Chapter 6
Geriatric Telemental Health in the United States Department of Veterans Affairs

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The Veterans Health Administration (VHA) defines telehealth as: "The wider application of care and case management principles to the delivery of health care services using health informatics, disease management and telehealth technologies to facilitate access to care and improve the health of designated individuals and populations with the intent of providing the right care in the right place at the right time" [1]. For well over a decade, the VHA has worked to mitigate deficits in access to care by harnessing advances in technology

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to provide specialty care to underserved areas, especially those geographically isolated from major medical centers.

The Veterans Health Administration (VHA) has established itself as a national leader in the development of telemental health, which has enabled the VHA to provide access to high quality psychiatric care for rural Veterans. Telemental health is typically delivered from the parent medical center (VAMC) to its Community Based Outpatient Clinics (CBOCs) often nested in rural, hard to reach areas. Since 2003, the VHA has performed close to 1,830,000 telemental health encounters [2].

In 2010 the VHA established a National Telemental Health Center (NTMHC) to provide expert consultation to providers across the national VHA system. Out of the 380,000 telemental health visits to more than 122,000 Veterans in FY15, the NTMHC provided 13,000 consultations to approximately 3,900 Veterans in over 100 sites in 31 states. These NTMHC providers include experts in geriatrics and affective, anxiety, psychotic, and substance abuse disorders [2].

Much of the existing telemental health literature is based primarily on experiences within the VHA, signifying the importance of the VHA model to inform the field on best practices for telemental health. Years of VHA implementation experience have prepared this healthcare system to utilize rapidly advancing technology to create novel ways to improve access to care for the growing elderly Veteran population. Over the next decade, Veterans over age 60 will represent more than 50% of the total Veteran population [3]. Telehealth has special relevance for this geriatric population, as medical and psychiatric care for older adults is often limited due to difficulties with transportation to a medical center or clinic environment.

In FY 2015, the VHA provided 9,700 Veterans telemental health services to their home, reflecting a steady growth in the VHAs efforts to improve access to health care for vulnerable populations, such as frail elderly Veterans [2]. Home-based telemental health care is especially important for homebound older adults who are unable to attend traditional hospital or CBOC clinics due to complex neuropsychiatric

and medical illnesses, which make transportation challenging or impossible. This modality also contributes to provider efficiency reducing the need for time-consuming in-person home visitations [4]. A study of behavioral activation therapy for major depression found that evidence-based psychotherapy can be delivered, without modification, via home-based telemental health, and that this method can overcome barriers to care associated with distance from and difficulty with attendance at in-person sessions in older adults [5].

By providing Veterans access to mental health services through telehealth, the VHA has decreased psychiatric hospitalizations for patients receiving telemental health services by 32% within approximately 6 months of initiating treatment [2]. Similar reductions in hospitalization rates (24.2%) from 2006 to 2010 were observed across *all* age groups, including those ≥65yo (~18.4% or ~18,000 Veterans) in an earlier large, observational, nationwide study [6].

6.1 Applications in Veteran Geriatric Telemental Health

Much of the VHA's research on the effectiveness of telemental health services has centered on providing PTSD treatment to combat Veterans, many of whom are Vietnam Veterans. It is well known that Veterans with PTSD suffer a higher degree of comorbid cardiovascular disease, diabetes, gastrointestinal ulcer disease, dementia, and overall mortality that their age matched cohort [7, 8], thus research in telemental health services for PTSD is ostensibly geriatric in nature given that a large proportion of Veterans enrolled in these studies are 55 years old and older [9, 10]. From 2009 to 2011, the VHA studied the impact of a telemental health-based collaborative care model to rural CBOCs in Arkansas, Louisiana, and California showing a significant increase in referral to evidence-based treatment for PTSD and subsequent improvement in PTSD symptoms compared to care as usual for individuals with a mean age of 52.2 ± 13.8 years [9].

The VHA has also investigated the utility of telemental health services in a variety of diagnostic and/or treatment paradigms related to the treatment of PTSD. In a study with a similar demographic distribution to Fortney et al., researchers investigated the non-inferiority of a 12 week telemental health group for anger management in rural Veterans with PTSD (70% Vietnam Veterans) compared to an equivalent in-person group from 2005 to 2008 and confirmed that both were similarly efficacious in reducing anger symptoms [10]. This study helps validate the efficacy of telehealth treatment to more remote CBOCs to conduct group therapy. Using telemental health, a clinic can create a group via videoteleconferencing, either by combining multiple sites in real time or by referring them to an established group at an affiliated VAMC or CBOC.

Another study of Veterans focused on those over age 60, comparing the efficacy of a more rudimentary form of telemental health, telephone-based therapy, using CBT versus non-directive supportive treatment for GAD. This study confirmed and supported the use of an evidence-based therapy (CBT) for older Veterans using just a telephone call [11], lending credibility to more advanced forms of telemental health technology.

Other studies have shown effective and accurate assessment and management of cognitive impairment via telemental health. A study of older Veterans living in a residential care environment demonstrated telemental health accuracy in the diagnosis of dementia, which compared favorably to in-person evaluations [12]. Several non-VHA studies have examined the utility of telemental health technology to administer neurocognitive assessments. Vahia et al. administered a comprehensive battery of tests to Latino patients via telemental health and showed equivalent results between the telehealth and in-person groups [13]. Cognitive assessment research in China demonstrated comparable results for telemental health and in-person testing for individuals with mild cognitive impairment or mild dementia [14]. Another study showed that brief neurocognitive screening tests in geriatric

psychiatry outpatient clinics compared favorably to face-to-face evaluations [15].

Although multiple studies have validated the delivery of telemental health to individuals suffering from cognitive disorders, cognitive impairment may impact the patient's familiarity and tolerability of the technology creating a higher dependency on the in-person assistance or caregiver help [16]. The application and feasibility of a model that includes onsite help was established in a small pilot by Barton and colleagues [17] where Veterans residing near a CBOC, but over 300 miles from the San Francisco VAMC Memory Disorders Clinic, were offered assessment and treatment recommendations using a traditional multidisciplinary team approach (including social work counseling/education, neuropsychological assessment by a neuropsychologist, and complete medical exam by the geropsychiatrist) via videoteleconferencing, with the assistance of a local clinician (RN) trained to help conduct the examination.

6.2 Benefits of Telemental Health for Veteran Patients

Telemental health helps address psychiatric provider shortages across the VHA system and provides increased access to mental health care for patients in remote areas. VHA national data collection shows that telemental health reduces inpatient hospitalizations and promotes medication adherence. Patients receiving telemental health services had a 32% decrease in psychiatric hospitalization in the first 6 months after initiating telemental health treatment, suggesting that access to telemental health improves the quality and outcomes of mental health treatment [2]. In addition, delivering telemental health to Veterans in their homes is now provided by multiple provider disciplines within the VHA. This shows extraordinary promise for home bound or institutionally bound elder Veterans when transportation to medical facilities is onerous or impossible for routine appointments. Various treatments

are employed, including: individual, group, and family psychotherapy, as well as pharmacotherapy. [2]

Consummate with the VHA's efforts to reach Veterans living in remote areas, the VA has initiated efforts to reach remote Native American and Alaska Native Veteran populations. The Tribal Veterans Representative (TVR) training program has reached numerous Native American populations with very limited access to traditionally supplied medical care [18]. This program underscores the importance of innovative telehealth efforts to reach remote populations devoid of mental health services. In general, VHA providers like using telehealth, and endorse the advantages of reaching remote populations, such as those served in the CBOCs. [12, 14, 19–23].

Patient satisfaction surveys support the use of telehealth for mental health assessment and treatment. VHA patient satisfaction surveys demonstrate impressive overall satisfaction with the telemental health modality: 94% satisfaction with office-based telemental health services and 89% satisfaction for home-based telemental health services [2]. Some patients actually prefer the videoconferencing modality and the increasing availability of health related phone apps for tracking critical health data, such as hours of sleep, blood pressure, or depression scores. A recent study of individuals over the age of 60 years old demonstrated that patients show a strong interest in using smart phones or mobile applications in order to track their mental health symptoms [24]. The VHA has pioneered encrypted software to ensure the protection of Veterans' information to enhance patient trust and satisfaction with this modality of treatment.

6.3 Benefits of Telemental Health for Providers

Many health care professionals are drawn to the VHA out of a sense of service and mission; to serve those who served. Taking care of vulnerable populations is part of that calling.

Telemental health extends that principle to rural populations where access to health care is inadequate or inconsistent at best. Most VHA medical centers are attached to major medical schools, enhancing the VHA core missions of providing clinical care, promoting education, and encouraging research. VHA telehealth is able to draw on the expertise of local medical school faculty to provide expert care and consultation to other mental health and/or primary care providers. Telehealth expands the academic and clinical missions of the VHA and gives providers and trainees novel experiences in providing direct care and expert consultation to underserved populations in remote areas.

6.4 Teaching Telemental Health

The VHA provides significant training stipends for health care providers nationally. In FY 2012, the VHA provided training for 37,104 physician residents; 25,102 medical residents; 32,349 nursing students; 1579 physician associate students; 24,260 "other specialties"; for a total of 116,794 training stipends [25]. The VA already encourages training in telehealth as a central part of physician and allied health professional's curriculum. [26]. In 2003 the VHA medical center in Denver pioneered a telehealth training program for psychiatry residents. [27]. The program provided access to mental health care to underserved rural areas, and novel training opportunities for psychiatry residents. Over four years, the program logged over 1,078 telemental health encounters, primarily for PTSD, but also for a variety of mental health diagnoses. The Denver program developed a full telemental health curriculum for psychiatry residents, including administrative issues in telemental health, managing of psychiatric emergencies, understanding the impact of videoconferencing on clinical interactions, and modification of clinical style for videoconferencing. The Denver program serves as a model curriculum for other psychiatry training programs [27].

US psychiatry residents are eager to learn how to use telehealth, in greater numbers than available training

opportunities. [28]. A study from Toronto, looked at a small sample ($N = 16$) of residents and faculty in attempts to define "core components" in telemental health. The investigators identified eight essential components for telemental health: technical skills, assessment skills, medico-legal practices, communication skills, collaborator, manager, advocate for the community, and advocate for the health system. Perceived benefits for providers included: helping patients in underserved areas, learning about different patient populations, and helping the practitioners in these underserved areas [29]. Telehealth offers unique opportunities to train providers to serve those at the margins of traditional health care. Positive exposure to telemental health in training programs is essential to prepare residents for an emerging, key element in the delivery of mental health care.

6.5 Limitations of Telemental Health

Exam room space for patients and the technological expertise to facilitate the clinical interview remain challenging for the VHA telehealth system. Telemental health is not space neutral. While this modality improves access to care, space and equipment is required for both patient and provider. In most CBOC settings, space is at an absolute premium, so accommodating exam room space for patients presents a constant challenge. Provider-home-based telemental health or "smart" phone app technologies alleviate crushing space needs and facilitate access to care. Device security issues and implementation strategies remain a high priority for VHA where patient privacy and security concerns remain preeminent.

Providers and administrators outside the VHA system have cautioned that having a geographic distance between provider and patient jeopardizes the mental health treatment team approach [30]. Having components of the treatment team present with the patient, i.e., social work and/or nursing, helps mitigate this concern. This approach enhances

communication among members of the treatment team and promotes continuity of care.

Despite VHA's robust telehealth efforts nationally and advancing technological improvements, technical difficulties still arise, such as connection failures or lag times in real time transmissions of the interview process. The VHA has employed a bevy of telehealth technicians to assist with setting up the logistics of the visits and to address technological glitches in when they arise. Provider expertise with the equipment is critical, but easily attainable through formal training. Angle of videoteleconferencing equipment to maximize eye contact is important, as are adequate explanations from telehealth technician and provider about possible technical glitches, such as voice and motion lag times [27].

Implementing telehealth in the world's largest health care organization comes with significant capital investment. The VHA has invested heavily in this technology with the conviction that this form of treatment improves access and decreases more expensive traditional treatment. Enrolled VHA telemental health patients are hospitalized less frequently and utilize less days in the hospital [31]. Some argue that this is simply an elaborate redistribution of clinical resources "telepsychiatry redistributes resources but not necessarily create them" [32]. Any clinical intervention takes time and resources to implement, yet the net savings to the system are promising and improvements in patient access to mental health care are impressive. [2].

In the future, using technology such as mobile apps, may surpass infrastructure space limitations to assist the VHA in delivering more efficient and effective care. These novel mobile applications may improve patient compliance and improve patient engagement in treatment [33]. Home-based technologies, such as encrypted iPads, reach patients where they live, saving on space, and transportation time/costs. Home-based telemedicine is growing within the VHA and can involve a Veteran peer who helps facilitate the applications within the Veteran's home or alternative place of residence, i.e., group home, assisted living facility, or other long

term care facilities. This modality will expand in the future as access to this encrypted technology improves and our public partners in healthcare become more familiar with the value of telemental health in improving outcomes.

6.6 Conclusions

Telemental health is a growing field delivering critical mental health services to rural, isolated, and ethnically diverse populations. The VHA leads the nation in pioneering this novel technology to expand access to vulnerable and remotely located populations. As a leader, the VHA model serves as a blueprint for the design and implementation of telemental health interventions in the private sector.

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