Special Article

Using Telemedicine to Assess and Manage Psychosis in Neurodegenerative Diseases in Long-Term Care

Lynn Shaughnessy PsyD [a,*], Stephen Brunton MD [b,c], Craig Chepke MD [d], Jill G. Farmer DO, MPH [e,f], Andrew S. Rosenzweig MD [g], George Grossberg MD [h]

[a] Beth Israel Deaconess Medical Center, Harvard Medical School, Boston, MA, USA
[b] Primary Care Education Consortium, Winnsboro, SC, USA
[c] Touro University, Vallejo, CA, USA
[d] Excel Psychiatric Associates and University of North Carolina School of Medicine, Huntersville, NC, USA
[e] Parkinson's Disease and Movement Disorder Program, Center for Neurosciences, Robert Wood Johnson University Hospital Hamilton, Lawrenceville, NJ, USA
[f] Drexel College of Medicine, Philadelphia, PA, USA
[g] Forefront TeleCare, Providence, RI, USA
[h] St. Louis University School of Medicine, St Louis, MO, USA

ABSTRACT

The coronavirus disease 2019 (COVID-19) epidemic has forced a sudden global implementation of telemedicine strategies, including in long-term care (LTC) facilities where many people with dementia and Parkinson disease (PD) reside. Telemedicine offers a unique set of advantages for residents in LTC facilities if effectively supported and implemented, including expanded access to specialists in rural or underserved areas or for people with dementia who cannot travel for off-site visits. Many medical and psychiatric organizations have recently issued new or updated guidelines on the use of telemedicine. On October 22, 2020, a multidisciplinary consensus panel was convened to collate a list of best practices for LTC facilities and specialists when conducting telemedicine with residents with dementia-related psychosis or PD-related psychosis (PDP).

A collaborative effort between specialists, facility administrators, and facility staff is essential for the success of telemedicine in the LTC setting. Telemedicine in LTC facilities comes with increased administrative and technical challenges that fall heavily on the shoulders of the LTC facility administrators and staff. Specialists can ease this burden by maintaining flexibility and ensuring expression of empathy and thanks to the staff who are facilitating the visits. LTC staff can provide specialists with valuable information about their patients to aid in evaluation and diagnosis. Specialists can facilitate this exchange of information by speaking to staff who work closely with the resident about any signs of hallucinations or delusions they may have observed. Educational efforts can increase staff understanding of dementia and PDP and empower them to engage with, and facilitate the resident's treatment plan. Using these strategies to take advantage of the benefits of telemedicine, specialists and LTC staff can together expand and improve care for LTC facility residents with dementia-related psychosis or PDP.

© 2021 Published by Elsevier Inc. on behalf of AMDA — The Society for Post-Acute and Long-Term Care Medicine.

Telemedicine involves the use of technology to deliver clinical medical services to people who are geographically separated from a health care provider.[1] Though telepsychiatry has been used since the 1950s,[1] the telemedicine approach remained underutilized until 2020 when the coronavirus disease 2019 (COVID-19) forced a rapid implementation of telemedicine strategies.[1,2] In response to COVID-19, telemedicine was implemented in many health care settings and long-term care (LTC) facilities, including nursing homes and assisted living communities.

Telemedicine can offer a number of benefits over in-person visits, primarily arising from the reduction in logistical hurdles associated with remote visits. By removing the need for travel, services can be provided to individuals in rural locations or who have difficulty traveling, can enable specialists to spend more of their time seeing and treating residents, and can facilitate subsequent monitoring visits. Telemedicine can also provide a solution for LTC facilities that face physical, personnel, or financial challenges to enabling in-person specialist visits, expanding the services available to their residents.

Dementia and Parkinson disease (PD) are common among residents of LTC facilities. In the United States, 42% of LTC residents have been diagnosed with dementia.[3] An estimated 930,000 people are living with PD in the United States.[4] Although about 5% to 7% of US nursing home residents have a diagnosis of PD,[5,6] almost 25% of people with PD live in an LTC facility.[7]

People with neurodegenerative diseases such as dementia or PD frequently develop neuropsychiatric symptoms as their disease progresses, including psychosis (hallucinations or delusions), affective symptoms, sleep problems, agitation, and irritability.[8] Psychosis is a primary cause of nursing home placement for these people.[9] Prevalence of PD-related psychosis (PDP) range broadly depending on the criteria used and study setting, with many estimates at >50% across the course of the disease.[10–15] Dementia-related psychosis has been reported in 10% to 75% of people with dementia depending on dementia subtype.[16] Among people with dementia residing in nursing homes, delusions were reported in 24% of residents and hallucinations were reported in 10% over a 30-month study.[8] Severity of psychosis symptoms increases with advancing disease.[17] Untreated symptoms of psychosis can contribute to reduced quality of life, poor outcomes, increased mortality, and high health care costs in people with neurodegenerative diseases.[10,18–21]

Telemedicine has been used successfully in residents of LTC facilities with dementia,[22] including those with neuropsychiatric symptoms.[23] A number of medical and psychiatric organizations have recently issued new or updated guidance around the use of telemedicine (Table 1). However, guidance is not yet available for use of telemedicine for people with PDP or dementia-related psychosis in the LTC setting.

On October 22, 2020, the authors, 6 panelists representing the multidisciplinary fields of geriatrics, geriatric psychiatry, movement disorders, and neuropsychology, and including extensive experience with telepsychiatry in the LTC setting, convened (in a single meeting) to discuss best practices for applying telemedicine to assess and manage psychosis in people with neurodegenerative diseases. Authors discussed recommendations until unanimous assent was reached, and here we summarize the recommendations that arose from this meeting for the use of telemedicine for LTC residents with psychosis and neurodegenerative disease, particularly dementia-related psychosis or PDP.

Benefits and Challenges of Telemedicine for LTC Residents With PDP or Dementia-Related Psychosis

In response to COVID-19, restrictions occurred nationwide limiting visitor access to LTC facilities.[34] Telemedicine became a recommended option for people who required specialty care, including care from psychiatrists and neurologists. As these restrictions are lifted, many LTC facilities are shifting to a hybrid of in-person and telemedicine visits for appointments. Although patient engagement can be easier in person, especially with older patients, continued use of telemedicine is an important consideration as it offers benefits to patients, clinicians, and LTC providers that extend beyond limiting the spread of COVID-19. Unfortunately, per the Consolidated Appropriations Act of 2021 passed in December 2020, people on Medicare are now required to have had at least 1 in-person mental health visit within 6 months prior to their first telehealth service to qualify for reimbursement.[35] Unless this requirement is removed, this will provide a barrier to telemedical visits for many people who most need this option.

Telemedicine programs offer the potential to deliver timely, high-quality care to LTC residents, thereby contributing to reduced hospitalization, improved quality metrics for nursing homes, and preferred referral network status with hospitals and payers.[33] Several studies have reported noninferiority of using telemedicine, compared with in-person visits, to assess and treat geriatric patients with mental health disorders.[27,36,37] Telemedicine has been shown to be noninferior to in-person visits for diagnosing cognitive changes, including dementia in geriatric populations, and can be used to perform differential diagnoses of cognitive vs psychiatric disorders.[38,39]

In addition to these broader benefits, telemedicine also reduces the need for travel to a specialist's office, which may be difficult for people with advanced dementia or PD and requires time, cost, and coordination efforts[40]; removes geographic limits for participants, thus expanding treatment options for those living in rural or underserved communities[39,40]; and allows the participation of family members who might not be able to attend an in-person visit. Residents in LTC in rural communities stand to benefit the most from telemedicine, as they may experience all of these challenges. Travel for a specialist visit can cost rural LTC residents over an hour of travel time each way, alongside costs of travel, including gasoline, mileage, and personnel.[40] One study found that >$13,000 was saved by providing psychiatric televisits for 106 rural LTC residents living in New York and Vermont over 6 years.

With telemedicine, residents are also introduced to a foreign experience—video-based interaction with a specialist—which may allow the provider to witness a resident's unique reaction. Symptoms of psychosis (eg, delusions) or paranoia may be elicited or demonstrated that might otherwise not be expressed in an office visit, but there is little evidence that symptoms of psychosis are exacerbated by telemedicine.[41]

Telemedicine allows for specialist consultation on complex cases when in-person visits are not feasible, thereby empowering LTC staff and family caregivers with treatment plans that may facilitate improved outcomes and ease care for residents living with dementia. However, LTC staff must help to coordinate appointment scheduling, facilitate technology setup before the appointment, and participate in the appointment with the resident. Many LTC facilities lack a primary contact to coordinate and facilitate telemedicine appointments. Therefore, requirements of telemedicine create an additional burden for LTC staff, who are already overburdened by daily responsibilities. This challenge is exacerbated in the context of COVID-19−related safety measures, high infection rates, and increased staff turnover. Because of these requirements, telemedicine for residents with mild or moderate symptoms of dementia-related psychosis or PDP may be a low priority for LTC facility staff relative to medical needs of other residents and other staff obligations.

A Team-Based Telemedicine Approach Is Recommended

Successful telemedicine in LTC facilities requires a collaborative effort on the part of the specialist, the LTC administrator, and staff.

Table 1
Resources for Telemedicine Use in Long-Term Care

Organization	Guidance Document	Issue Date	URL or Citation
American Academy of Family Physicians (AAFP)[24]	A Toolkit for Building and Growing a Sustainable Telehealth Program in Your Practice	September 2020	https://www.aafp.org/dam/AAFP/documents/practice_management/telehealth/2020-AAFP-Telehealth-Toolkit.pdf
American Medical Association (AMA)[25]	Telehealth Implementation Playbook	April 2020	https://www.ama-assn.org/system/files/2020-04/ama-telehealth-playbook.pdf
American Medical Association (AMA)[26]	Telehealth Quick Guide	September 2020	https://www.ama-assn.org/practice-management/digital/ama-telehealth-quick-guide
American Psychiatric Association (APA)[27]	Telepsychiatry Toolkit	April 2020	https://www.psychiatry.org/psychiatrists/practice/telepsychiatry/toolkit
American Psychiatric Association (APA)[28]	Best Practices in Videoconferencing-Based Telemental Health	April 2018	https://www.psychiatry.org/File%20Library/Psychiatrists/Practice/Telepsychiatry/APA-ATA-Best-Practices-in-Videoconferencing-Based-Telemental-Health.pdf
American Psychological Association (APA)[29]	Guidelines for the Practice of Telepsychology	December 2013	https://www.apa.org/pubs/journals/features/amp-a0035001.pdf
American Telemedicine Association (ATA)[30]	Practice Guidelines for Videoconferencing-based Telemental Health	October 2009	https://cdn2.hubspot.net/hubfs/5096139/NEW_ATA-VideoConference-Based.pdf
International Parkinson and Movement Disorder Society (IPMDS)[31]	Telemedicine in Your Movement Disorders Practice: A Step-by-Step Guide	April 2020	https://www.movementdisorders.org/MDS/About/Committees–Other-Groups/Telemedicine-in-Your-Movement-Disorders-Practice-A-Step-by-Step-Guide.htm
International Parkinson and Movement Disorder Society IPMDS[32]	Telemedicine for Hyperkinetic Movement Disorders	February 2020	Srinivasan R, Ben-Pazi H, Dekker M, et al. *Tremor Other Hyperkinet Mov.* 2020;10. https://doi.org/10.7916/tohm.v0.698.
Society for Post-Acute and Long-Term Care Medicine (AMDA)[33]	Standards for the Use of Telemedicine for Evaluation and Management of Resident Change of Condition in the Nursing Home	February 2019	Gillespie SM, Moser AL, Gokula M, et al. *J Am Med Dir Assoc.* 2019;20:115–122.

Effective collaboration is relevant for all treatment approaches in the LTC setting, but is especially important within the context of telemedicine. In particular, LTC staff acceptance of telemedicine is critical for success. This begins at the administrative level; acceptance by administrators sets a positive tone regarding the use of telemedicine and, thereby, empowers staff in resident care to participate in and support telemedicine visits (Table 2).

As gatekeeper of LTC facilities, the facility primary care physician (PCP) must have confidence in the specialist to accept their treatment recommendations. Some people with dementia-related psychosis or PDP may need longer-term treatment to adequately control symptoms. In the context of current guidance favoring lower antipsychotic use for very old residents in LTC facilities, a positive relationship between the specialist, nursing staff, and facility pharmacy consultant is valuable for tailoring treatment to the needs of individual residents.[42] Staff recognition of psychosis and when specialist evaluation may be needed can facilitate effective care for residents living with dementia. In turn, specialists must be responsive to staff needs and questions, be prompt for scheduled televisits, be available to the PCP in emergency situations, and consider root-cause analysis in assessing ongoing issues related to their patients or telemedicine.

Education of LTC staff about telemedicine and disease-related topics plays a key role in building and strengthening the partnership between specialist and staff. Staff who are educated on the potential for hallucinations and/or delusions in residents with dementia or PD are more likely to understand the importance of proper treatment, can better assess whether a resident is an appropriate candidate for telemedicine, and may be able to identify early signs of psychosis or symptom progression that might otherwise go unnoticed. LTC administrators may invite specialists to give presentations to staff, or specialists may offer their time during staff meetings. Such presentations could cover topics such as identification of dementia-related psychosis and PDP, behavioral management strategies, and best practices for telemedicine. Through such ongoing efforts, a trusting relationship is built that supports prioritization of telemedicine for residents with dementia-related psychosis or PDP, leads to more efficient televisits, improves evaluation and diagnostic accuracy, and ensures treatment recommendations are appropriately considered.

Best Practices for Telemedicine Treatment of Dementia-Related Psychosis and PDP in the LTC Setting

One year into the COVID-19 pandemic, LTC facilities have developed their own solutions for managing telemedicine in the absence of clear guidelines. There is a clear unmet need for formalized implementation science research to assess and determine the most appropriate and feasible solutions for incorporating telehealth into the LTC facility setting. Here, we hope to provide a clear set of best practices for facilities and specialists to streamline telemedicine procedures until such studies can be conducted.

Administrative and Technical Best Practices

LTC Staff Should Have Support to Resolve Administrative or Technical Challenges

In the LTC setting, burden of administrative and technical responsibilities surrounding telemedicine consultations falls largely on the LTC facility (Table 2). Prior to appointments, staff members involved in resident care should update specialists with any new information about the resident. Telemedicine appointments in an LTC setting require staff to bring residents to a private room (or bring the device to the resident) and connect to and participate in the appointment.[43] Staff members might provide input during the televisit on the resident's symptoms or behavior, take notes that can be relayed to other staff members, help residents engage with clinicians, and manage technology or other environmental factors.

Table 2
Best Practices for Telemedicine for Patients With Dementia-Related Psychosis or Parkinson Disease Psychosis in an LTC Setting

Specialist	LTC Facility	All Parties
	Administrative and technical	
Before visit:	Before visit:	Before visit:
• Provide facility with in-service training on dementia-related psychosis and telemedicine • Provide facility with login information to the appointment • Provide facility with a checklist of preparatory steps • Log in to the platform early and greet participants as they arrive	• Bring the patient to a private room • Use a device setup with a large screen, preferably a laptop or desktop computer • Ensure the patient has time to settle into the new space before the appointment • Explain to the patient that the provider will talk with them by video • Provide impressions on whether the patient is a good candidate for a telemedicine visit	• Ensure internet connectivity • Adjust ambient lighting so participants' faces are visible • Place camera at eye level • Place microphone near the participant(s) • Adjust audio settings to ensure quieter words will be audible • Have a backup plan ready (eg, telephone) in case of internet failure
During visit: • Narrate actions when looking away from the camera	**Evaluation and diagnosis**	

Before visit:
• Gather and review patient information from:
  - Family members
  - LTC staff (day and night shift workers)
  - Central repositories (EHRs, MDS)
• If possible, meet with LTC treatment staff in advance for a summary report on the patient
• Invite family members to the televisit, but limit number of connections per patient tolerance (>4 videos can be more confusing to patients than helpful)
• Provide LTC staff with training or tools needed to help complete assessments during the appointment
	Before visit:
	• Collect notes on patient symptoms
	• Communicate relevant patient information to specialist
	During visit:
	• If trained, LTC staff may be able to help complete a physical examination or assessment tool	

During visit: • Ask the patient normalizing questions about their symptoms, as part of the general assessment • Solicit input on patient symptoms from family members and LTC staff • Consider patient reactions to videoconferencing as an opportunity to observe potential symptoms		
• Offer the same treatment recommendations (nonpharmacologic and pharmacologic) as would be offered during an in-person visit • Nonpharmacologic management is the foundational treatment for patients with dementia-related psychosis or PDP • Take care to ensure all participants understand treatment recommendations • Provide written documentation of treatment plans	**Treatment and monitoring** • Review specialist treatment plan and clarify questions • Monitor patient's response to planned interventions and communicate this information to the specialist as appropriate	• Hold periodic meetings between specialist and a member of the LTC staff to review progress reports

EHR, electronic health record; MDS, Minimum Data Set.

Ideally, the facility will have real-time support or an information technology staff available to address connectivity or other technology issues that occur. Although telemedicine is often video-based, technical difficulties or residents who do not do well with video interaction could necessitate a switch to audio-based interaction. Although audio-based visits can make cognitive evaluations more difficult, some telephone-based measures exist that could still inform the specialist of the patient's condition.[44] It is important that providers are reimbursed similarly for all forms of telemedicine.

LTC central data repositories (eg, electronic health records, LTC Minimum Data Set) can provide valuable background information about the patient's mental state (eg, Minimum Data Set section on Patient Health Questionnaire−9 score). Providing nonfacility specialists access to this information is beneficial to patient care, but access must be coordinated by the facility, which might not be possible.

Specialists Can Empower LTC Staff and Actively Address Technical Challenges

The facility-specialist relationship is strengthened when specialists approach interactions with the facility as team members

addressing a common problem. Acknowledging measures taken by LTC staff to coordinate each televisit, and providing thanks and empathy to staff when they are managing a crisis, can boost morale and encourage a more productive relationship. Specialists should prepare for a visit by ensuring they have a direct line to the staff coordinating the visit. Specialists can be flexible in accommodating reasonable facility requests and adapt to technical issues that arise. LTC facilities may not always be able to provide staff to assist with televisits or may lack equipment or internet coverage to enable the visit. Specialists should be prepared to guide patients through the televisit.

Best Practices During Evaluation and Diagnosis

LTC Staff Can Facilitate Diagnostic Information Sharing With Family and Specialists

LTC staff are a valuable source of information for the evaluation and diagnosis of dementia-related psychosis and PDP, some of which may be essential to making a diagnosis. Besides nursing staff, other members of the care team at the LTC facility (eg, certified nursing

assistants, housekeeping staff) may have significant interactions with residents that can aid in evaluating psychotic symptoms. Nursing staff may be able to take notes on residents' symptoms between specialist appointments; if possible, input from both day and night shift workers helps specialists identify circadian patterns in symptoms. Coordination of this input can be facilitated by the director of nursing instruction at the facility. Such efforts can aid both telehealth and in-person treatment approaches but are essential in telemedicine because of the challenges present for a specialist engaging with all relevant LTC staff remotely.

Brief assessments of cognition over time (eg, Montreal Cognitive Assessment, Mini-Mental State Examination) can be conducted via televisits or completed before or during the appointment with assistance from staff.[44,45] Where possible, supporting staff members should know the resident well enough to facilitate these assessments. In some cases, registered nurses may be able to help conduct a physical examination,[27] and can be trained by the facility's medical director to check for drug-induced movement disorders.

Specialists Should Actively Solicit Diagnostic Information Before and During Visits

Best practices related to evaluation, diagnosis, treatment, and management of patients with dementia-related psychosis and PDP also apply to telemedicine; however, an LTC telemedicine setting warrants additional measures to address issues unique to remote care.[28] If LTC staff do not have a systematic approach to documenting symptoms of psychosis in residents with dementia or PD, specialists may need to actively solicit this information from staff who interact with residents. Input from residents' family members about long-term behavioral changes and other elements that staff might not observe or report is also useful. Small changes over time may be difficult for staff to notice but clear to family members between their visits. A telemedicine platform that allows participants to contribute from multiple locations may facilitate inclusion of family members, enabling a more comprehensive assessment that may not be possible with an office visit that requires the family members to coordinate travel with the resident, specialist, and LTC staff.

Similar to in-person evaluation, requesting pre-visit input from family members and LTC staff on their observations around the resident's status will make the appointment more efficient and can aid in diagnosis. Example questions for family and LTC staff that may facilitate a diagnosis include "Has the person heard or seen things that others have not?" and "Do they express unusual or inappropriate thoughts, beliefs, or preoccupations?" If possible, leveraging validated assessment tools such as the Hallucinations and Delusions subscales of the Neuropsychiatric Inventory—Nursing Home Version can enable family members to comprehensively convey their knowledge of the resident's condition to the specialist.[46]

During the appointment, residents may not interact with the specialist in the same way they would during an office visit. Some may ask whether the provider is a real person. For these individuals, attempting a televisit and watching their reaction can provide valuable insight not available from an office visit.

The presence of family members on the videoconference may also help to ease a patient's discomfort speaking with a specialist, particularly a new provider, in a televisit. Similar to in-person assessments, patients may be more likely to describe psychotic symptoms if questions are posed as part of a general, standard assessment. Examples of normalizing a diagnostic question include "This may be an unusual question, but…" and "This may not be a problem for you, but some of my patients report…"

Best Practices for Treatment and Monitoring

Nonpharmacologic Management Is Preferred Where Possible

Nonpharmacologic management, including behavioral management techniques, is the foundation of treatment for all people with dementia-related psychosis or PDP. A summary of nonpharmacologic management techniques is provided in Table 3. A telehealth approach, specifically, may be able to facilitate nonpharmacologic interventions for people with neurodegenerative disease in some cases. For example, in the context of COVID-19, telemedicine allows specialists to conduct visits without wearing a mask, allowing residents to see faces, therefore, removing a source of anxiety for some residents with dementia. Additionally, telemedicine allows providers a unique look into the residents' surroundings, which can further facilitate assessment of triggers, provide a context for symptoms, and aid in the identification of modifiable factors contributing to or exacerbating psychosis. After a careful assessment of the risks and benefits, pharmacologic treatment may be considered in people whose psychotic symptoms do not respond to nonpharmacologic techniques of treatment,[44,45,28] particularly in those whose psychosis symptoms are severe, dangerous, or cause significant distress.[43]

LTC Staff and Family Members Can Facilitate Behavioral Management of Psychosis With Education

LTC staff and family members often welcome education on behavioral management for residents with dementia-related psychosis or PDP. Whether specialists see residents via in-person visits or televisits, educating family members on nonpharmacologic interventions is valuable, as LTC facilities may be more concerned with details of pharmacologic treatments. Once educated, family members can convey relevant strategies to staff members.

Specialists Should Treat Telehealth and Office Patients Consistently

Pharmacologic and nonpharmacologic treatment recommendations should be identical to what would be offered during an in-person visit. The authors' experience suggests some providers may be hesitant to prescribe new medications during a telepsychiatry encounter, without an initial in-person visit. This may be related to lack of familiarity with telemedicine or a perception that the telemedicine approach introduces barriers to accurate diagnosis. At the end of each televisit, providers should take extra care to ensure all participants, including the resident, LTC staff, and family members, understand treatment recommendations discussed during the appointment.

Conclusions and Future Directions

Given the prevalence of hallucinations and delusions among residents with dementia or PD in LTC facilities, and the negative impact of psychosis on quality of life, increased education and awareness are needed in these settings about the role of specialists in treating behavioral symptoms of dementia and PD. Telemedicine may facilitate evaluation and diagnosis of psychosis in people with neurodegenerative disorders who are residents of LTC facilities when specialist care is otherwise limited or unavailable. Psychiatric telemedicine for residents of rural LTC facilities could avoid significant costs associated with resident or physician travel, enabling these residents to receive the care they need while allowing a single specialist to provide care to a larger number of patients.[40] In addition, telemedicine is ideal for subsequent monitoring and allows inclusion of participants in different geographic locations, such as caregivers from the LTC facility and family members.

Table 3
Nonpharmacologic Management Techniques for Patients With Dementia-Related Psychosis and Parkinson Disease Psychosis in an LTC Setting

Nonpharmacologic Management Approach	Description of Approach	Reference
ABC approach[47]	*Activating event:* An event that elicits a behavioral outburst from a patient *Behavior:* A patient displays a negative reaction (eg, anger, confusion) to the activating event *Consequence:* Staff deescalate the situation while speaking to the patient with respect to maintain dignity *Decide and Debrief:* Once patient is calm, staff and patient discuss the activating event	http://www.dementiamanagementstrategy.com/Pages/ABC_of_behaviour_management.aspx
DICE approach[48]	*Describe:* Describe symptoms and context of symptoms with caregiver(s) and patient *Investigate:* Identify potential causes, and determine which are modifiable *Create:* Create a treatment plan (including medical, nonpharmacologic, or pharmacologic treatments) *Evaluate:* Assess outcomes of strategies used and if caregiver and patient distress was reduced	https://diceapproach.com/
The Psychosocial-Environmental Model[49,50]	Caregivers should take residents seriously, not redirect subjects when they are expressing concern or fear, show patience, empathy, sympathy, and avoid taking insults or accusations personally. Additional therapies are recommended to reduce behavioral symptoms, including provision of structured or unstructured activities, music, exercise, simulated presence therapy, validation therapy, aromatherapy, or reminiscence therapy	https://www.youtube.com/watch?v=ESqfW_kyZq8 *Psychiatric Consultation in Long-Term Care: A Guide for Health Care Professionals*[49]
STAR Program[51–53]	Staff training to build knowledge and skills that facilitate the ABC approach. Training includes education on dementia in daily life, verbal and nonverbal skills for communicating with residents with dementia, incorporating pleasant events into resident life, improving communication with families, and how to use the ABC approach	https://www.apa.org/pi/about/publications/caregivers/practice-settings/intervention/star-caregivers *STAR: A Dementia-Specific Training Program for Staff in Assisted Living Residences*[51]
STAR-C-TM[53]	Composed of 8 weekly sessions between a caregiver and HCP via one-on-one teleconference. Sessions focus on training caregivers in the STAR program without an in-person visit	*"It Took the Stress out of Getting Help": The STAR-C-Telemedicine Mixed Methods Pilot*[53]

HCP, health care provider.

In the LTC setting, staff education and involvement are crucial to a successful telemedicine visit. Coordinating telemedicine visits may create added challenge for LTC staff, who may already be overworked; thus, it is important to help staff understand the benefits of a telemedicine consultation. Evaluation and treatment of dementia-related psychosis and PDP will not only help residents but will also clarify resident care by giving staff explicit and prescribed options for managing difficult symptoms of psychosis. Positive perspective toward telemedicine by facility administrators will set the tone for acceptance throughout the facility. However, the telepsychiatry specialist must also build trust with staff to ensure appropriate patient identification, care, and consideration of treatment recommendations.

An unmet need exists in LTC facilities for a central repository of collated information from LTC staff with a means for sharing this information with outside health care providers, including electronic health records, Minimum Data Set assessments, and nursing notes from all shifts. This type of centralized resource would provide helpful patient information to providers without the need to search multiple sources.

Presence of psychosis or behavioral disturbances creates a challenge for placement of people into LTC facilities, as these residents require more resources, including staff time and training, from an already overwhelmed system. Even though psychosis is a primary cause of nursing home placement,[9,10] this often leads to transfers to emergency departments because of the facility's lack of experience and unease with keeping those residents under their care. Increasing awareness of the availability of telepsychiatry providers may increase the willingness among LTC facilities to accept people with psychosis.

In the COVID-19 era, some LTC facilities are facing closure and may seek to stay open by offering behavioral or psychiatric specialty care. Telemedicine can facilitate this switch.

Implications for Practice, Policy, and Research

Telemedicine became a necessity in all care settings in response to the COVID-19 pandemic. Policy changes were temporarily instituted to accommodate widespread use of telemedicine in all settings.[43] Telemedicine offers a potential return on investment for LTC facilities, but this is dependent on reimbursement policies that enable a telemedicine approach in the LTC setting, requiring the use of certain billing codes.[33]

Benefits of telemedicine in the LTC setting go beyond minimizing the risk of COVID-19 infection. We recommend indefinite continuation of the policies that facilitated implementation of telemedicine in the LTC setting. Furthermore, there is a need for coverage of all forms of telemedicine, including audio-only calls when a video-based platform is not possible. Barriers to televisits still exist for many people who may benefit the most from this option, and continued advocacy for telemedicine will likely be needed in a post−COVID-19 era.

Telemedicine expands access to limited specialists who treat psychosis in people with neurodegenerative diseases. Further research is needed to measure how much increased access to specialized care improves patient outcomes in LTC facilities, alongside the cost-effectiveness of such care. Implementation science approaches should be applied to determine how to optimally incorporate

telehealth into existing workflows used to care for LTC residents living with dementia.

A team-based approach between specialists and LTC facilities is essential to successful telemedicine. Establishing a trusting relationship between specialist and facility staff can support implementation of treatment recommendations, thereby supporting resident care and ultimately leading to improved outcomes and quality of life.

References

1. Smith K, Ostinelli E, Macdonald O, Cipriani A. COVID-19 and telepsychiatry: development of evidence-based guidance for clinicians. *JMIR Ment Health.* 2020;7:e21108.
2. Fasano A, Antonini A, Katzenschlager R, et al. Management of advanced therapies in Parkinson's disease patients in times of humanitarian crisis: the COVID-19 experience. *Mov Disord Clin Pract.* 2020;7:361–372.
3. Zimmerman S, Sloane PD, Reed D. Dementia prevalence and care in assisted living. *Health Aff (Millwood).* 2014;33:658–666.
4. Marras C, Beck JC, Bower JH, et al. Prevalence of Parkinson's disease across North America. *NPJ Parkinson's Dis.* 2018;4:21.
5. Lapane KL, Fernandez HH, Friedman JH. Prevalence, clinical characteristics, and pharmacologic treatment of Parkinson's disease in residents in long-term care facilities. SAGE Study Group. *Pharmacotherapy.* 1999;19:1321–1327.
6. Hoegh H, Ibrahim AK, Chibnall J, et al. Prevalence of Parkinson disease and Parkinson disease dementia in community nursing homes. *Am J Geriatr Psychiatry.* 2013;21:521–535.
7. Safarpour D, Thibault DP, DeSanto CL, et al. Nursing home and end-of-life care in Parkinson disease. *Neurology.* 2015;85:413–419.
8. Helvik AS, Selbaek G, Saltyte Benth J, et al. The course of neuropsychiatric symptoms in nursing home residents from admission to 30-month follow-up. *PLoS One.* 2018;13:e0206147.
9. Toot S, Swinson T, Devine M, et al. Causes of nursing home placement for older people with dementia: a systematic review and meta-analysis. *Int Psychogeriatr.* 2017;29:195–208.
10. Fenelon G, Alves G. Epidemiology of psychosis in Parkinson's disease. *J Neurol Sci.* 2010;289:12–17.
11. Mack J, Rabins P, Anderson K, et al. Prevalence of psychotic symptoms in a community-based Parkinson disease sample. *Am J Geriatr Psychiatry.* 2012;20:123–132.
12. Goetz CG, Stebbins GT. Mortality and hallucinations in nursing home patients with advanced Parkinson's disease. *Neurology.* 1995;45:669–671.
13. Aarsland D, Larsen JP, Cummins JL, Laake K. Prevalence and clinical correlates of psychotic symptoms in Parkinson disease: a community-based study. *Arch Neurol.* 1999;56:595–601.
14. Ravina B, Marder K, Fernandez HH, et al. Diagnostic criteria for psychosis in Parkinson's disease: report of an NINDS, NIMH work group. *Mov Disord.* 2007;22:1061–1068.
15. Forsaa EB, Larsen JP, Wentzel-Larsen T, et al. A 12-year population-based study of psychosis in Parkinson disease. *Arch Neurol.* 2010;67:996–1001.
16. Aarsland D. Epidemiology and pathophysiology of dementia-related psychosis. *J Clin Psychiatry.* 2020;81. AD19038BR1C.
17. Fenelon G, Mahieux F, Huon R, Ziegler M. Hallucinations in Parkinson's disease: prevalence, phenomenology and risk factors. *Brain.* 2000;123(Pt 4):733–745.
18. Russ TC, Batty GD, Starr JM. Cognitive and behavioural predictors of survival in Alzheimer disease: results from a sample of treated patients in a tertiary-referral memory clinic. *Int J Geriatr Psychiatry.* 2012;27:844–853.
19. Choi A, Ballard C, Martyr A, et al. Impact of psychosis on quality of life and well-being in dementia. *Alzheimers Dementia.* 2020;16.
20. Emanuel JE, Lopez OL, Houck PR, et al. Trajectory of cognitive decline as a predictor of psychosis in early Alzheimer disease in the cardiovascular health study. *Am J Geriatr Psychiatry.* 2011;19:160–168.
21. Rocca P, Leotta D, Liffredo C, et al. Neuropsychiatric symptoms underlying caregiver stress and insight in Alzheimer's disease. *Dement Geriatr Cogn Disord.* 2010;30:57–63.
22. Yi JS, Pittman CA, Price CL, et al. Telemedicine and dementia care: a systematic review of barriers and facilitators. *J Am Med Dir Assoc.* 2021;22:1396–1402.e18.
23. Low JA, Toh HJ, Tan LLC, et al. The nuts and bolts of utilizing telemedicine in nursing homes - The GeriCare@North Experience. *J Am Med Dir Assoc.* 2020;21:1073–1078.
24. American Academy of Family Physicians. A toolkit for building and growing a sustainable telehealth program in your practice. 2020. Accessed September 15, 2020. https://www.aafp.org/dam/AAFP/documents/practice_management/telehealth/2020-AAFP-Telehealth-Toolkit.pdf.
25. American Medical Association. Telehealth Implementation Playbook. 2020. Accessed February 26, 2021. https://www.ama-assn.org/system/files/2020-04/ama-telehealth-playbook.pdf.
26. American Medical Association. AMA telehealth quick guide. 2020. Accessed February 26, 2021. https://www.ama-assn.org/practice-management/digital/ama-telehealth-quick-guide.
27. American Psychiatric Association. Telepsychiatry toolkit. 2020. Accessed January 19, 2021. https://www.psychiatry.org/psychiatrists/practice/telepsychiatry/toolkit.
28. American Psychiatric Association and American Telemedicine Association. Best practices in videoconferencing-based telemental health. 2018. Accessed February 26, 2021. https://www.psychiatry.org/File%20Library/Psychiatrists/Practice/Telepsychiatry/APA-ATA-Best-Practices-in-Videoconferencing-Based-Telemental-Health.pdf.
29. American Psychological Association. Guidelines for the practice of telepsychology. 2013. Accessed February 26, 2021. https://www.apa.org/pubs/journals/features/amp-a0035001.pdf.
30. American Telemedicine Association. Practice guidelines for videoconferencing-based telemental health. 2009. Accessed February 26, 2021. https://cdn2.hubspot.net/hubfs/5096139/NEW_ATA-VideoConference-Based.pdf.
31. International Parkinson and Movement Disorder Society. Telemedicine in your movement disorders practice: a step-by-step guide. 2020. Accessed February 26, 2021. https://www.movementdisorders.org/MDS/About/Committees-Other-Groups/Telemedicine-in-Your-Movement-Disorders-Practice-A-Step-by-Step-Guide.htm.
32. Srinivasan R, Ben-Pazi H, Dekker M, et al. Telemedicine for hyperkinetic movement disorders. *Tremor Other Hyperkinet Mov (NY).* 2020:10.
33. Gillespie SM, Moser AL, Gokula M, et al. Standards for the use of telemedicine for evaluation and management of resident change of condition in the nursing home. *J Am Med Dir Assoc.* 2019;20:115–122.
34. Centers for Disease Control and Prevention. Interim Infection Prevention and Control Recommendations to Prevent SARS-CoV-2 Spread in Nursing Homes. 2020. Accessed January 27, 2021. https://www.cdc.gov/coronavirus/2019-ncov/hcp/long-term-care.html.
35. American Hospital Association. Detailed Summary of Health Provisions in Consolidated Appropriations Act, 2021. 2020. Accessed February 22, 2021. https://www.aha.org/system/files/media/file/2020/12/detailed-summary-health-provisions-consolidated-appropriations-act-2021-bulletin-12-22-20.pdf.
36. Geddes MR, O'Connell ME, Fisk JD, et al. Remote cognitive and behavioral assessment: report of the Alzheimer Society of Canada Task Force on dementia care best practices for COVID-19. *Alzheimers Dement (Amst).* 2020;12:e12111.
37. Bashshur RL, Shannon GW, Bashshur N, Yellowlees PM. The empirical evidence for telemedicine interventions in mental disorders. *Telemed J E Health.* 2016;22:87–113.
38. Martin-Khan M, Flicker L, Wootton R, et al. The diagnostic accuracy of telegeriatrics for the diagnosis of dementia via video conferencing. *J Am Med Dir Assoc.* 2012;13:487.e419–487.e424.
39. Harrell KM, Wilkins SS, Connor MK, Chodosh J. Telemedicine and the evaluation of cognitive impairment: the additive value of neuropsychological assessment. *J Am Med Dir Assoc.* 2014;15:600–606.
40. Rabinowitz T, Murphy KM, Amour JL, et al. Benefits of a telepsychiatry consultation service for rural nursing home residents. *Telemed J E Health.* 2010;16:34–40.
41. Sharp IR, Kobak KA, Osman DA. The use of videoconferencing with patients with psychosis: a review of the literature. *Ann Gen Psychiatry.* 2011;10:14.
42. Centers for Medicare & Medicaid Services. State operations manual: Appendix PP - Guidance to surveyors for long term care facilities. 2007. Accessed February 26, 2021. https://www.cms.gov/Regulations-and-Guidance/Guidance/Manuals/downloads/som107ap_pp_guidelines_ltcf.pdf.
43. Centers for Medicare & Medicaid Services. Long-term care nursing homes telehealth and telemedicine tool kit. 2020. Accessed January 2021. https://www.cms.gov/files/document/covid-19-nursing-home-telehealth-toolkit.pdf.
44. Pendlebury ST, Welch SJ, Cuthbertson FC, et al. Telephone assessment of cognition after transient ischemic attack and stroke: modified telephone interview of cognitive status and telephone Montreal Cognitive Assessment versus face-to-face Montreal Cognitive Assessment and neuropsychological battery. *Stroke.* 2013;44:227–229.
45. McEachern W, Kirk A, Morgan DG, et al. Reliability of the MMSE administered in-person and by telehealth. *Can J Neurol Sci.* 2008;35:643–646.
46. Cummings JL. *Nursing home inventory—nursing home version (NPI-NH).* David Geffen School of Medicine at UCLA; 1994.
47. Bendigo Health. ABC of behaviour management. 2020. Accessed February 25, 2021. www.dementiamanagementstrategy.com/Pages/ABC_of_behaviour_management.aspx.
48. Kales HC, Gitlin LN, Lyketsos CG. Assessment and management of behavioral and psychological symptoms of dementia. *BMJ.* 2015;350:h369.
49. A Desai, G Grossberg. *Psychiatric Consultation in Long-Term Care: A Guide for Health Care Professionals.* Baltimore, MD: The Johns Hopkins University Press; 2010.

50. Feil N. Validation, communication through empathy. Ted Talk presented at: Amsterdam Women; June 3, 2015. Accessed April 2, 2021. https://www.youtube.com/watch?v=ESqfW_kyZq8.

51. Teri L, Huda P, Gibbons L, Young H, van Leynseele J. STAR: a dementia-specific training program for staff in assisted living residences. *Gerontologist.* 2005;45: 686–693.

52. Jedele JM, Curyto K, Ludwin BM, Karel MJ. Addressing behavioral symptoms of dementia through STAR-VA implementation: do outcomes vary by behavior type? *Am J Alzheimers Dis Other Demen.* 2020;35. 1533317520911577.

53. Lindauer A, Croff R, Mincks K, et al. "It Took the Stress out of Getting Help": The STAR-C-Telemedicine Mixed Methods Pilot. *Care Wkly.* 2018;2:7–14.