services.

Liu et al. (2019) conducted a randomized control trial to determine if providing psychotherapy with the treatment modality videoconference (VC) was as effective as IP for veterans experiencing PTSD and depression. For veterans experiencing PTSD, they might prefer to be seen in smaller clinics to avoid triggers; however, in some communities this may not be an option, or there might be limited services available. Telehealth as a treatment modality is beneficial for both rural and urban veterans especially when perceived stigma is one of the barriers to seeking care. There have been studies that have examined the use of

office-based CPT to veterans and found it to be noninferior in improving symptoms of PTSD and depression when compared to IP at post-treatment. However, these studies were predominately in OEF/OIF male veterans that limited generalizability to women and veterans from other war eras.

This randomized trial established by Liu et al. (2019) and conducted at the VA San Diego Healthcare System where participants were recruited either through clinician referral or self-referral. The participants consisted of adult males and females 18 years of age and older. Two-hundred and seven participants were enrolled in the study with 104 randomized to IP and 103 to VC. The two study sites were 13 miles apart. The clinician administered PTSD survey (CAPS) was used as the primary outcome measure, with the patient health questionnaire-9 (PHQ-9) and PCL-S, which links symptoms to a specific event being administered at each session. The study consisted of 12 60-minute weekly sessions based upon the cognitive theory of PTSD and trauma, which focuses on the content of trauma related thoughts and the effect these thoughts have on emotions and behaviors. This form of treatment did not require a written version of the trauma. The most common types of traumas were combat related (39.1%) followed by MST (18.4%) with participants attending an average of 9.3 sessions out of 12. For participants who completed the study, both groups showed the same level of PTSD severity at baseline. Among the participants that completed the study, the VC group showed significantly smaller improvements in CAPS scores from baseline to post-treatment but showed similar improvements in symptoms from baseline to 6-month follow-up. Additionally, VC did not show noninferiority (NI) at post-treatment but showed NI at 6-month follow-up.

The study conducted by Liu et al. (2019) showed that CPT delivered through VC could improve PTSD and depression severity comparable to IP psychotherapy and that it was non-inferior to IP as measured by self-reported PTSD and depression symptoms at post-treatment and 6-month follow-up. In terms of CAPS, there was less reduction in the VC group when compared to IP at post-treatment, but NI at 6-month follow-up. The overall findings suggest that CPT delivered through telehealth could be beneficial for both urban and

rural veterans with barriers to care to include the perceived stigma associated with seeking treatment.

Moreland et al. (2020) conducted a randomized clinical trial, which is part of a three-arm RCT to compare the variable-length of PE delivered through one of three treatment modalities of home-based telehealth (HBT), office-based telehealth (OBT), or in-home-in-person (IHIP). PE is an evidence-based therapy approach to address PTSD, and it is available to most veterans, but perceived stigma, transportation, long wait times, and lack of eligibility knowledge have been reported as barriers to care. The introduction of HBT has eliminated more barriers than OBT to include travel time, transportation, and perceived stigma. However, there was a need to develop and evaluate other treatment delivery modalities, which included IHIP treatment. This study was conducted to access feasibility and efficacy of IHIP for the treatment of PTSD. Veterans for this study were recruited from the San Diego VA Healthcare System medical center and local community-based outpatient clinics.

The participants in the study conducted by Moreland et al. (2020), HBT (n = 58), OBT (n = 59), and IHIP (n = 58) completed in-person assessments at baseline, posttreatment, and a 6-month follow-up. The evaluators were blinded to the treatment condition and administered the clinician administered PTSD scale (CAPS). The participants completed self-reported measures at each assessment and completed the PTSD checklist for DSM-5 and the Beck Depression Inventory-II during each of the weekly sessions. The variable-length design used 6-15 weekly sessions of 90 minutes. Participants could graduate prior to attending 15 sessions with the completion of six or seven sessions with a PCL-score below 21 in two consecutive sessions. The PCL-5 score was revised with the completion requirement being moved to eight sessions, which is considered an adequate dose for the premature graduation of some participants (n = 28) using a PCL-5 cutoff score of 30.

The CAPS-5 scores in the Moreland et al. (2020) study showed a 20.7 (95% CI = 24.3, -17.1: $p < .001$) point decrease at posttreatment and 18.5 points (95% CI = 22.2, -14.9; $p < .001$) during the 6-month follow-up. The PCL-5 scores decreased by 23.6 points (95% CI = -

30.5, -16.6; p = .001) at posttreatment and 20.6 points (95% CI = -27.7, -13.6; -13.6; p < .001) points during the 6-month follow-up. The BDI-II for the OBT group were higher at posttreatment (mean = 8.0 points; 95% CI = 0.85, 15.17; p = .028) with the 6-month follow-up (mean = 7.3 points; 95% CI = 0.03, 14.61; p = .049). There were no significant differences in scores between the HBT, IHIP, or OBT conditions. The results of the study show that IHIP did not outperform either of the other two treatment modalities and 57.3% of the participants lost their PTSD diagnosis immediately after treatment with 50.2% maintaining this at their 6-month follow-up.

Individuals in the OBT group of the Moreland et al. (2020) study reported worse depression at posttreatment and follow-up when compared to the IHIP group. There were, however, modest to small improvements in clinical PTSD, self-rated PTSD, and depression over time. Additionally, the IHIP group had lower dropout rates compared to OBT and HBT. The OBT group had the highest dropout rate, with over half of the participants dropping out, which may be due to the perceived stigma of seeking treatment, parking issues, or technological issues. The study showed that having access to remote telehealth services leads to a decrease in perceived stigma associated with seeking mental health treatment.

Peterson et al. (2022) also looked at HBT, OBT, and IHIP and conducted an equipoise-stratified randomization design to determine if cognitive processing therapy (CPT) for veterans and military personnel would lead to better outcomes, fewer dropouts, and increased acceptability with the treatment modality of HBT when compared to TAU. The participants could be assigned to one of three randomized treatment modalities that consisted of in-office telehealth (OBT), home (IHIP), and telehealth (HBT). The participants could opt out of one treatment modality and still be randomized to one of the other two modalities. One hypothesis of this study was that in-home CPT (delivered by a provider in the patient's home) and telehealth CPT would result in lower perceived stigma of seeking mental health care and higher treatment adherence compared to in office CPT. Miliary personnel face a potentially greater level of stigma when seeking in-office treatment due to having to ask for permission to attend a mental health appointment, being seen by other

service members going into a mental health clinic, mental health information being documented to one's medical records, and so on, which could lead to increased levels of dropout.

Participants in the Peterson et al. (2022) study were 18 years old and older and seeking treatment for PTSD. They consisted of active-duty service members (n = 20) and veterans (n = 100) recruited between September 19, 2014, and June 29, 2018, with the final follow-up assessment on June 30, 2019. The major criterion for inclusion was the experience of a traumatic event during deployment. The study was initially limited to post 9/11 veterans but was later expanded to includes veterans of all wars to increase recruitment. Participants received CPT delivered in 12 60-minute sessions twice a week for 6 weeks. Participants without adequate computer resources were provided with telehealth equipment for the purpose of the study.

The results of the Peterson et al. (2022) study showed that more than half of the participants (n = 69/120; 57%) opted out of one of the treatment modalities and resulted in fewer participants in the in-home (n = 32) compared to the in-office (n = 44) and telehealth (n = 44), because in-home was the modality that was most often declined. One of the most common reasons for opting out of in-home was the perceived stigma of receiving mental health treatment in the participant's home. The most common reason for opting out of in-office was inconvenience. None of the in-office participants noted stigma concerns as a reason for opting out of this modality. Finally, the most common reason for opting out of telehealth was associated with perceived impersonality. There was a total of 42 (35%) participants that dropped out of treatment, including 11 that never began, with the lowest dropout rate for in-home (8/32; 25%), intermediate for telehealth (15/44; 34%), and the greatest for in-office (19/44; 43%), but these differences were not statistically significant.

This randomized clinical trial conducted by Peterson et al. (2022) indicated there were clinically significant improvements in the severity of PTSD symptoms with 78% for in-home CPT, 59% with telehealth CPT, and 48% with in-office CPT. One unexpected finding of the study was the stigma associated with in-home CPT was greater than anticipated.

Additionally, the fear of being overheard also had a negative effect on the participants' willingness for in-home treatment. However, although in-home was the treatment modality with the highest rate of opting out, it showed the highest improvement in PTSD symptomology from baseline to post-treatment and the lowest dropout rate. These differences were noted to be statistically nonsignificant, because of the potential bias of those individuals being more motivated. Therefore, it could be inferred that telehealth has the potential to diminish stigma associated with seeking mental health treatment due to the level of privacy afforded in this treatment modality with the use of mobile platforms, such as tablets or smartphones.

There were also five surveys included in this review that addressed the research questions. Whealin et al. (2014) conducted a study of both rural (n = 116) and urban (n = 117) OEF/OIF/OND veterans in Hawaii from a cross-sectional survey by mail from November 2010 to January 2011. In the study rural veterans were more likely to screen for PTSD (42.6% vs. 30.4%) for deployment-related difficulties (62.9% vs. 42.7%) for concussion with persistent post-concussive symptoms (C-PPCS) (40.5% vs. 23.9%) and alcohol use (10.4% vs. 4.0%). Rural veterans also had a significantly lower quality of life score SF-12v2 when compared to urban veterans and higher community stigma. Despite the high numbers of veterans experiencing mental health issues, only 10% to 40% who screen positive for a mental disorder access treatment. In this study, less than 5% of veterans in the sample who indicated that they wanted help had accessed telehealth services (videoconference or internet programs). There is a need to notify veterans of the availability of effective telehealth and e-health interventions, especially for those veterans who are in the most need of mental health services considering the low quality of life scores for rural veterans. It was found that mental health services that are integrated with medical services and the rapid expansion of HBT and online mental health services could provide solutions for veterans who are deterred by stigma.

Elbogen et al. (2013) conducted a survey to gauge a better understanding of mental health service utilization and perceived barriers to care among VA and non-VA users. As

previously noted, veterans and military personnel in need of psychiatric treatment with only 23-40% of those that screen positive for a mental disorder seek treatment in the first year after deployment and less than one-quarter of active military personnel with mental disorders receive treatment. The reported perceived barriers to receiving care include stigma associated with having a mental health problem or receiving treatment, beliefs that "I should handle it myself," and knowing where to get help. A 35-minute web-based survey was conducted from July 2009 to April 2010 with participants drawn from a roster developed by the Defense Manpower Data Center consisting of over one million services members who served after September 11, 2001. There were 500 participants in the pilot survey with 80% completing the survey online and 20% completing the print version.

The study conducted by Elbogen et al. (2013) found that nearly 70% of veterans that screened positive to PTSD had received treatment within the last year and sharing this information with veterans that are ambivalent about accessing care might encourage them to receive care once they become aware of the substantial number of those that are receiving needed care. It was also found that the stigma associated with receiving care "I would be seen as weak" was more prevalent among veterans who had received treatment than for those who had not. It was suggested that stigma should be addressed during the initial interaction to improve the likelihood of the veteran returning to future appointments. For those veterans who did not seek treatment, but screened positive for PTSD and major depression, there was a belief that they should take care of their problems on their own. Although this study did not discuss the use of telehealth to address issues with service utilization, it enhanced the role of internalized stigma as a barrier to care and how the use of telehealth could lessen the stigma associated with accessing and engaging in treatment.

Whealin et al. (2015) looked at the willingness of veterans and National Guard members (n = 600) to use e-mental health modalities to access needed mental health services for veterans with or without a positive PTSD screening. The willingness to use e-mental health ranged from 32.2% for text messaging to 56.7% for telephone calls from providers. Among veterans with probable PTSD, willingness ranged from a low 20.4% for

CVT in a VA clinic to 37.6% for telephone calls to the home. In the non-PTSD group, willingness ranged from 35.6% for text messaging to 67.9% for telephone calls to the home. This study found those who desired treatment were less likely to express a willingness to use services and veterans without PTSD were more willing to use e-mental health services. Therefore, due to the low level of willingness to use by those most in need of treatment, e-mental health may not be the solution to remediate service barriers. The study indicated that further investigation into Asian American and Native Hawaiian/Pacific Islander veterans and other minority groups of veterans requiring mental health treatment is needed.

Murray-Swank et al. (2018) conducted a survey study related to a women's wellness retreat for female veterans residing in rural areas who reportedly faced barriers to accessing mental health treatment with one deterrent being internalized stigma around seeking mental health treatment, in addition to self-reliance and the prospect of limited anonymity. Of the 101 women in the study, 25 indicated that "People in my life my treat me different," 16 indicated "People in my life might have less confidence in me," nine indicated that "It would be too embarrassing," and eight indicated that "It would harm my career." These deterrents can be seen in the stigma associated with military culture where strength, resilience, and mental toughness are traditionally emphasized. Rural women have discussed the stigma associated with mental challenges during their time in service and as a veteran, which has led to a decrease in treatment seeking. The study contends that telehealth platforms could be used to address perceived barriers in accessing care and increase service utilization.

Clary et al. (2021) brought additional light to the role of military culture in a qualitative study on masculinity and ways to decrease stigma and encourage treatment seeking, within the military community. This study with the use of surveys looked at the fact that traits that come into conflict with masculinity, such as being weak, not brave, or a failure, manifests itself as internalized or self-stigma. Self-stigma is the internalization of how you are perceived by others in the belief in that perception. In a study of OEF/OIF veterans, 65% did not seek needed treatment because they worried about being perceived as weak, 63% had concerns about being treated differently, 55% were concerned about being

able to leave work, and 50% were concerned about negative career implications in the future. These findings demonstrate the impact of stigma as a barrier to treatment seeking, especially for those most in need of care.

In the study conducted by Clary et al. (2021), 75-minute semi-structed interviews were conducted via Zoom (n = 22) or in person (n = 4). Some of the responses from the participants included:

> Military people, they may feel like getting help is definitely a weakness. And they don't want to look weak in from of their peers, just most of these guys are alpha males and, like we smell weakness, and we don't want that in our tribe. (Connor, 25, Navy)

Two individuals associated with the United States Marine Corps (USMC) stated:

> Yeah, get a clearance, if you have mental health problems, and you're going to like a therapist or anything, like, you're worried that they're going to diagnose you with something, because then you can't buy firearms, like, people are going to try to start stripping you of your rights when you get out. Like I've got a buddy with PTSD, who refuses to go get help with PTSD cause he's worried they're going to steal all of his firearms and stuff, and like put him on blacklist and shit, like less than a citizen because of his issues from the military, and jut then it's like everybody's like yeah you can get help, but think about how it's going to look on paper when they see all this shit with you and then this other guy is squeaky clean, and it's like, okay I guess I won't get help then. (David, 28, USMC, p. 4428)

The other individual stated:

> The stigma is you're a fucking pussy. Basically, you are weak if you need help, which honestly, if you're needing to get help, you're, I guess insufficient. You're, I'm trying to think of the best word, you're lacking in some type of way to where you need help. Um, that's the stigma about it and it's honestly kind of the reality, you know what I mean? If you can't handle something on your own, then you don't have the tools to handle it. You need to get help. The only reason it's different in the military culture is because you're around a bunch of Alpha people who end-up, it actually guys, so, but

> Alpha male or Alpha male want to be type-A personality guys who if you can't handle it yourself, especially like southern guys "like you're a bitch", you know what I meant? Like, uh, they just, that's just the type of thinking. You're always so competitive with each other. Anything that is going to be a weakness of someone, they're going to pick it apart cause it's a bunch of Alphas trying to just pick each other apart, you know all the time. An um, so that's why I think the stigma is there. (John, 25, USMC, p. 4428)

These were just some of the statements made by the participants in the study that shows how stigma manifests and thrives within the military culture. Furthermore, Clary et al. (2021) noted that female veterans take on the masculine norms to include power and competition, concealing weakness, and preserving emotions. Some participants also felt that the status of being a veteran itself was a stigma or they felt stereotyped. In a manner to address some of these stigmas, the VA launched Aboutface where other veterans share their stories about PTSD and how they eventually sought treatment. Hamble et al. 2019 found this platform promising in altering negative attitudes about treatment seeking. This highlights some literature that suggests a preference for discharged veterans as therapists. Additionally, the other studies in this review have supported the efficacy of telehealth in providing evidence-based treatment with the potential to decrease stigma and increase access to care by removing the need to present in person for treatment.

Two web-based interventions were also included that examined the utilization of technological interventions to offer peer-to-peer support to decrease stigma and increase access to care with the use of technological interventions (e-mental health). Bush et al. (2011) discussed how the use of videos addressing stigma through information and testimonies from other stigmatized members of the military community has been shown to increase empathy and a willingness to seek help as was previously suggested in the survey conducted by Elbogen et al. (2013). Hamble et al. (2019) looked at a web-based educational campaign (AboutFace) to reduce stigma and improve treatment seeking. AboutFace is a program comprised of a community of 77 veterans with diverse military backgrounds who experienced PTSD and received treatment. Twenty veterans were recruited who presented

for an evaluation at the VA PTSD outpatient clinic. One participant indicated that if he had seen the testimony sooner, he would have sought treatment sooner. Participants also indicated that AboutFace helped to normalize experiences associated with mental illness. The program was found to be feasible and shows to be a promising approach in challenging stigma and misconception about seeking treatment by sharing in the personal experiences of peers.

Effectiveness of Intervention

In looking at the utilization of telehealth as a treatment modality where perceived stigma was noted as a barrier to care, in five of the studies (Acierno et al., 2016; Jacobs et al., 2019; Liu et al., 2019; Morland et al., 2019; and Peterson et al., 2022), the use of telehealth was acceptable and resulted in an increased willingness to access care. Niles et al. (2012) showed the feasibility of using the telephone as a treatment modality; the interventions of mindfulness and psychoeducation were not adequate for this treatment modality. Although the focus was not on removing perceived stigma in any of the studies, the increase in service utilization when perceived stigma was identified as one of the barriers to care, it could be inferred that the use of telehealth as a treatment modality does have the potential to diminish stigma. In one of the same studies, Peterson et al. (2022) demonstrated that there was an increase in stigma associated with the IHIP as a treatment modality, with a high rate of dropout. This was a result of veterans having stigma associated with a therapist coming into their home and the potential of being overheard by others in that environment. In three of the studies (Fortier et al., 2022; Knowlton & Nelson, 2021; and McClellan et al., 2022), one of the identified barriers to care was stigma associated with seeking mental health treatment. In two of the studies, the use of telehealth as a treatment modality in a group format and through the provision of individual psychotherapy showed its efficacy and feasibility to address barriers to care; therefore, once again it could be inferred that as a treatment modality, telehealth does have the potential to diminish stigma as a barrier.

However, Knowlton and Nelson (2021) found that stigma was associated with the use of telehealth as a treatment modality. Even with the implementation of telehealth as an

optional treatment modality, stigma remained an issue and requires additional awareness of the feasibility, efficacy, and noninferiority of telehealth as a treatment modality when compared to IP traditional face-to-face treatment. In the three remaining studies (Acierno et al., 2021; Luxton et al., 2016; and Morland et al., 2014), stigma was generally described as a barrier to care but showed the value of telehealth as a treatment modality in increasing access and overcoming stigma, which is a well-documented barrier to access for veterans and military personnel. The two surveys conducted by Whealin et al. (2014) and Whealin et al. (2015) investigated the barrier of community stigma and the issue of anonymity associated with mental disorders and how expanding the knowledge base and effectiveness of telehealth services could remove the stigma around mental illness and accessing care. Three additional surveys (Clary et al., 2021; Elbogen et al., 2013; and Murray-Swank et al., 2018) showed the impact of military culture on beliefs related to treatment seeking (stigma) for mental disorders and how telehealth and peer-to-peer support could help to alleviate the stigma of seeking care within the military culture both among active-duty members and veterans. Two web-based interventions (Bush et al., 2011 and Hamble et al., 2019) showed additional forms of technological interventions that could remove stigma as a barrier and increase service utilization with peer-to-peer support.

Outcome

All the studies, surveys, and web-based interventions showed a relationship between the barrier of stigma and help seeking among veterans and active-duty military personnel and demonstrated that telehealth as a treatment modality is as effective as in-person treatment. Telehealth also has the added advantage of potentially lessening stigma associated with seeking care due to the anonymity it provides and the ability to receive care without having to appear in person for treatment. The review also produced the overarching theme of the relationship between masculinity in the military culture and how it perpetuates stigma associated with mental illness and seeking treatment. The additional sub-themes found throughout this review associated with perceived and internalized stigma related barriers consisted of weak, fear, career, and confidentiality. The theme “weak” shows the link

between the military culture and the need to show strength that leads to behaviors that delay or reduce help seeking. This behavior is linked to both public and internalized stigma.

Weakness as a theme was found in several studies where those in the military community delayed seeking treatment because of how they believed they would be perceived by others if they were to seek treatment: “I will be seen as weak” (Clary et al., 2021). Fear as a theme was also found in multiple studies associated with not wanting to be stigmatized: “If I seek treatment my family or friends will see me differently” or “Members in my unit might have less confidence in me” (Acierno et al., 2016). The theme of “career” was noted across multiple studies and focused on negative implications for the individual’s future in the military, impact on being able to advance, being deemed non-deployable, and having to request time away from a superior officer to participate in treatment. This was true for both veterans while on active duty and current active-duty service members. The final theme of confidentiality focused on not wanting anything documented in one’s medical records and limited anonymity. These factors show that telehealth is a viable and feasible option to address the issues of perceived and internalized stigma within the military community.

Limitations and Biases of Studies

There were noted limitations and biases in the 19 studies included in the final report. None of the included studies reported any financial compensation from pharmaceutical companies or other sources in the completion of the studies.

- More noninferiority studies are needed comparting telephone and in-person psychotherapy
- Most of the studies were limited to rural veterans, which limited generalizability of findings
- There were limited studies that examined other diagnostic conditions
- Most of the studies were related to treatment received from veterans connected to the VA or a military treatment facility (MTF)
- Not enough studies directly focused on female veterans
- Lack of familiarity with virtual options of receiving mental health treatment

- Lack of information on racial and ethnic minorities related to the use of telehealth services
- Limited studies on the impact of group therapy in reducing stigma
- Studies did not evaluate patient experiences, which could provide valuable data related to attrition

Summary of Systematic Literature Review

The military service has embraced beliefs consistent with masculinity, which has been embodied by female veterans as well. The culture of masculinity has led to the continued belief that veterans and military members should be able to handle mental health problems on their own. Any deviation from this is often perceived as being weak, which has led to stigma being the most pervasive barrier faced by veterans and military members. Within the female population of veterans and military members, this is worse, because many female soldiers have had to deal with MST and being re-victimized when attempting to seek treatment at a VA or MTF. The conflict of the military community's expectation of strength, perceived and internalized stigma are factors that determine whether a veteran or service member will seek treatment. The study showed the efficacy and feasibility of offering services with the use of telehealth has the potential to remove stigmatization associated seeking mental health treatment due to being confident that no one will see the individual going in for treatment in addition to the flexibility it offers.

Seven of the studies included in the review showed the noninferiority of telehealth to traditional in-office face-to face treatment in providing evidence-based psychotherapies for both veterans and active-duty services members. Using the treatment modality of telehealth has reported advantages over traditional in-office face-to-face methods of providing care such as decreased transportation cost, travel time, time away from work, childcare issues, improving negative beliefs about mental health treatment, the fear of being seen going into a mental health treatment facility by friends or family members, and the stigma associated with treatment seeking, which have all been noted as barriers to mental health treatment for both veterans and military members. The treatment modality of telehealth can improve

mental health care access for victims of MST, both urban and rural veterans experiencing PTSD, depression, and potentially other psychological issues with future research. Additionally, seven of the studies showed no signs of a difference between services delivered IP or through telehealth, but IHIP treatment had the tendency to create additional stigma associated with the delivery of service. The surveys showed that the implementation of telehealth and knowing others who have experienced mental illness and received treatment enhanced the probability of other veterans receiving care. Finally, the feasibility and efficacy in providing group therapy through telehealth has been shown to establish group cohesion and veteran-to-veteran support, which is supported by growing evidence of peer-to-peer support in increasing the willingness to access and remain engaged in treatment.

Chapter 5

Discussion

Veterans Administration (VA) and Department of Defense (DOD) understand the need to make mental health treatment available to veterans and active-duty service members due to the high level of trauma faced by those in the military community (Inoue et al., 2021). Therefore, the use of telehealth and other web-based interventions have been introduced as treatment modalities to improve access and engagement in care. Although telehealth and web-based modalities are both viable options for treatment, there continues to be a reluctance among those in the military community to seek and engage in treatment for psychological disorders, with the most prevailing barrier to accessing and engaging in mental health treatment within the military community being the stigma associated with mental illness and the prospect of being seen as weak. The common theme found associated with stigma and the reluctance to seek care can be attributed to the masculinity of the military culture and the need to be strong, not show weakness, and be able to handle situations that arise on your own. There are numerous veterans who need treatment, but do not seek or engage in needed care due to perceived and internalized stigma, which has led to increased morbidity and mortality rates in the military community with low quality of life scores being prevalent in rural communities.

The aim of this synthesized literature review was to determine the efficacy of telehealth in diminishing stigma for veterans experiencing mental illness when compared to traditional in-person care. As evidenced in the literature review, the barrier of stigma in any form is a problem for veterans and military personnel when experiencing mental illness. Removing stigma as a barrier was shown to be effective with the implementation of telehealth and web-based interventions that offered peer-to-peer support as treatment modalities. Telehealth increases privacy and confidential psychological care, which was shown to help reduce stigma associated with treatment seeking. As a treatment modality, telehealth is a valuable tool that can optimize access and engagement in treatment for those in need of mental health care with experiences of diminished stigmatization. However, due

to the complexity of stigma, additional solutions in conjunction with the availability and utilization of telehealth will be necessary to reduce attrition and ensure that those in need of mental health treatment engage in care.

Implication for Practice

Telehealth was implemented to reduce barriers to care, and, in some instances, has been successful. There is a need for changes in the availability and provision of services for victims of sexual trauma in the military community. Although one of the studies in the review was focused on female veterans, there are male veterans who have also suffered from sexual trauma and face unique psychological needs to include treatment for MST, PTSD, and major depression in addition to SUD by males. Both males and females within the military community face internalized stigma associated with seeking and engaging in care. Females face the potential of being victimized again by providers who blame them for their assault or suffering sexual harassment in clinics where they are seeking care. Male veterans face feelings of shame and embarrassment and are vulnerable to being re-assaulted. The availability of telehealth is an excellent mechanism to assist victims of MST in accessing and engaging in needed psychological care in an environment that protects them from further victimization. Therefore, more work needs to be done by both the VA and DOD to remove the barrier of stigma associated with seeking and engaging in treatment for psychological disorders while making everyone in the military community aware of the efficacy, feasibility, and safety of telehealth as a treatment modality in addition to web-based and self-guided treatments.

These efforts should also be gender specific and sensitive to make certain that the unique needs of the victim of MST are addressed so that they can have access to equitable treatment without fear of stigmatization. Providers need to make certain not to retraumatize the veteran or military personnel and treat them as a whole person and not define the individual by the psychological distress that brought them in for treatment. Screenings for mental disorders and evaluations should be tailored to promote positive attitudes towards treatment seeking and engagement and not be conducted in a manner that discourages

engagement. The issue of stigma should be addressed during the screening process and during the first engagement in treatment in hopes of decreasing feelings of stigmatization and rates of attrition.

Implication for Policies

There are visible wounds that those in the military community must contend with, but there are also the invisible wounds that must be addressed, and a starting point is the removal of stigma associated with accessing and engaging in treatment. Mental illness is a public health issue that is everyone's responsibility, because of the difficult and traumatic situations that those in the military community have and will continue to be placed in. Those in the military community, both veterans and active-duty personnel, need to know what treatment options are available when the decision is made to seek care. Study results indicated that veterans could benefit from receiving treatment from others who understand the experience of stigma. One method of achieving this would be the provision of care through therapists who are veterans or having availability to successful experiences of other military members who took part in treatment, which could potentially alter perceptions of what occurs during treatment. The continued development and distribution of web-based interventions that show the vulnerabilities of accepting mental illness, the experience of stigma, and the strength of treatment from others in the military community can assist in increasing access and engagement in care.

It is imperative that education and policies are geared towards the culture of military masculinity. The structural and institutional culture of masculinity has and continues to reinforce the need to be strong, brave, and self-reliant while making those in need of treatment feel stigmatized when their psychological welfare is under attack. The institutional and structural norms need to be addressed, beginning with the highest-ranking officials when it comes to the psychological needs of veterans and service members. There needs to be a platform like AboutFace where high-ranking officials who have dealt with psychological trauma discuss their struggles and how and why they sought treatment to decrease the need to remain strong in the face of psychological turmoil. Educational programs and trainings

need to be established and deployed to deflate stigmatizing beliefs associated with psychological disorders and seeking care, especially for those who are engaged in care to reduce attrition. Policies need to be established that require military leaders to take part in trainings focused on unit support, psychological health, and stigmatization.

Awareness needs to be brought to the fact that it is strong, brave, and okay to be reliant on others when faced with psychological distress, because the military community is there for support without judgment or recrimination. Policies need to reflect the importance of the mental health of those within the military community, beginning with changing the policy related to discharge status. A marine who earned two Purple Hearts and four Campaign Ribbons in Vietnam at 17 suffered a nervous breakdown and attempted suicide. During his second tour in Vietnam, he had another nervous breakdown and went absent without leave and was separated from the military under other than honorable conditions. He was later diagnosed with PTSD but was not eligible to receive care from the VA due to his discharge status (Veterans Legal Clinic - Harvard Law School, 2017). To receive care currently within the VA system, a veteran must be listed under other than dishonorable conditions at the time of separation from active duty (U.S. Department of Veterans Affairs, 2022).

The policy should be changed to allow those who served at least 30 days within a branch of the Uniformed Services to receive care at the VA no matter what their condition of discharge so that what occurred with the veteran above does not happen to others when experiencing mental illness in the performance of duties resulting in behaviors that lead to a less than honorable discharge. Policies should include a required annual psychological exam as part of the Annual Physical Fitness Test to decrease stigma associated with mental illness by showing support for the psychological well-being of those who serve. The military community needs to establish policies on how to work with the media on its portrayal of veterans experiencing mental illness to prevent depictions of veterans being violent, dangerous, or damaged to reduce prejudice, discrimination, and public stigma and garner added support for those who are suffering. The policy should also include ways in which the

DOD and VA can use the media to bring awareness to the availability of alternative methods of mental health treatment beyond in-person care to those within the military community. Policies need to be established that ensure the availability of broadband data transmission to those in very rural and remote areas especially among Native American service members and veterans living in insular areas to ensure that the needed mental health services are available with the use of smartphones, laptops, computers, or tablets.

Policy changes need to be made to mandate psychological counseling when veterans are taking part in the Military Transition Assistance Program to ensure any potential mental health issues can be identified with the appropriate referral being made to care with telehealth being provided as a modality of treatment to promote engagement. Policies should be specific for the symptomology of the individual receiving treatment to prevent re-traumatization and prevent additional stigmatization. There were noted benefits of receiving treatment from others who understand the experience of stigma and being a member of the military community; therefore, policies need to be established on how to work with veterans within the community where the military member is returning to establish peer-to-peer support programs to assist returning veteran with reintegration, mental health literacy to destigmatize treatment seeking, and increase entry into needed mental health treatment. Policies also need to be established on mechanisms to ensure broadband. Finally, future research should guide policies that will be most effective in reducing stigma and increasing intent and engagement in treatment through collaboration with community mental health partners and stakeholders.

Implications for Future Research

The main limitation of this review was the limited number of studies related to female veterans being that this a growing population within the military community and the meaningful use of telehealth as a treatment modality to reduce internalized stigma and increase service engagement. Research also needs to look at MST among males in the military community and the reluctance to access care for sexual trauma and how telehealth as a treatment modality could increase service utilization and decrease attrition. The studies

did not fully indicate whether stigma was associated with both accessing and engaging in treatment, which are vastly different, because providing treatment for PTSD in these and other studies, attrition was a noted problem. Therefore, future research needs to determine whether after engagement the level of experiencing stigma increases, which leads to high attrition rates and not just being fearful of the stigma associated with seeking treatment. If high attrition is associated with the stigma of being in treatment, how can this experience be destigmatized?

Future research should look at community stigma in rural environments and its impact on treatment seeking in ways that are similar or different from urban environments that would increase treatment engagement and increase methods for telehealth to be a more feasible option in rural communities with changes in policies. Additionally, future research should look at how COVID-19 changes in the use of telehealth could impact the future landscape of mental health treatment provision long-term beyond rural communities. The strength of this study was the mixture of RCTs, surveys, cohort studies, and meta-analysis that showed the safety, feasibility, and efficacy of telehealth as a treatment modality for those in the military community. Another strength of this study was that various types of telehealth treatment modalities were discussed, videoconferences, HBT, telephone, video tablets, and web-based interventions, which are all treatment modalities that can be used to decrease perceived and internalized stigma and increase service engagement, especially those web-based interventions that offer peer-to-peer support.

Conclusion

The literature review provides evidence of needed continuous work to reduce stigma within the military community when it comes to mental illness. There has been research on understanding the phenomenon of stigma and how to combat it, but it is challenging and continues to be consistently endorsed as the reason against seeking treatment among veterans and military personnel. This can be contributed to the structural and institutional norms of the military culture because policies prohibit individuals with mental disorders from enlisting and discourage those with mental disorders from engaging in warzones.

Additionally, individuals displaying mental health challenges can be discharged from military service. All these factors convey the message that mental illness is not acceptable and gives credence to the military cultures' perpetuation of stigma. To treat the invisible wounds of mental illness within the veteran population, telehealth, web-based interventions, and peer-to-peer support options need to be disseminated to reduce stigma as a barrier for those with the greatest need for treatment in hopes of normalizing treatment and lessening stigmatization.

The aim of the study was to determine whether there was efficacy in the use of telehealth as a treatment modality in diminishing stigma among veterans experiencing mental illness. The literature review conducted demonstrated the safety, feasibility, and capability of telehealth in providing evidence-based treatment when compared to traditional in-person care. Telehealth's ability to provide confidentiality and reduce stigma by providing the opportunity to receive care in the individual's home, car, or other location of convenience to include via telephone demonstrated a willingness of veterans and active-duty personnel to engage in treatment when stigmatization was noted to be a barrier to care. Telehealth and web-based interventions show promise in not only diminishing stigma associated with mental illness but could potentially remove it as a barrier to seeking and engaging in care because of the flexibility, privacy, and peer-to-peer support offered with these treatment modalities. Future research should continue to focus on additional technological interventions that lead to a greater use of psychological services and go beyond diminishing stigma but removing it as a barrier to access and engagement in mental health care long-term.

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Appendix A - Challenges to Adoption and Expansion of Telehealth

Challenges (NASSS domain)	VHA before COVID-19	VHA immediate COVID-19 response	Implications for ongoing telemental health
Reasons to use telemental health (value proposition)	• Overcome geographic barriers, especially for rural veterans • Video as effective as in-person • Telephone outcomes promising, need more veteran data	• Provide care without risk of contagion	• Provide care without risk of contagion • Longer term, may discover additional benefits
Availability and complexity of telemental health technology (technology)	• Technology becoming simpler and less expensive • Fund telehealth equipment • VA Video Connect (VVC) • Distribute tablets to veterans	• Use of VVC • Allowing other video platforms (FaceTime, Skype) when needed • Expanded use of telephone	• Select HIPAA compliant video platforms • Determine role of telephone
Remotely managing risk (condition)	• Protocols for suicidality • National Veterans Crisis Line	• Triage patients needing monitoring • Protocols for suicidality	• Establish protocols for managing risk
New clinician and patient behaviors (adopter system)	• Telemental health hubs • Clinician training materials • Goal: All providers telemental health capable by end of FY2020	• Clinician training materials and "how to" documents • Sharing practices from sites that were early adopters	• Plan for clinician training and support • Provide technical support for patients
Organizational support for change (organization)	• Organizational commitment to telemental health • Financial support for telehealth	• Mandate to deliver care by necessary means during crisis	• Need to secure organizational and financial support
Regulations and reimbursement (external context)	• Reimbursement (billing codes) for video and telephone care • MISSION Act allows VHA practice across state lines	• HSS eases restrictions on non-HIPAA-compliant video platforms	• HHS eases HIPAA restrictions • DEA relaxes requirement for in-person visit for prescribing • Better reimbursement for telephone care
Integration of telemental health into processes of care (embedding and adaption)	• Shift from office-based to home-based video	• Ongoing communication • Flexibility during crisis • Long-term integration yet to be determined	• Expect the need to be flexible • Long-term integration yet to be determined

Note. The Appendix shows the NASSS framework and how it worked within the VA system and how it could be used as a guide for the adoption of technology by other healthcare organizations. From "Beyond adoption: A new framework for theorizing and evaluating nonadoption, abandonment, and challenges to the scale-up, spread, and sustainability of health and care technologies." By, Greenhalgh T, Wherton J, Papoutsi C, Lynch J, Hughes G, A'Court C, Hinder S, Fahy N, Procter R, Shaw S., Journal of Medical Internet Research, 19 e37. http://dx.doi.org/10.219/jmir.8775.

Appendix B - Coding Protocol

I. Articles selected based upon refined search strategies were read completely to ensure inclusion criteria was meant.

a. Inclusion Criteria

- Literature published between January 2010 through December 2022
- English Language
- Peer-reviewed
- Randomized controlled trials, cohort design, surveys, meta-analysis, pilot studies, and non-randomized control trials
- Veterans and military personnel within the U.S. Uniform Services
- Stigma identified as a barrier to care
- Telehealth used as a treatment modality

b. Exclusion Criteria

- systematic reviews
- veterans outside of the U.S., only active-duty service members
- telehealth for only medical purposes
- only suicide or substance abuse addressed

II. Upon review of full article, make determination if the publication is still eligible.

- Yes
- No, document reason for exclusion

III. Each coder will complete the coding sheet for articles reviewed.

- A table will be completed based upon rater 1 and rater 2 information for inclusion and exclusion with calculations
- Calculate the kappa coefficient (Appendix 2)

IV. After completing coding raters will discuss any articles that resulted in discrepancies between the two raters.

- Discuss the concerns
- Come to an agreement

V. After completing the reconciliation of the articles, the author should fill out the final data extraction tables.

Appendix C

Kappa Coefficient Table and Formulae

		RATER 1		
RATER 2		Inclusion criteria present & Exclusion criteria absent in study	Inclusion criteria absent & Exclusion criteria absent in study	Subtotal
	Inclusion criteria present & Exclusion criteria absent in study	A	B	A+B
	Inclusion criteria absent & Exclusion criteria present in study	C	D	C+D
	Subtotal	A+C	B+D	A+B+C+D

Observed agreement = (A+D)
Expected agreement = (((A+B) *(A+C)) +((C+D) *(B+D)))/(A+B+C+D)
Kappa = ((Observed agreement) – (Expected agreement))/((A+B+C+D) – (Expected agreement))

Adapted from ***Data analysis plan templates: Kappa coefficients.*** *Statistics Solutions, 2019*

Kappa Calculations for Included Studies

Kappa Calculation for Nineteen Studies Included in the Review *(Both raters agreed on all inclusion and exclusion criteria for each of the nineteen studies). Data for these tables can be found in Appendix D*

	Inclusion criteria present & exclusion criteria absent in study	Inclusion criteria absent & exclusion criteria present in study	Subtotal
Inclusion criteria present & exclusion criteria absent in study	10	0	10
Inclusion criteria absent & exclusion criteria present in study	0	0	0
Subtotal	10	0	10

Observed agreement = (A+D)

*Expected agreement = (((A+B) *(A+C)) +((C+D) *(B+D)))/(A+B+C+D)*

Kappa = ((Observed agreement) – (Expected agreement))/((A+B+C+D) – (Expected agreement))

Observed agreement: (10+0) = 10

Expected agreement= (10)(10) +(0)(0)/10=100/10=10

Kappa= 10-10/10-10= 1

*Calculations were not repeated nineteen times because the figures/sums for study were the same.

The inter-rater reliability had a value of kappa at 1 for all included studies.

Kappa Calculations for 19 Included Studies

	Inclusion criteria present & exclusion criteria absent in study	Inclusion criteria absent & exclusion criteria present in study	Subtotal
Inclusion criteria present & exclusion criteria absent in study	19	0	19
Inclusion criteria absent & exclusion criteria present in study	0	0	0
Subtotal	19	0	19

Observed agreement = (A+D)

*Expected agreement = (((A+B) *(A+C)) +((C+D) *(B+D)))/(A+B+C+D)*

Kappa = ((Observed agreement) – (Expected agreement))/((A+B+C+D) – (Expected agreement))

Observed agreement: (19+0) = 19

Expected agreement= (19)(19) +(0)(0)/19=361/19=19

Kappa= 19-19/19-19= 1

The inter-rater reliability had a value of kappa at 1 for all included studies.

Kappa Calculations for 9 Excluded Studies

	Inclusion criteria present & exclusion criteria absent in study	Inclusion criteria absent & exclusion criteria present in study	Subtotal
Inclusion criteria present & exclusion criteria absent in study	0	9	9
Inclusion criteria absent & exclusion criteria present in study	0	0	0
Subtotal	0	9	9

Observed agreement = (A+D)

*Expected agreement = (((A+B) *(A+C)) +((C+D) *(B+D)))/(A+B+C+D)*

Kappa = ((Observed agreement) – (Expected agreement))/((A+B+C+D) – (Expected agreement))

Observed agreement: (9+0) = 9

Expected agreement= (9)(9) +(0)(0)/9=81/9=9

Kappa= 9-9/9-9= 1

The inter-rater reliability had a value of kappa at 1 for all excluded studies.

Appendix D – Inclusion Studies

Studies for Analysis to Select for Inclusion/Exclusion in the Review- Rater One/Rater Two (19 Selected for Inclusion)											
Study Title	Is the study peer reviewed?	Is the study in English?	Are the studies between January 2011 and December 2022?	Does the study only pertain to veterans and active U.S. military personnel?	Was stigma identified as a barrier to care?	Was telehealth used as a treatment modality?	Were outcome measures reported?	Was the study RCT, cohort, survey, or meta-analyses?	Exclusion Criteria absent? The study was not a thesis, dissertation, or opinion paper, commentary, or systematic review.	Exclusion criteria absent? Veterans associated with other countries, telehealth used for the delivery of medical services only, only pertained to active-duty personnel, only referenced substance use disorder or suicide.	Agreement
Behavioral activation and therapeutic exposure for posttraumatic stress disorder. A noninferiority trial of treatment delivered in person versus home-based telehealth	Y/Y	Y/Y	Y/Y	Y/Y	Y/Y	Y/Y	Y/Y	Y/Y	Y/Y	Y/Y	10/10
A randomized clinical trial of in-person vs. home-based telemedicine delivery of Prolonged Exposure for PTSD in military sexual trauma survivors	Y/Y	Y/Y	Y/Y	Y/Y	Y/Y	Y/Y	Y/Y	Y/Y	Y/Y	Y/Y	10/10
The Effectiveness of Telepsychology With Veterans: A Meta-Analysis of Services Delivered by Videoconference and Phone	Y/Y	Y/Y	Y/Y	Y/Y	Y/Y	Y/Y	Y/Y	Y/Y	Y/Y	Y/Y	10/10
An Online Peer Educational Campaign to Reduce Stigma and Improve Help Seeking in Veterans with Posttraumatic Stress Disorder	Y/Y	Y/Y	Y/Y	Y/Y	Y/Y	Y/Y	Y/Y	Y/Y	Y/Y	Y/Y	10/10
Cognitive Processing Therapy for Posttraumatic Stress Disorder Delivered to Rural Veterans via Telemental Health: A Randomized Noninferiority Clinical Trial	Y/Y	Y/Y	Y/Y	Y/Y	Y/Y	Y/Y	Y/Y	Y/Y	Y/Y	Y/Y	10/10
afterdeployment.org : A web-based multimedia wellness resource for the post deployment military community	N/A	Y/Y	Y/Y	Y/Y	Y/Y	Y/Y	N/N	N/N	N/A	N/A	7/7
Masculinity and stigma among emerging adult military members and veterans: implications for encouraging help-seeking	Y/Y	Y/Y	Y/Y	Y/Y	Y/Y	Y/Y	Y/Y	Y/Y	Y/Y	Y/Y	10/10
Are Iraq and Afghanistan veterans using mental health services? New data from a national random-sample survey	Y/Y	Y/Y	Y/Y	Y/Y	Y/Y	Y/Y	Y/Y	Y/Y	Y/Y	Y/Y	10/10
Online Telehealth Delivery of Group Mental Health Treatment Is Safe, Feasible, and Increases Enrollment and Attendance in Post-9/11 U.S. Veterans	Y/Y	Y/Y	Y/Y	Y/Y	Y/Y	Y/Y	Y/Y	Y/Y	Y/Y	Y/Y	10/10
An Online Peer Educational Campaign to Reduce Stigma and Improve Help Seeking in Veterans with Posttraumatic Stress Disorder	Y/Y	Y/Y	Y/Y	Y/Y	Y/Y	Y/Y	Y/Y	Y/Y	Y/Y	Y/Y	10/10
Increasing Mental Health Care Access, Continuity, and Efficiency for Veterans Through Telehealth With Video Tablets	Y/Y	Y/Y	Y/Y	Y/Y	Y/Y	Y/Y	Y/Y	Y/Y	Y/Y	Y/Y	10/10

Appendix D continued – Inclusion Studies

Studies for Analysis to Select for Inclusion/Exclusion in the Review- Rater One/Rater Two (19 Selected for Inclusion)											
Study Title	Is the study peer reviewed?	Is the study in English?	Are the studies between January 2011 and December 2022?	Does the study only pertain to veterans and active U.S. military personnel?	Was stigma identified as a barrier to care?	Was telehealth used as a treatment modality?	Were outcome measures reported?	Was the study RCT, cohort, survey, or meta-analyses?	Exclusion Criteria absent? The study was not a thesis, dissertation, or opinion paper, commentary, or systematic review.	Exclusion criteria absent? Veterans associated with other countries, telehealth used for the delivery of medical services only, only pertained to active-duty personnel, only referenced substance use disorder or suicide.	Agreement
PTSD telehealth treatments for veterans: Comparing outcomes from in-person, clinic-to-clinic, and home-based telehealth therapies	Y/Y	Y/Y	Y/Y	Y/Y	Y/Y	Y/Y	Y/Y	Y/Y	Y/Y	Y/Y	**10/10**
Videoconferencing psychotherapy for veterans with PTSD: Results from a randomized controlled non-inferiority trial	Y/Y	Y/Y	Y/Y	Y/Y	Y/Y	Y/Y	Y/Y	Y/Y	Y/Y	Y/Y	**10/10**
Home-based telebehavioral health for U.S. military personnel and veterans with depression: A randomized controlled trial	Y/Y	Y/Y	Y/Y	Y/Y	Y/Y	Y/Y	Y/Y	Y/Y	Y/Y	Y/Y	**10/10**
Home-based delivery of variable length prolonged exposure therapy: A comparison of clinical efficacy between service modalities	Y/Y	Y/Y	Y/Y	Y/Y	Y/Y	Y/Y	Y/Y	Y/Y	Y/Y	Y/Y	**10/10**
The mental health status and barriers to seeking care in rural women veterans	**Y/Y**	**Y/Y**	**Y/Y**	**Y/Y**	**Y/Y**	**Y/Y**	**Y/Y**	**Y/Y**	**Y/Y**	**Y/Y**	**10/10**
Comparing mindfulness and psychoeducation treatments for combat-related PTSD using a telehealth approach	Y/Y	Y/Y	Y/Y	Y/Y	Y/Y	Y/Y	Y/Y	Y/Y	Y/Y	Y/Y	**10/10**
Deployment-related sequelae and treatment utilization in rural and urban war veterans in Hawaii	**Y/Y**	**Y/Y**	**Y/Y**	**Y/Y**	**Y/Y**	**Y/Y**	**Y/Y**	**Y/Y**	**Y/Y**	**Y/Y**	**10/10**
E-mental health preferences of Veterans with and without probable posttraumatic stress disorder	**Y/Y**	**Y/Y**	**Y/Y**	**Y/Y**	**Y/Y**	**Y/Y**	**Y/Y**	**Y/Y**	**Y/Y**	**Y/Y**	**10/10**

Appendix E – Exclusion Studies

es for Analysis to Select for Inclusion/Exclusion in the Review- Rater One/Rater Two (8 Selected for Exclusion)											
Study Title	Is the study peer reviewed?	Is the study in English?	Are the studies between January 2011 and December 2022?	Does the study only pertain to veterans and active U.S. military personnel?	Was stigma identified as a barrier to care?	Was telehealth used as a treatment modality?	Were outcome measures reported?	Was the study RCT, cohort, survey, or meta-analyses?	Exclusion Criteria absent? The study was not a thesis, dissertation, or opinion paper, commentary, or systematic review.	Exclusion criteria absent? Veterans associated with other countries, telehealth used for the delivery of medical services only, only pertained to active-duty personnel, only referenced substance use disorder or suicide.	Agreement
The effects of social stigma on mental health treatment and access for United States military veterans: a focus on Indiana	Y/Y	Y/Y	Y/Y	N/N	Y/Y	Y/Y	Y/Y	Y/Y	Y/Y	Y/Y	10/10
Research on PTSD prevalence in OEF/OIF Veterans: expanding investigation of demographic variables	Y/Y	Y/Y	Y/Y	Y/Y	Y/Y	N/N	Y/Y	Y/Y	Y/Y	Y/Y	10/10
The journey to professional mental health support: a qualitative exploration of the barriers and facilitators impacting military veterans' engagement with mental health treatment	Y/Y	Y/Y	Y/Y	N/N	Y/Y	Y/Y	Y/Y	Y/Y	Y/Y	Y/Y	10/10
Do stigma and other perceived barriers to mental health care differ across Armed Services?	Y/Y	Y/Y	Y/Y	N/N	Y/Y	Y/Y	Y/Y	Y/Y	Y/Y	Y/Y	10/10
VA mental health services utilization in Iraq and Afghanistan veterans in the first year of receiving new mental health diagnosis	Y/Y	Y/Y	Y/Y	Y/Y	Y/Y	N/N	Y/Y	Y/Y	Y/Y	Y/Y	10/10
Seeking help for the health sequelae of military sexual trauma: a theory-driven model of the role of institutional betrayal	Y/Y	Y/Y	Y/Y	Y/Y	Y/Y	N/N	Y/Y	Y/Y	Y/Y	Y/Y	10/10
Telehealth use and COVID-19: Assessing older veterans and perspectives	Y/Y	Y/Y	Y/Y	N/N	Y/Y	Y/Y	Y/Y	Y/Y	Y/Y	Y/Y	10/10

Appendix E continued – Exclusion Studies

Studies for Analysis to Select for Inclusion/Exclusion in the Review- Rater One/Rater Two (8 Selected for Exclusion)											
Study Title	Is the study peer reviewed?	Is the study in English?	Are the studies between January 2011 and December 2022?	Does the study only pertain to veterans and active U.S. military personnel?	Was stigma identified as a barrier to care?	Was telehealth used as a treatment modality?	Were outcome measures reported?	Was the study RCT, cohort, survey, or meta-analyses?	Exclusion Criteria absent? The study was not a thesis, dissertation, or opinion paper, commentary, or systematic review.	Exclusion criteria absent? Veterans associated with other countries, telehealth used for the delivery of medical services only, only pertained to active-duty personnel, only referenced substance use disorder or suicide.	Agreement
Telemedicine versus in person delivery of cognitive processing therapy for women with posttraumatic stress disorder: a randomized noninferiority trial	Y/Y	Y/Y	Y/Y	N/N	Y/Y	Y/Y	Y/Y	Y/Y	Y/Y	Y/Y	10/10
The use of telemental health to meet the mental health needs of women using department of veteran's affairs services	Y/Y	Y/Y	Y/Y	N/N	Y/Y	Y/Y	Y/Y	Y/Y	Y/Y	Y/Y	10/10

Appendix F – Interpretation of Cohen's kappa*

Interpretation of Cohen's kappa*

Value of Kappa	Level of Agreement	% of Data that are Reliable
0–.20	None	0–4%
.21–.39	Minimal	4–15%
.40–.59	Weak	15–35%
.60–.79	Moderate	35–63%
.80–.90	Strong	64–81%
Above.90	Almost Perfect	82–100%

***Table taken from** Interrater Reliability: The Kappa Statistic. McHugh, 2012. Reprinted from *Biochemia medica*, *22*(3), 276–282. Retrieved from https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3900052/

Appendix G - Article Assessment Tool

CASP Randomised Controlled Trial Standard Checklist:
11 questions to help you make sense of a randomised controlled trial (RCT)

Main issues for consideration: Several aspects need to be considered when appraising a randomised controlled trial:

Is the basic study design valid for a randomised controlled trial? (Section A)

Was the study methodologically sound? (Section B) What are the results? (Section C)
Will the results help locally? (Section D)

The 11 questions in the checklist are designed to help you think about these aspects systematically.

How to use this appraisal tool: The first three questions (Section A) are screening questions about the validity of the basic study design and can be answered quickly. If, considering your responses to Section A, you think the study design is valid, continue to Section B to assess whether the study was methodologically sound and if it is worth continuing with the appraisal by answering the remaining questions in Sections C and D.

Record 'Yes', 'No' or 'Can't tell' in response to the questions. Prompts below all but one of the questions highlight the issues it is important to consider. Record the reasons for your answers in the space provided. As CASP checklists were designed to be used as educational/teaching tools in a workshop setting, we do not recommend using a scoring system.

About CASP Checklists: The CASP RCT checklist was originally based on JAMA Users' guides to the medical literature 1994 (adapted from Guyatt GH, Sackett DL and Cook DJ), and piloted with healthcare practitioners. This version has been updated taking into account the CONSORT 2010 guideline (http://www.consort-statement.org/consort-2010, accessed 16 September 2020).

Citation: CASP recommends using the Harvard style, i.e., *Critical Appraisal Skills Programme (2021). CASP (insert name of checklist i.e. Randomised Controlled Trial) Checklist. [online] Available at: insert URL. Accessed: insert date accessed.*

CASP
Critical Appraisal Skills Programme

Study and citation: .....

Section A: Is the basic study design valid for a randomised controlled trial?			

1. Did the study address a clearly focused research question?
CONSIDER:
• *Was the study designed to assess the outcomes of an intervention?*
• *Is the research question 'focused' in terms of:*
  • *Population studied*
  • *Intervention given*
  • *Comparator chosen*
  • *Outcomes measured?*
	Yes ☐	No ☐	Can't tell ☐

2. Was the assignment of participants to interventions randomised? *CONSIDER:* • *How was randomization carried out? Was the method appropriate?* • *Was randomization sufficient to eliminate systematic bias?* • *Was the allocation sequence concealed from investigators and participants?*	Yes ☐	No ☐	Can't tell ☐
3. Were all participants who entered the study accounted for at its conclusion? *CONSIDER:* • *Were losses to follow-up and exclusions after randomization accounted for?* • *Were participants analyzed in the study groups to which they were randomised (intention-to-treat analysis)?* • *Was the study stopped early? If so, what was the reason?*	Yes ☐	No ☐	Can't tell ☐

Section B: Was the study methodologically sound?			
4. • Were the participants 'blind' to intervention they were given? • Were the investigators 'blind' to the intervention they were giving to participants? • Were the people assessing/analyzing outcome/s 'blinded'?	Yes ☐ ☐ ☐	No ☐ ☐ ☐	Can't tell ☐ ☐ ☐
5. Were the study groups similar at the start of the randomised controlled trial? *CONSIDER:* • *Were the baseline characteristics of each study group (e.g. age, sex, socio-economic group) clearly set out?* • *Were there any differences between the study groups that could affect the outcome/s?*	Yes ☐	No ☐	Can't tell ☐

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6. Apart from the experimental intervention, did each study group receive the same level of care (that is, were they treated equally)? *CONSIDER:* • *Was there a clearly defined study protocol?* • *If any additional interventions were given (e.g. tests or treatments), were they similar between the study groups?* • *Were the follow-up intervals the same for each study group?*	Yes ☐	No ☐	Can't tell ☐

Section C: What are the results?

7. Were the effects of intervention reported comprehensively? *CONSIDER:* • *Was a power calculation undertaken?* • *What outcomes were measured, and were they clearly specified?* • *How were the results expressed? For binary outcomes, were relative and absolute effects reported?* • *Were the results reported for each outcome in each study group at each follow-up interval?* • *Was there any missing or incomplete data?* • *Was there differential drop-out between the study groups that could affect the results?* • *Were potential sources of bias identified?* • *Which statistical tests were used?* • *Were p values reported?*	Yes ☐	No ☐	Can't tell ☐
8. Was the precision of the estimate of the intervention or treatment effect reported? *CONSIDER:* • *Were confidence intervals (CIs) reported?*	Yes ☐	No ☐	Can't tell ☐

9. Do the benefits of the experimental intervention outweigh the harms and costs? *CONSIDER:* • *What was the size of the intervention or treatment effect?* • *Were harms or unintended effects reported for each study group?* • *Was a cost-effectiveness analysis undertaken? (Cost-effectiveness analysis allows a comparison to be made between different interventions used in the care of the same condition or problem.)*	Yes ☐	No ☐	Can't tell ☐

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Section D: Will the results help locally?			
10.	Can the results be applied to your local population/in your context? *CONSIDER:* • *Are the study participants similar to the people in your care?* • *Would any differences between your population and the study participants alter the outcomes reported in the study?* • *Are the outcomes important to your population?* • *Are there any outcomes you would have wanted information on that have not been studied or reported?* • *Are there any limitations of the study that would affect your decision?*	Yes ☐	No ☐	Can't tell ☐
11.	Would the experimental intervention provide greater value to the people in your care than any of the existing interventions? *CONSIDER:* • *What resources are needed to introduce this intervention taking into account time, finances, and skills development or training needs?* • *Are you able to disinvest resources in one or more existing interventions in order to be able to re-invest in the new intervention?*	Yes ☐	No ☐	Can't tell ☐

APPRAISAL SUMMARY: *Record key points from your critical appraisal in this box. What is your conclusion about the paper? Would you use it to change your practice or to recommend changes to care/interventions used by your organization? Could you judiciously implement this intervention without delay?*

Appendix H - Data Extraction

Studies included in Systematic Review: Data Extraction Table										
Author(s)	Type of Study	Non-interior study	Population	Sample Size	Diagnosis	Treatment	Type of Control	Telehealth Modality	Barriers to Care	Findings
Knolton et al., 2021	Retrospective Cohort Design	no	Rural Veterans	581	PTSD	PE via IP, CC, and VVC CPT via IP, CC, and VVC	In-person PE and CPT	1. Clinic to Clinic Telehealth 2. VVC (VA Video Connect)	stigma, geographic constraints, inability to meet transportation cost demands, shortage in behavioral health providers,	Results showed that Veterans engaging in PE or CPT demonstrated statistically significant changes in symptoms of PTSD and depression, with no differences between delivery type or type of treatment delivered.
Luxton et al., 2016	RCT	yes	Service members and veterans	121	Depression	8 sessions of behavioral activation treatment	IP office-based psychotherapy	Video Conferencing	stigma, geographic constraints, limited mobility	The results of the present trial did not demonstrate noninferiority of HBTBH compared to in-person treatment based on BHS and BDI-11 scores. The post hoc analysis that used a 95% confidence interval showed the in-home treatment modality was inferior and not noninferior according to the scores from the BHS. The 95% confidence interval for the comparison of the BDI-11 included zero, therefore cannot make a strong conclusion about the inferiority of the treatment on this measure. Cannot conclude from the noninferiority analyses that in-home BATD is as safe as in-office care based solely on the relative differences in BHS and BDI scores between these treatment conditions
Elbogen, et.al, 2013	Random Survey	no	Iraq and Afghanistan Veterans	1,388	PTSD, MD, Alcohol misuse	IP care at VA facility	N/A	N/A	stigma	43% of veterans screened positive for PTSD, major depression, or a1coho1 misuse. Two-thirds of veterans with probab1e PTSD or major depression reported accessing treatment in the past year, most1y at VA faci1ities. One in six veterans (18%) reported seeing a pastora1 counse1 or (chap1ain) during the past. Nearly 70% of veterans screened positive for PTSD reported treatment for emotional or psychiatric problems in the past. Veterans with more severe PTSD or depressive symptoms were significantly more likely to access treatment.
Whealin et al., 2014	Cross sectional survey of urban and rural veterans from Hawaii	no	Rural and Urban veterans - Hawaii	235	PTSD	IP care at VA facility	N/A	N/A	Stigma, perceived community stigma, travel to care, stoicism, lack of problem recognition, and negative beliefs about mental health care	Rural veterans were more likely than urban veterans Lo meet screening criteria for posttraumatic stress disorder (PTSD), deployment- related concussion with persistent post-concussive symptoms, and alcohol use problems. Over one third of veterans who desired help for a mental health problem reported no current use of any services. Rural veterans were more likely than urban veterans to have accessed Veteran Readjustment Centers, but they did not differ with respect lo utilization of other services. Correlates of mental health service utilization included higher education, PTSD, and lower mental-health-related quality of life.
Bush et al., 2011	N/A	N/A	Veterans and active-duty members returning from Afghanistan and Iraq	N/A	PTSD, suicide, stress related issues	N/A - access to web resources	N/A	afterdeployment.org, Web-based set of resources, tools, and aids	stigma	after deployment. org provides education and skills-development exercises aimed at overcoming challenges to the adjustment process after a deployment. The Website also provides health professionals with a comprehensive resource to serve as an adjunct to face to face treatment of individuals in the military community.
Hamblen et al., 2019	2 phases - usability testing phase and RCT	yes	Veterans	60	PTSD	Utilization of AboutFace	group not utilizing AboutFace	AboutFace	perceived stigma	Veterans had positive attitudes about AboutFace and gave suggestions for improvement. Veterans in both conditions reported improved attitudes toward mental illness and treatment seeking from baseline to the 2-week follow-up.
Morland et al., 2019	RCT	no	Veterans	175	PTSD, Depression	PE duration determined by either achievement of a criterion score on the PTSD Checklist for DSM-5 for two consecutive sessions or completion of 15 sessions	no control group, comparison between three home-based modalities	Home-based telehealth (HBT), office-based telehealth (OBT), and in-home-in-person (IHIP)	stigma, transportation, long wait times, lack of knowledge about eligibility services, and insufficient care in rural communities	The clinical effectiveness of PE did not differ by treatment modality across any time point; however there was a significant difference in treatment dropout. Veterans in the HBT (odds ratio [OR] = 2.67;95% confidence interval [CI] = 1.10,6.52; p=.031 and OBT (OR=5.08; 95% CI=2.10; 12.26; p < .001) conditions were significantly more likely than veterans in the IHIP to drop out of treatment.
Liu et al., 2019	RCT non-inferior trial	yes	Veterans	207	PTSD	twelve weekly 60-minute sessions	IP psychotherapy	Video Conferencing (VC)	stigma, transportation concerns, and time constraints	Completer and ITT (intent to treat) analyses showed that improvement in CAPS scores in the VC condition was non-inferior to that in the IP condition at six-month follow-up. VC was inferior to IP for improvement in CAPS at post-treatment Non-inferiority was supported by completer analyses for PCL-5 and PHQ-9 in both post-treatment change and six-month follow-up change, and the ITT analyses supported the significant non-interiority of PCL at post-treatment change.
McClellan et al., 2022	meta-analyses (18 RCTs)	no	veterans	27 studies including 2,648 participants	PTSD, Depression	Treatment varied among studies	IP office-based psychotherapy	synchronous VC, telephone	stigma, lack of accessibility to services, embarrassment	Overall, the results of this meta-analysis suggest that telepsychology is comparable to FTF therapy for veterans dealing with a variety of psychological conditions. The pre-post comparisons suggest that videoconferencing-based telepsychology has moderate-to-strong effect sizes and telephone-based telepsychology has moderate effect sizes for the two psychological conditions studied most frequently (e.g., trauma and depression). The RCT designs allow for a more powerful conclusion to be drawn. In general, videoconferencing- and telephone-based telepsychology is practically equivalent to and FTF-delivered therapies. Overall, the results of this meta-analysis suggest that telepsychology is comparable to FTF therapy for veterans dealing with a variety of psychological conditions. The pre-post comparisons suggest that videoconferencing-based telepsychology has moderate-to-strong effect sizes and telephone-based telepsychology has moderate effect sizes for the two psychological conditions studied most frequently (e.g., trauma and depression).
Morland et al., 2014	RCT non-inferior trial	yes	Rural Veterans	125	PTSD	12 treatment sessions (bi-weekly over 6 weeks)	IP office-based psychotherapy	VTC	fear of stigmatization, PTSD symptomatology (avoidance), and logistical problems (transportation, scheduling, childcare).	Clinical and process outcomes found VTC to be noninferior to in-person treatment. Significant reductions in PTSD symptoms were identified at posttreatment (Cohen d = 0.78, P < .05) and maintained at 3- and 6-month follow-up (d = 0.73, P < .05 and d = 0.76, P < .05, respectively). High levels of therapeutic alliance, treatment compliance, and satisfaction and moderate levels of treatment expectancies were reported, with no differences between groups (for all comparisons, F < 1.9, P > .17).

Appendix H Data Extraction Table – cont'd

Studies included in Systematic Review: Data Extraction Table

Author(s)	Type of Study	Non-interior study	Population	Sample Size	Diagnosis	Treatment	Type of Control	Telehealth Modality	Barriers to Care	Findings
Peterson et al., 2022	equipoise stratified randomization design (RCT)	no	active duty military and veterans	120	PTSD	12 60-minute sessions	IP office-based psychotherapy	telehealth	stigma, travel	Telehealth was the most acceptable and least often refused delivery format (17%), followed by In-Office (29%), and In-Home (54%); these differences were significant (p = 0.0008). Significant reductions in PTSD symptoms occurred with all treatment formats (p < .0001). Improvement on the PCL-5 was about twice as large in the In-Home (d = 2.1) and Telehealth (d = 2.0) formats than In-Office (d = 1.3); those differences were statistically large and significant (d = 0.8, 0.7 and p = 0.009, 0.014, respectively). There were no significant differences between In-Home and Telehealth outcomes (p = 0.77, d = −.08). Dropout from treatment was numerically lowest when therapy was delivered In-Home (25%) compared to Telehealth (34%) and In-Office (43%), but these differences were not statistically significant.
Niles et al., 2012	pilot study	no	veterans	33	PTSD	Mindfulness - 2 IP sessions and 6 phone sessions Psychoeducation - 2 IP sessions and 6 phone sessions	no control group	telephone	perceived stigma, inconvenience, privacy	Telehealth appears to be a feasible mode for delivery of PTSD treatment for veterans Veterans with PTSD can tolerate and report high satisfaction with a brief mindfulness intervention; Participation in the mindfulness intervention is associated with a temporary reduction in PTSD symptoms. A brief mindfulness treatment may not be of adequate intensity to sustain effects on PTSD symptoms.
Acierno, et al., 2021	RCT	yes	women veterans	136	PTSD related MSV	12 - 1590-minute sessions depending on progress	IP	HBT	stigma, fear conditioning	PE is an effective treatment to reduce PTSD and depression symptom severity related to MST, with greater reductions in PTSD symptoms for patients who receive a higher dose. There were no statistically significant differences between HBT and in-person delivery in the dose of sessions received or symptom reduction.
Jacobs et al., 2019	retrospective matched cohort	no	veterans	25,370	PTSD, Depression	6-month pre/post changes in in number of psychotherapy and medication management visits, continuity of psychotherapy based on VHA's quality metric for mental health care continuity, missed opportunity rate (i.e., the proportion of mental health appointments that were missed or canceled), and probability of any and number of emergency department (ED) or urgent care visits.	IP cohort with no tablets	video tablets	perceived stigma, privacy, scheduling constraints, caregiver responsibilities, geographic barriers, transportation challenges	Between the 6 months before the index date (baseline) and the 6 months after the index date (follow-up) (Table 2), tablet recipients experienced an increase in psychotherapy visits and medication management visits (from 0.80 to 2.42 sessions and from 1.60 to 1.80 sessions, respectively. Tablet recipients were significantly more likely than control group participants to meet VHA's continuity of care measure (20.60% versus 2.55%). At follow-up, both groups experienced higher rates of ED or urgent care use (tablet group, 17.17%; control group, 11.51%).
Wheaton et al., 2015	survey of attitudes about e-mental health modalities	no	rural veterans and Hawaii National Guard members	833	PTSD	IP care at VA facility	N/A	N/A	stigma, geographical barriers (e.g., inadequate transportation), temporal barriers (e.g., difficulty scheduling appointments), and financial barriers	Within the entire sample, overall willingness to use e-mental health resources ranged from 32.2 percent for text messaging to 56.7 percent for telephone calls from providers. Within Veterans with probable PTSD, willingness to use e-mental health interventions ranged from a low of 20.4 percent for CVT in a VHA clinic to a high of 37.6 percent for telephone calls to the home. Within the non-PTSD group, willingness to use e-mental health ranged from a low of 35.6 percent for text messaging to a cellular telephone to a high of 67.9 percent for telephone calls to the home. Chi-square analyses indicated that Veterans in the non-PTSD group were more likely than Veterans with probable PTSD to report willingness to use each modality.
Acierno et al., 2016	RCT	yes	veterans	232	PTSD and MD	BA-TE IP	completed 5 + sessions BA-TE	telephone	stigma, travel time, cost	PTSD and MD symptom improvement following BA-TE delivered by HBT was comparable to the BA-TE
Fortier et al., 2022	RCT	yes	post 9/11 U.S. military veterans	91	TBI, PTSD	12 sessions of STEP Home cognitive-behavioral group workshop or present-centered group therapy	IP TAU (Treatment as usual)	home-based synchronous videoconferencing (VC)	stigma, logistical barriers, shortage of mental health provider, scheduling challenges	No significant differences were found across treatment assignments (STEP Home vs. PCGT) for enrollment, treatment completion, attendance, satisfaction, group dynamics, or technology ratings. Many veterans preferred VC groups for pragmatic reasons (e.g., less travel, particularly to an urban setting; less interference with life commitments). Therapists rated VC technology status, including audio and video connectivity, as highly successful for VC (mean = 4.3, SD = 0.8).
Clary et al., 2021	survey	no	military members	26	PTSD, MD, Substance Abuse, anxiety	75-minute interviews	N/A	Zoom	internalized stigma, hegemonic masculinity, stigma at the systems, peers, and leadership	Identified barriers to accessing mental health treatment Provided ways to decrease stigma and encourage help seeking

Appendix H - Data Extraction Table – cont'd

Studies included in Systematic Review: Data Extraction Table

Author(s)	Type of Study	Non-interior study	Population	Sample Size	Diagnosis	Treatment	Type of Control	Telehealth Modality	Barriers to Care	Findings
Murray-Swank et., 2018	Survey	no	rural women veterans	101	PTSD, MST	wellness retreat	N/A	N/A	internalized stigma, perceived stigma, long drive times resulting in attrition, transportation considerations, difficulties obtaining time off work and finding childcare, and concerns about the affordability of services	Female veterans demonstrated significant levels of psychological distress, with averages ranging between the 82nd and 88th percentiles for depression, anxiety, and somatization symptoms. 35% scored above the clinical screening level for general distress 40% reported symptoms above the cutoff level for probable PTSD, and 70% demonstrated clinical levels of insomnia. Notably, 36% of the total sample evidenced a risk for suicide, and 68% reported MST. MST was significantly associated with increased levels of psychological distress, PTSD symptoms, and suicidality. Sixty-nine percent of participants reported at least one barrier to seeking mental health services, with scheduling difficulties, distance from facilities, and internalized stigma endorsed the most frequently.

PTSD - Post Traumatic Stress Disorder, PE - Prolonged Exposure, IP - In Person, CC - Clinic to Clinic, VVC - VA Video Conferencing, CPT - Cognitive Processing Therapy, RCT - Random Controlled Trial, HBTBH - Home Base Telebehavioral Health, BHS - Beck Hopelessness Scale, BDI - Beck Depression Inventory, BATD - Behavioral Activation Treatment for Depression, MD - Major Depression, HBT - Home Based Telehealth, VC - Video Conferencing, ITT - Intent to Treat, CAPS - Clinician-Administered PTSD Scale, PCL-S - PTSD Checklist-Specific , PHQ - Patient Health Questionnaire, CI = confidence interval, CVT = clinical video teleconferencing, OEF = Operation Enduring Freedom, OIF = Operation Iraqi Freedom, PCL-C = PTSD Checklist-Civilian Self-Help and Treatment Services Utilization Survey, MST = Military Sexual Trauma VA = Department of Veterans Affairs, VHA = Veterans Health Administration., BA-TE-IP = Behavioral Activation and Therapeutic Exposure In Person