Establishing Virtual Vital Signs in Older Adults

Eric A Lee, MD1,2; Michael H Kanter, MD2

E-pub: 06/09/2021

COMMENTARY

ILLUSTRATIVE FICTIONAL CASE STUDY

You have a telephone appointment (TA) with Mrs Smith, age 76 years, to review the dual-energy x-ray absorptiometry (DEXA) test results. Because you are meeting her for the first time, you carefully review her chart through the electronic medical record. Other than a previous radial head fracture from 3 months ago, she has no significant medical problems and takes no medications. On review, she denies denial issues and dysphagia. Her serum creatinine, vitamin D, and calcium results from 4 months before are normal. What other aspects of the patient’s history should be assessed before making a recommendation?

Before 2020, physicians worked to understand how best to adopt the inevitable virtual medical visit. Given the lack of consensus process indicators needed for a high-quality TA, many large traditional organizations were making this transition slowly and deliberately.

COVID-19 forced all physicians to be telemedicine specialists: virtual visits protect patients by minimizing exposure. Primary care physicians now perform “telephone physicals” on newly insured members. Surgeons perform consultations by telephone. A 2019 review suggested that quality of care was maintained in older adults using telemedicine (defined as video visits or TAs). In contrast, another article suggested that antibiotics were prescribed inappropriately with telemedicine, suggesting inferior quality of care.

The Center for Medicare and Medicaid Services stipulates that an assessment of the beneficiary’s “cognitive function by direct observation, considering information from the patient, family, friends, caregivers, and others” occur during annual wellness visits. However, many facial, social, and environmental cues are lost during a TA. Direct visual observation is impossible with a telephone visit: Does the patient express bewilderment, have difficulty putting their watch back on, have difficulty finding the medical office exit? At office visits, the presence of family members is often revealing: Could a family member be accompanying the patient to appointments due to difficulty with navigation? Does the patient look at a spouse for help in answering questions? Does the son contradict the patient’s history?

Significant deficits in attention may suggest delirium, often a medical emergency in the older adult. For the older adult who set up a TA for a trigger finger but is found to be in delirium, infectious, metabolic, adverse drug events, and other acute conditions must be excluded and addressed immediately.

Significant deficits in memory not only potentially invalidate a patient’s history during a virtual visit, it also makes the adherence to the treatment plan suspect. If a patient with significant memory deficits makes a TA for painless gross hematuria, will this patient complete the appropriate laboratory tests, imaging studies, and specialty referral? Will this patient remember that a urologic cancer must be ruled out?

Like it or not, TAs are here to stay. Will this shift lead to fragmentation of care by reducing the bonding between physicians and patients? For those at high risk for adverse outcomes, established physician-patient relationships lead to optimal care delivery.

As physicians who focus on the quality of care delivered to the geriatric patient, we believe virtual vital signs (VVSs) should be established for TAs in older adults (age 65 years or older). Temperature, blood pressure, respiratory rate, and heart rate are vital because significantly abnormal values are often markers of acute disease that should supersede any unrelated patient concern. However, special consideration is needed for older adults who are at risk for geriatric syndromes given the expansion of telemedicine.

The imperative to define VVSs for older adults is clear. Frailty and multimorbidity are common in older adults. Because of this reduced reserve capacity, or the physiologic plasticity to adapt, older adults are at high risk for functional decline and death compared with younger adults. Compounding this concern, the prevalence of dementia in the US is 8.8% in patients age 65 years and older. In adults age 71 years and older with dementia, 58% are undiagnosed.

For TAs without an established clinician-patient relationship or a recent office visit with the same provider, we propose that for patients age 65 years and older, the VVSs should be screening tests for attention and memory, 2 of 6 components of the cognition domain in the mental status examination. Although the 2020 United States Preventive Services Task Force (USPSTF) concluded that

Author Affiliations

1Department of Internal Medicine, Kaiser Permanente West Los Angeles Medical Center, Los Angeles, CA
2Department of Clinical Science, Kaiser Permanente Bernard J Tyson School of Medicine, Pasadena, CA

Corresponding Author

Eric A Lee, MD (Eric.A.Lee@KP.org)

Keywords: cognition, geriatric screening, quality of care, telehealth

Abbreviations: TA, telephone appointment; USPSTF, United States Preventative Services Task Force; VVS, virtual vital sign
there was “insufficient evidence to recommend for or against screening for cognitive impairment,” this position was published before the World Health Organization declared the COVID-19 outbreak a world pandemic. The USPSTF report could not have anticipated the increased reliance on TAs.

Although many validated dementia screening tests have been developed for telephone administration, most of them are too time consuming for virtual visits. A validated screening test for cognitive dysfunction can be performed in less than 30 seconds with the Ottawa 3DY test. By asking for the date, day of the week, and year, the Ottawa 3DY tests memory. By asking for the patient to spell WORLD backwards, the Ottawa 3DY tests attention.

What should happen if the patient has an incorrect response for the Ottawa 3DY? If further evaluation reveals a disturbance in attention that might indicate incident delirium, family should bring the patient in for immediate evaluation with a provider. If further evaluation indicates a previously undiagnosed memory disorder, the physician is obligated to confirm the patient history and review the assessment and plan with a cognitively intact family member.

In the case example, if cognitive screening was not performed, can the physician truly trust that Mrs Smith does not have dysphagia or active dental issues, which are contraindications for alendronate? Can Mrs Smith reliably follow the precautionary instructions to take the alendronate with a tall glass of water while remaining in a sitting or standing position for at least 30 minutes afterwards? Does the patient have evidence of significant inattention, so that triage to the urgent care might be the more appropriate treatment course?

With the expanded use of TAs and the dearth of evidence-based TA guidelines, physicians must proceed in ways that are intuitive in the care of older adults. Virtual visits require patient attention and memory, thus these should be considered the VVSs. The absence of evidence on screening for cognitive impairment in the virtual realm should direct future research.

Disclosure Statement
The authors have no conflicts of interest to disclose.

Acknowledgments
The authors would like to thank Max McMillen, ELS for editorial assistance.

Funding Statement
No funding was provided for this work.

Author Contributions
Eric A Lee, MD, and Michael H Kanter, MD, both conceived and developed the theme and reviewed the literature for this article.

References