



Delivering Virtual Care to Patients with Cognitive Impairment within the Veterans Health Administration: Multi-level Barriers and Solutions

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Abstract

Older patients with cognitive impairment, including dementia, may benefit from virtual care that increases access to geriatric specialties. Here, we identify clinician-level strategies to address the numerous barriers that reduce utilization of virtual services. We describe two innovative programs in the Veterans Health Administration that deliver geriatric medicine and geriatric psychiatry services virtually. This commentary outlines concrete strategies addressing identified barriers, including technology access, digital literacy, and ambivalence and communication challenges during video visits. Two virtual care programs (tele-geriatric psychiatry consultation; tele-dementia care) that address complex medical and mental health issues in older adults with cognitive impairment are described. The Consolidated Framework for Implementation Research (CFIR) is used to categorize the clinician-level strategies and program elements as they relate to the implementation domains and constructs. Clinicians can use education strategies prior to and during virtual care visits to facilitate access to video, optimize the virtual experience, and promote information retention. These strategies rely on aspects of the *inner setting*, *outer setting*, and *characteristics of individuals*. The two virtual programs vary in their *intervention characteristics* and the *inner setting*, yet both programs share similar *characteristics of individuals*. Key elements contributing to adoption and sustainment of these virtual care programs for patients with cognitive impairment include the relative advantage of virtual care to leverage access to specialists over alternative solutions in each setting. Other factors to consider include the importance of communication, program champions, and the role of the Veterans Health Administration.

Keywords Dementia · Older adults · Telehealth · Telemedicine

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One in 5 people aged 65 and older in the USA (20%) has mild cognitive impairment, and 1 in 9 (10.7%) has Alzheimer's dementia (Langa & Levine, 2014; Rajan et al., 2021). Patients with cognitive impairment may present with complex medical and psychiatric comorbidities that necessitate care from specialties including geriatric medicine and geriatric psychiatry. Geriatric specialists often help clarify treatment plans when issues such as polypharmacy, behavioral and psychological symptoms of dementia, and caregiver stress may be present. These specialists, including interdisciplinary care teams, can promote non-pharmacological and pharmacological interventions to optimize the quality of life for patients with cognitive impairment and their caregivers. Unfortunately, these patients and their caregivers face multiple barriers to accessing in-person care due to transportation difficulties, logistical challenges, and behavioral challenges that may be exacerbated by unfamiliar clinical settings (Elbaz et al., 2021). Often specialists are located in

urban medical centers (Juil et al., 2017), making access to care difficult for patients living in rural areas.

During the COVID-19 pandemic, additional factors complicated the receipt of specialty care for patients with cognitive impairment, who are particularly vulnerable to contracting COVID-19 (Numbers & Brodaty, 2021). Due to memory and attentional impairments, it is harder for patients with cognitive impairment to adhere to safeguarding procedures (i.e., physical distancing, restrictions, self-quarantine, and masking). Patients with advanced dementia may reside in institutional settings with higher COVID-19 transmission rates (Heras et al., 2021). Further, older patients in general have increased risk of complications and mortality from COVID-19 due to comorbidities such as hypertension, obesity, and diabetes (Tariq & Barber, 2018). This vulnerability compounded by the social isolation imposed by the pandemic and closure of respite options for caregivers makes it imperative to pursue virtual care for patients with cognitive impairment or dementia.

The rapid legislative changes to payment and privacy requirements made during the pandemic have increased access for a wider range of virtual care (Totten, McDonagh, & Wagner, 2020). These virtual care services (i.e., telehealth) include synchronous video visits to home or clinics, and audio only services (telephone visits). Video visits are generally encouraged and preferred (e.g., Chen et al., 2021; Nieman & Oh, 2020), particularly for patients with cognitive impairment (Iyer et al., 2021). However, research conducted within the Veterans Health Administration (VHA), the largest integrated healthcare system in the US serving 9 million veterans annually (Department of Veterans Affairs, 2022), has demonstrated gaps in access to video visits. One study found that older veterans were significantly more likely than younger veterans to have telephone visits for mental health both prior to and during the COVID pandemic (Connolly et al., 2022). An interview study about perceptions of telehealth in the VHA found that most patients valued seeing their providers during virtual visits (Chen et al., 2021). Particularly for patients with cognitive impairment, video allows the clinician to gather more information about the patient and their environment. Video also supports the clinician's communication with the patient and caregiver through providing both visual and auditory input.

Barriers to virtual care were identified by reviewing the literature and incorporating the authors' experience in delivering virtual care to patients with cognitive impairment and their caregivers. Barriers encompass lack of access to technology, broadband internet, limited digital literacy, and ambivalence about virtual care. Patients with cognitive impairment tend to be older and have lower rates of owning mobile devices and/or having broadband access (e.g., Choi et al., 2022). This, in turn, may be influenced by the cost of devices (e.g., smartphones and tablets) and internet services. Digital literacy is lower for older patients and may pose a challenge for caregivers as well (Schreurs et al., 2017; Wray et al., 2022). Notably, one study

of Medicare beneficiaries found that 38% were unready for a video visit, primarily due to lack of experience with technology rather than access issues (Lam et al., 2020). Partaking in video telehealth requires navigation of complex health care systems to access appointments, including downloading apps or using patient portals to receive links to visits and to communicate with health care providers. Furthermore, age-related sensory changes to hearing, vision, and touch make interacting with a device interface more challenging. These factors taken together may contribute to providers offering telephone visits rather than video.

To address these barriers faced by patients with cognitive impairment and their caregivers, we apply the Consolidated Framework for Implementation Research (CFIR; Damschroder et al., 2009) in describing clinician-level strategies that facilitate virtual care. Then, we use CFIR to help characterize how two specialty virtual care programs were implemented within VHA for patients with cognitive impairment. CFIR is a comprehensive framework that is comprised of 5 domains (intervention characteristics, inner setting, outer setting, characteristics of individuals, and process) and 39 constructs that may affect implementation and related outcomes.

Clinician-Level Strategies

Clinicians play an essential role in helping older patients with cognitive impairment benefit from virtual care. The clinicians should consider the patient's access to the internet and to video-capable devices (i.e., smartphone, tablet, computer with webcam). Further, clinicians are generally responsible for considering a patient or caregiver's digital literacy. Digital literacy, defined as a person's ability to understand and use information from different technology platforms effectively (Gilster, 1997), is a critical challenge related to virtual care for older patients with cognitive impairment. Additionally, engagement in and communication during virtual care is important to both the patient/caregiver experience and the effective use of virtual care by clinicians. The implementation strategies that clinicians may utilize to deliver virtual care to patients with cognitive impairment align with the 3 CFIR domains of *inner setting*, *outer setting*, and *characteristics of individuals* (see Table 1).

Inner Setting

The inner setting, that is, the clinic and larger health care system where clinicians deliver care, contributes to the extent to which implementation of virtual care by an individual clinician succeeds. With regard to clinician-level strategies, the constructs of *available resources* and *access to knowledge and information* facilitate clinicians in helping patients access and use technology for video visits.

Table 1 Clinician-level strategies to address barriers organized by CFIR domain

CFIR domain/constructs	Barrier addressed	Potential solutions
Inner Setting <i>Available Resources</i>	Access to devices and reduced cost internet	<ul style="list-style-type: none"> • Free tablets for eligible veterans through VHA
	Digital literacy	<ul style="list-style-type: none"> • Connect patients with free community-based technology training classes and drop-in programs at local organizations (e.g., Area Agencies on Aging, senior centers, libraries) • Use peers and/or family members to train
Inner Setting <i>Access to Knowledge and Information</i>	Unfamiliarity with virtual care platform	<ul style="list-style-type: none"> • Schedule practice sessions ahead of visit <ul style="list-style-type: none"> - Ensure the device is connected to the internet, positioning the webcam - Test the microphone - Ask caregivers to adjust sound for patients with hearing impairment - Enlarge font for those with visual impairment • Use handouts
Outer Setting <i>External Policies and Incentives</i>	Access to devices and reduced cost internet	<ul style="list-style-type: none"> • Federal program (Lifeline) or private companies (e.g., AT&T, Comcast, Verizon, Spectrum) provide free or low-cost technology for low-income seniors
Characteristics of Individuals <i>Knowledge and Beliefs about the Intervention, Self-efficacy</i>	Addressing clinician knowledge and beliefs about virtual care, especially ability to address patient ambivalence regarding virtual care	<ul style="list-style-type: none"> • Discuss rationale for virtual care • Highlight potential benefits including: <ul style="list-style-type: none"> - Video visits save time and travel costs - May strengthen rapport with clinicians - Include family and caregivers - Can allow for faster access to specialists
	Self-efficacy with technology needed to provide virtual care and address communication challenges during visit	<ul style="list-style-type: none"> • Ensure adequate amplification • Minimize background noise • Use simple language; speak slowly and clearly • Involve a caregiver in visit when possible • Ensure that patients have their glasses • Use teach back technique to check for understanding • Provide written summary of information shared and follow-up recommendations after visit • Screenshot images to explain complex concepts • Type important takeaway messages

Available Resources

Available resources refer to those resources that are dedicated for implementation, which may include money, time, training, and physical space. Some available resources within the inner setting that support implementation of virtual care includes programs within health care systems that provide tablets to patients in need or discounts to internet service. Clinicians can ask patients and their caregivers if they have access to technology and internet at home and direct them to these available local and federal resources. Programming available in the community at Area Agencies on Aging (Administration for Community Living, 2017), senior centers, and public libraries also can help older adults

with learning to use technology. Utilizing trained support staff to offer practice sessions to patients and caregivers prior to a virtual visit may help to ensure that the patient's equipment is working properly and may help reduce anxiety about using technology to connect to the visit.

Access to Knowledge and Information

Having access to knowledge and information such as patient/caregiver handouts may address education, sensory, and cognitive barriers to technology. Visual impairment may make seeing small symbols or icons on a smartphone difficult, whereas impaired working memory makes remembering those symbols and icons more challenging (Lee

et al., 2011). Simple handouts with instructions can be shared with patients/caregivers to help facilitate the process of downloading apps or connecting to video visits (Gould et al., 2020). Practice sessions conducted by staff trained to address technology issues with novice users may facilitate virtual care use.

Outer Setting

The outer setting spans organizations, government, and other entities that extend beyond a specific health care system.

External Policies and Incentives

External strategies may facilitate the spread of virtual care and may be utilized by clinicians when facilitating the use of virtual care by patients with cognitive impairment. For example, in the USA, low-income seniors enrolled in programs such as Medicaid may be eligible for free or low-cost technology through federal and state assistance programs (e.g., Lifeline; Federal Communications Commission, 2022). Some private companies (e.g., AT&T, Comcast, Spectrum, Verizon; Oaks, 2022) have discounted rates for low-income seniors.

Characteristics of Individuals

The characteristics of the individuals involved in implementing virtual care are critical to its success. Notably, two key constructs that the clinicians may exhibit include *knowledge and beliefs about the intervention* and *self-efficacy* in using virtual care.

Knowledge and Beliefs

A clinicians' knowledge and beliefs about whether older patients with cognitive impairment may benefit from virtual care affect the implementation of this modality. Additionally, it is important for clinicians to not assume low digital literacy based on the age of the patient and/or caregiver. Clinicians may pursue informal lines of questioning with patients and/or caregivers. These questions include "have you ever participated in a virtual care appointment" or "how comfortable do you feel using [specific technology]." While questionnaires such as the Mobile Device Proficiency Questionnaire (Roque & Boot, 2018) assess digital literacy among older adults, the psychometric properties with cognitively impaired patients have not been investigated.

Some patients may be hesitant to use mobile devices and computers due to declining physical and mental functional capacity. Other reasons underlying hesitancy may include being unsure about why video visits are particularly useful,

lack of confidence in technology modality, and having concerns regarding privacy (e.g., Evangelista et al., 2019). Clinicians may use their knowledge about virtual care to help convey the rationale for use of video as a way of addressing patient and/or caregiver hesitancy. Benefits of virtual care that could be shared include the timeliness of virtual care, particularly for those residing in rural areas, and the saving of time and money for the patient by avoiding travel costs (Iyer et al., 2021). Compared with telephone calls, video visits enhance the patient's experience by virtue of strengthening their rapport with their clinician. Video visits delivered to the patient's home offer the patient an increased comfort level by remaining in their home environment and offer clinicians insights into a patient's daily living circumstances. Including supportive family and caregivers from different locations highlights a unique benefit of virtual visits (Iyer et al., 2021). Using video visits also delivers information through multiple modes of communication for those with hearing-impairment. Reassuring patients and addressing concerns around ease of use, privacy, and available backups for the technology (i.e., alternative video platforms, telephone) can be helpful. The rationale for video visits may be tailored to include discussion of some or all of these factors.

Self-efficacy

The extent to which clinicians feel confident in using the technology themselves is an important factor when working with potentially novice technology users who also have cognitive impairment. Confidence in using technology likely helps clinicians effectively use the following strategies to address communication difficulties that may arise. Taking the time to establish rapport, assessing and addressing hearing loss, ensuring adequate amplification, minimizing background noise, using simple language, speaking slowly and clearly, and monitoring for cues that patient does not hear or understand (e.g., looking to a caregiver to respond, responding inappropriately) are important to ensure adequate communication. Using screenshare images for cognitive assessments or for explaining complex concepts can be very helpful for communication. Using the teach back technique asks patients and/or caregivers to summarize the received information back to the clinician (Agency for Healthcare Research and Quality, 2021). This technique may need to be used more than once to ensure satisfactory comprehension and understanding of information conveyed during the visit. Providing written follow-up to visits can be helpful to patients (Nieman & Oh, 2020). Thus, clinicians' self-efficacy in technology is critical to successful implementation of virtual care particularly with patients with cognitive impairment.

Virtual Care Programs

It is imperative to establish, test, and implement virtual care programs that can enable those clinicians with expertise in geriatrics to reach the patients in need. We describe two innovative programs implemented in the Veterans Health Administration (VHA) to provide video telehealth care to patients with cognitive impairment and dementia and their caregivers. The first program utilizes a single geriatric psychiatrist who delivers tele-geriatric psychiatry consultation to outpatient and nursing home settings across more than 5 states. The second program is a tele-dementia care program delivering nonpharmacological and pharmacological dementia services to older adults in 8 clinic sites in a health care system.

Tele-geriatric Psychiatry Consultation

The program focuses on timely consultation such that the veteran's care, diagnosis, and treatment plan can be addressed within 24 business hours of receiving the consult. This rapid turnaround is critical for long-term care settings where distress behaviors could cause significant difficulties for the patients themselves, professional caregivers, and fellow patients/residents. This consultation program began in a multi-state region in the Midwest through a geriatric psychiatrist responding to local and regional needs requesting evaluation and guidance on treatment plans for older patients presenting with cognitive impairment or dementia, psychiatric comorbidities (e.g., depression, PTSD, schizophrenia), and distress behaviors affecting a patient's care or quality of life. In 2012, the geriatric psychiatrist began consulting for a State Veterans Home as a collateral duty, which then soon expanded to virtual consultations provided to VHA extended care and rehabilitation settings (i.e., community living centers). By 2015, the geriatric psychiatrist was serving outpatient, extended care, and acute inpatient settings across multiple health care systems. In 2018, the geriatric psychiatrist's position was moved to a regional clinical telehealth hub where the operations challenges could be addressed and strategies to help patients connect to video can be implemented, thus freeing the consultant's time to deliver specialty care.

E-consultation (chart review only with recommendations given to the referring provider), video-to-home telehealth, and clinical video telehealth (video-to-clinic) comprise the three modalities of care delivery. In the rare cases in which video cannot be arranged, audio only services are provided. A thorough diagnostic assessment is conducted as part of the video consultation. Veterans are almost always accompanied by either formal or family caregivers for the interview, both for assistance in communication (i.e., hearing loss necessitating the need for local caregiver to repeat questions)

as well as getting a firsthand witness account of concerns regarding the veteran patient. In addition to the clinical interview with the patient and corroborating information from caregivers, the geriatric psychiatrist consultant conducts a medical record review often spanning more than 10 years of notes. These extensive chart reviews sometimes require up to 3 hours and may be particularly time-consuming if patients received care across multiple VHA sites. Next, the consultant speaks with the referring provider and health care team members depending on the setting.

The result of this assessment is a detailed treatment plan that may include specific medication recommendations (i.e., suggested dosing and titration schedule, deprescribing, gradual dose reductions), lab and diagnostic tests, behavioral recommendations, and environmental recommendations for patient and family safety. The consultant conveys recommendations through notes in the electronic medical record, supplemented with phone/video conference calls to the local teams/providers. At the request of some local teams, the consultant joins scheduled meetings where patients on rehabilitation units are reviewed for behavioral concerns. Local staff contact the consultant through secure video calls, phone calls, or encrypted email to discuss behavioral concerns as well. Informal consultations can take substantial time and typically cannot be billed; however, developing close relationships with local providers is essential in delivering timely patient care and in supporting local providers.

Tele-dementia Care

In late 2016, two geriatricians at VA Palo Alto Healthcare System began piloting tele-dementia management provided through telephone and video visits after finding that 95% of geriatric consultation requests were for cognitive-related issues. Assessment services included clarifying diagnoses with brief cognitive assessments, conducting functional assessments, and addressing underlying issues contributing to functional decline among frail, older patients. The geriatricians provided evaluation and management services including cholinesterase inhibitor evaluation and management, pharmacologic and non-pharmacologic management for behavioral and psychological symptoms of dementia, pharmacological management of depression in those with dementia, polypharmacy review and recommendations to reduce potentially inappropriate medications and dementia caregiver support. This program was designed with an understanding of the specific demands of primary care, including limited time to address multiple conditions in brief problem-focused primary care visits. This program provides an additional layer of support for primary care providers in the management of older patients with complex medical and cognitive concerns, regardless of where the patient lives, thereby increasing access to hard-to-find specialists.

This tele-dementia care program began with geriatricians and has expanded to include nurses, a social worker, and medical trainees. Prior to the visit, the care team employs many clinician-level strategies discussed in the previous section. A clinician coaches caregivers in preparing for virtual visits. If needed, this may include requesting a tablet for future use from a program in the VHA to provide veterans with tablets (Zulman et al., 2019). Practice sessions are conducted as needed. During the visit, the geriatrician provides education to the patient and caregiver using multiple methods of delivery to promote information retention. Depending on the content of the visit and desires of the caregiver, additional resources are sent after the visit and are tailored to the presenting concerns for each patient/caregiver.

Consults and dementia-related medication orders were placed by the consulting geriatrician thereby reducing burden of consult follow-up recommendations on primary care providers. Ongoing case management, including prescribing, deprescribing, and titrating medications, behavioral recommendations, and caregiver support occurs via telephone and/or video visits. In a small pilot, the caregivers reported that the most value came from being able to speak to the geriatrician alone when needed, without the person with dementia, and the ability to have an expert “co-manage” the dementia, resulting in a longitudinal relationship between specialists and dementia caregivers through disease progression. This relationship led to less time needed by the primary care providers to address dementia-related problems at outpatient visits. Without this virtual modality of care, specialty geriatrics care would only be available at the main medical center, which is 130 miles from the farthest outpatient clinic site.

Similarities and Differences Between Programs

Key factors underlying the programs, their similarities and differences, correspond to the CFIR domains of *intervention characteristics*, *inner setting*, *outer setting*, and *characteristics of individuals* (see Table 2).

Intervention Characteristics

Intervention characteristics refer to aspects of the intervention itself that relate to the success of implementation of the intervention.

Evidence Strength and Quality

The programs are similar in their evidence strength and quality in that the programs use individualized approaches

to patient care, pulling from existing evidence-based practices, but not relying on specific intervention protocols. The principles of these treatment plans may be similar across patients and across programs (i.e., behavior plans, environmental modification, deprescribing to reduce polypharmacy or use of potentially inappropriate medications and prescribing of medications to target distress symptoms or psychiatric symptoms), but the combination of interventions varies from patient to patient.

Relative Advantage

The interventions have similar relative advantages in their use of virtual care to leverage access to specialists for patients with cognitive impairment. For the tele-geriatric psychiatry program, the rapid turn-around is a perceived advantage compared with other existing services. In contrast, the tele-dementia management program’s co-management of the dementia related concerns is an advantage over those concerns being managed in primary care alongside other medical concerns.

Complexity

The two programs vary in their *complexity* of the procedures of the intervention. For the tele-geriatric psychiatry consultation, the assessment includes many different steps and sources of information to be integrated into the individualized case conceptualization and/or treatment plan. In contrast, the tele-dementia program requires fewer steps, but longer follow-up with patients.

Characteristics of Individuals

Individual Identification with the Organization

Both programs are led by expert medical providers with board certifications in their respective fields. Notably the program leaders have worked with local care teams through in previous roles at their facilities and through professional service (i.e., dementia committees), thus indicating the role of the individual identification with the organization.

Inner Setting

The programs differ in their approach to creating plans of care for patients with cognitive impairment (i.e., recommendations versus intensive case management), which is largely driven by their local needs, that is the inner setting. Three key constructs emerged as important within the inner setting domain: *network and communications*, *compatibility*, and *leadership engagement*.

Table 2 Comparing virtual care programs across CFIR domains and constructs

CFIR domain/constructs	Tele-geriatric psychiatry	Tele-dementia	Similarities & differences
Intervention characteristics			
<i>Evidence-base</i>	Individualized, evidenced-based pharmacological and non-pharmacological approaches to geriatric mental health disorders and dementia	Individualized, evidenced-based pharmacological and non-pharmacological approaches to dementia management	Tele-GP and Tele-D are both use evidence-based approaches and tailor services to individual patient needs
<i>Relative Advantage</i>	Rapid consultation, often within 24 h of receipt. Increases access to geriatric psychiatry often not available at medical centers/clinics	Primary care providers get assistance with patients who would require care beyond brief appointments. Geriatricians prescribe medications, place orders and consults	Tele-D places orders in electronic medical record. Tele-GP provides rapid consultation and geriatric mental health access. Both programs provide advantages over existing services using virtual care
<i>Complexity</i>	Comprehensive diagnostic assessment including clinical interview, extensive chart review, and conversations with care team. Actionable recommendations provided for care team to implement with consultant guidance	Assess presenting behavioral concerns related to dementia. Works directly with patient/caregivers. Triage to ensure appropriateness for co-management	The number of steps for intervention vary based on referral source and clinical question. Tele-GP often incorporates multiple steps involving information
Characteristics of individuals			
<i>Individual Identification with Organization</i>	Geriatric psychiatrist participates on regional dementia committee	Geriatrician led local/regional dementia committee	Both programs utilize experts with established roles and connections to VHA organization
Inner setting			
<i>Network and Communications</i>	Leverages virtual communication modalities to work with local teams to coordinate care	Primarily focuses on patients rather than care teams	Tele-GP uses network and communications to work closely with referring providers and teams. Tele-D uses EMR and communicates with referring providers, albeit less frequently
<i>Compatibility</i>	Assists with particularly challenging cases that need specialized geriatric psychiatry care	Aims to improve primary care workflow via separate dementia co-management visits	Tele-GP and Tele-D are compatible with different needs of their inner settings
<i>Leadership engagement</i>	Support received from regional geriatrics and mental health leaders	Program initiated as demonstration project, expanding to larger region with leadership support	Leadership support was critical to both programs' expansion to cover larger regions
Outer setting			
<i>Patient needs</i>	Complex cognitive and psychiatric co-morbidities	Dementia and related behaviors and psychological symptoms	Tele-GP and Tele-D target patients with complex needs who need specialized, tailored care
<i>Tele-GP tele-geriatric psychiatry; Tele-D tele-dementia</i>			

Network and Communications

Both programs utilize frequent communication with referring providers and local champions to generate referrals. The geriatric psychiatrist informally interacts with referring providers and local teams through messages, phone calls, and attendance at select weekly behavior rounds. Because the tele-dementia program serves patients/caregivers who largely reside at home, there is less time devoted to communication with other providers or health care staff. These differences in network and communication also highlight how each program is compatible with the needs of the inner setting. The *compatibility* of the tele-geriatric psychiatry program focuses on consultation on particularly challenging cases; whereas the tele-dementia program focuses on using co-management to improve primary care workflow.

Leadership Engagement

Support from managers and leaders helped the implementation within the health care systems despite lower work productivity as a function of the visit complexity. Nevertheless, both programs provide substantial informal provider consultation, which makes it difficult for the consultants to attain productivity standards due to the complex needs of the patients. Challenges to providing these clinical services across health care systems include the need for substantial administrative time and operations support to get clinicians credentialed in each system and to schedule patients across systems. Leaders involved have recognized these challenges and have accommodated for this nonbillable work and administrative time.

Outer Setting

Patient Needs

Within the outer setting, both programs address similar patient and caregiver needs that encompass co-occurring cognitive impairment and medical and/or psychiatric needs.

Limitations

These findings and lessons learned may not be generalizable beyond the VA health care system due to several system-level facilitators unique to the VHA. The VHA provides tablets with data plans to those patients in need (Zulman et al., 2019). Furthermore, regional telehealth centers have the operations expertise to address barriers such as scheduling and privileging in multiple health care systems. An additional limitation for the tele-geriatric psychiatry program is that it utilizes a single provider to deliver the care with some support from a nurse case manager. Should the physician

leader leave, the program could fail, which is a substantial drawback of the program in its initial iteration. Expansions of the program are underway with a second geriatric psychiatrist available for consultation and coverage.

Conclusion

Taken together, these clinician-level suggestions and virtual care programs demonstrate how individualized approaches help patients with cognitive impairment and their caregivers access virtual care. Factors potentially related to implementation and sustainability of these programs include the match between the *intervention* and the *inner setting*. These two programs have been adopted in three new VHA sites with evaluations of the programs ongoing. Future directions include the need to conduct more rigorous tests of these programs, which may include measuring efficacy and effectiveness and ability to prevent emergency room visits or delay institutional care. However, this need for rigorous testing is balanced with the pragmatic/real-world need to care for those patients who present with cognitive impairment and complex psychosocial needs, psychiatric comorbidity, and multiple medical conditions. The decreasing pool of geriatrics subspecialists nationwide (e.g., Juul et al., 2017; Lester et al., 2020) is an important consideration, as virtual care may be the only way to access these hard-to-find specialty providers. Using virtual care to collaborate with local interdisciplinary teams and the use of clinician-level strategies in delivering virtual care can help expand access to comprehensive geriatrics and geriatric mental health assessments, potentially improving the quality of life for patients with cognitive impairment and their caregivers.

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Declarations

Ethics Approval This manuscript does not involve human subjects. Related ongoing program evaluations of the services described were reviewed by the Stanford University Institutional Review Board and determined to not be human subjects research.

Conflict of Interest The authors declare no competing interests.

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