

Connecting With Older Adults via Telemedicine

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Routine outpatient visits have rapidly transitioned to telemedicine because of the evolving coronavirus pandemic. In the rush toward telemedicine, our older adults may be at particular risk for missing out or misunderstanding their providers. Hearing loss is almost universal among older adults: Approximately two thirds of persons aged 70 years or older have clinically significant hearing loss (1). Age-related hearing loss occurs gradually and frequently leaves older patients with the sense that their hearing is adequate but that clarity is the issue and others mumble. Clinic-based visits, which are generally face to face in a quiet environment, allow hearing loss to go undetected in many patients because hearing loss can have seemingly little effect on these encounters (2). However, telemedicine can create challenges for older patients, including those with only mild hearing loss. Telephone-based encounters can be particularly challenging because they remove detailed visual cues like gestures, lip reading, and facial expressions. Older users' perceptual capabilities, including hearing, vision, cognitive and motor skills, and technological proficiency, can influence their ability to interact successfully via telemedicine (3). Language barriers, unreliable connections, and consultations in noisy settings can further complicate an older patient's ability to get what he or she needs out of an encounter.

COMMUNICATION STRATEGIES FOR TELEMEDICINE ENCOUNTERS

Relatively simple measures can help optimize conditions for telemedicine encounters with older patients (Table). First and most important, you must assume that your older patients have at least mild hearing loss. Risk for this condition increases with age, and hearing loss is one of the most common chronic conditions among older adults (1, 4).

Before the Encounter

Encourage patients to use headphones or a headset to improve the signal-noise ratio, whether using a cellphone, tablet, or computer. In general, headphones can be easier for patients to manage, attenuate competing background noise, and provide a degree of amplification. Patients with amplification devices, such as hearing aids, can choose to use the device or opt for headphones if they provide adequate amplification. For smartphone- or tablet-based encounters, Bluetooth-connected amplification devices should be able to connect with the patient's smartphone or tablet directly and serve as the headset. Modern, digital hearing aids should be compatible with cellphones and landline telephones and connect automatically; if the patient's amplification device has not automatically connected or the patient is struggling to hear you, prompt them to

Table. Telemedicine Communication Checklist

Before encounter

For patients

Confirm patient preference regarding format, being responsive to technology access, proficiency, privacy concerns, and potential limits in internet or data plans

Ask patient to wear headphones or a headset or confirm that they are wearing their hearing aids or amplification device

Use the speaker function of the telephone as a backup

For providers

Assume that your older patient has some degree of hearing loss

Use a headset and avoid relying on built-in microphones

Use video whenever possible

Light your face evenly and from the front to minimize shadows

Position camera to focus on your face

Use captioning when available for video-based encounters

Start of encounter

Confirm that patient is in a quiet location; minimize background noise

Ensure that patient is able to see your face

Be aware of cues patient is not following the conversation, and address it early

During encounter

Speak slowly and clearly

Minimize raising your voice too much to cause distortion

Monitor for cues that the patient may not be following the conversation

Repeat but then rephrase if patient does not hear or understand you

End of encounter

Use teach-back techniques, preferably throughout as able

Provide written summary of key points and instructions

use their telephone on speaker mode if they are in a private location.

You should also use a headset to optimize the sound quality of your voice and minimize background noise. Video-based encounters should be prioritized, at least on your end, to allow patients to view your face, read lips, and observe gestures, which provide visual cues that supplement your voice. For video-based encounters, ensure that you are in a well-lit area, ideally with your face evenly lit from the front to eliminate shadows. If using a videoconference platform, use captioning options for all patients as a default. Automatic speech recognition captioning can be helpful for a range of patients. If this is not available, contact your administrator to inquire about available options.

Start of the Encounter

At the start of an encounter, remind the patient to step into a quiet area and minimize background noise. Position the camera so that your face is visible; the ideal placement is at a distance at which the patient can read your lips and facial expressions. During the introductory exchange, be mindful of potential barriers to communication and gauge the appropriateness of responses. If concerned, engage the patient on ways to optimize the exchange (for example, increase the volume, wear glasses, or enlist an interpreter).

During the Encounter

Speak slowly and clearly and avoid raising the volume of your voice, especially given noise-canceling software. You should be aware of cues that your patient may not hear or understand you, such as nodding along, looking to loved ones to respond, or responding inappropriately. If a patient shows that he or she did not understand you, repeat your statement once but move quickly to rephrase if the patient did not understand the first 2 times.

End of the Encounter

The “teach-back” technique can check a patient’s understanding and reiterate the main points and required actions. This should be paired with the provision of written summaries or instructions.

COGNITIVE AND VISUAL CONSIDERATIONS

Cognitive impairment and age-related hearing loss frequently co-occur in older patients and can further impede patient-provider communication. If cognitive impairment is suspected, several screening tools can be used over the telephone to identify individuals who may need more comprehensive, in-person assessment (5, 6). A formal diagnosis of dementia is not recommended solely based on a telephone-based cognitive screening. Dual-sensory impairment may also interfere with a person’s ability to engage via telemedicine. Although relatively uncommon compared with hearing loss alone, dual-sensory impairment also becomes more prevalent with age and is present in more than 10% of adults aged 80 years or older (7).

TECHNOLOGICAL AND SOCIOECONOMIC CONSIDERATIONS

Technology adoption among older adults has improved greatly in recent years (8). Approximately half of older Americans report owning a smartphone, and two thirds use the internet, but differences in technology adoption exist by age and socioeconomic position, including income and education (8). Similarly, hearing aid use among older adults differs with race/ethnicity and socioeconomic position: Rates are lower among minority and low-income older adults (9, 10). Older patients with hearing loss may face barriers to telemedicine, but low socioeconomic position can compound a person’s ability or willingness to engage in a telemedicine encounter. Providers should be aware of patient preferences about how a telemedicine visit is conducted—for example, landline, cellphone, or computer-based interface—which may be driven in part by access to technology in a space conducive to a private exchange, as well as by internet, cellphone, or data plans and associated charges.

The overarching goal is to ensure that you and your patient have optimized the setup so that all patients have access to effective communication and the opportunity to connect regardless of format or distance.

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References

1. Lin FR, Thorpe R, Gordon-Salant S, et al. Hearing loss prevalence and risk factors among older adults in the United States. *J Gerontol A Biol Sci Med Sci.* 2011;66:582-90. [PMID: 21357188] doi:10.1093/gerona/glr002
2. Yueh B, Shapiro N, MacLean CH, et al. Screening and management of adult hearing loss in primary care: scientific review. *JAMA.* 2003;289:1976-85. [PMID: 12697801]
3. Stronge AJ, Rogers WA, Fisk AD. Human factors considerations in implementing telemedicine systems to accommodate older adults. *J Telemed Telecare.* 2007;13:1-3. [PMID: 17288650]
4. Goman AM, Lin FR. Prevalence of hearing loss by severity in the United States. *Am J Public Health.* 2016;106:1820-2. [PMID: 27552261] doi:10.2105/AJPH.2016.303299
5. Martin-Khan M, Wootton R, Gray L. A systematic review of the reliability of screening for cognitive impairment in older adults by use of standardised assessment tools administered via the telephone. *J Telemed Telecare.* 2010;16:422-8. [PMID: 21030488] doi:10.1258/jtt.2010.100209
6. 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;44:227-9. [PMID: 23138443] doi:10.1161/STROKEAHA.112.673384
7. Swenor BK, Ramulu PY, Willis JR, et al. The prevalence of concurrent hearing and vision impairment in the United States [Letter]. *JAMA Intern Med.* 2013;173:312-3. [PMID: 23338042] doi:10.1001/jamainternmed.2013.1880
8. Anderson M, Perrin A. Tech adoption climbs among older adults. 17 May 2017. Accessed at www.pewresearch.org/internet/2017/05/17/tech-adoption-climbs-among-older-adults on 25 March 2020.
9. Nieman CL, Marrone N, Szanton SL, et al. Racial/ethnic and socioeconomic disparities in hearing health care among older Americans. *J Aging Health.* 2016;28:68-94. [PMID: 25953816] doi:10.1177/0898264315585505
10. Mamo SK, Nieman CL, Lin FR. Prevalence of untreated hearing loss by income among older adults in the United States. *J Health Care Poor Underserved.* 2016;27:1812-1818. [PMID: 27818440]

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