

Washington University School of Medicine

Digital Commons@Becker

2020-Current year OA Pubs

Open Access Publications

12-1-2021

Emergency clinicians' perceptions of communication tools to establish the mental baseline of older adults: A qualitative study

Anita Chary

Massachusetts General Hospital

Christopher Joshi

University of Texas Southwestern Medical Center

Noelle Castilla-Ojo

Harvard University

Ilianna Santangelo

Massachusetts General Hospital

Kei Ouchi

Brigham and Women's Hospital

See next page for additional authors

Follow this and additional works at: https://digitalcommons.wustl.edu/oa_4



Part of the [Medicine and Health Sciences Commons](#)

Please let us know how this document benefits you.

Recommended Citation

Chary, Anita; Joshi, Christopher; Castilla-Ojo, Noelle; Santangelo, Ilianna; Ouchi, Kei; Naik, Aanand D.; Carpenter, Christopher R.; Liu, Shan W; and Kennedy, Maura, "Emergency clinicians' perceptions of communication tools to establish the mental baseline of older adults: A qualitative study." *Cureus*. 13, 12. e20616 (2021).

https://digitalcommons.wustl.edu/oa_4/2913

This Open Access Publication is brought to you for free and open access by the Open Access Publications at Digital Commons@Becker. It has been accepted for inclusion in 2020-Current year OA Pubs by an authorized administrator of Digital Commons@Becker. For more information, please contact vanam@wustl.edu.

Authors

Anita Chary, Christopher Joshi, Noelle Castilla-Ojo, Ilianna Santangelo, Kei Ouchi, Aanand D. Naik, Christopher R. Carpenter, Shan W Liu, and Maura Kennedy

Emergency Clinicians' Perceptions of Communication Tools to Establish the Mental Baseline of Older Adults: A Qualitative Study

Review began 06/17/2021
Review ended 12/20/2021
Published 12/22/2021

© Copyright 2021

Chary et al. This is an open access article distributed under the terms of the Creative Commons Attribution License CC-BY 4.0., which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

Anita Chary¹, Christopher Joshi², Noelle Castilla-Ojo³, Ilianna Santangelo¹, Kei Ouchi^{4,5}, Aanand D. Naik^{6,7}, Christopher R. Carpenter^{8,9}, Shan W. Liu^{1,10}, Maura Kennedy^{1,10}

1. Emergency Medicine, Massachusetts General Hospital, Boston, USA 2. Medicine, University of Texas Southwestern Medical Center, Dallas, USA 3. Graduate Education, Harvard Medical School, Boston, USA 4. Emergency Medicine, Brigham and Women's Hospital, Boston, USA 5. Psychosocial Oncology and Palliative Care, Dana-Farber Cancer Institute, Boston, USA 6. Houston Center for Innovations in Quality, Effectiveness and Safety, Michael E. DeBakey Veterans Affairs (VA) Medical Center, Houston, USA 7. Internal Medicine, Baylor College of Medicine, Houston, USA 8. Emergency Medicine, Barnes Jewish Hospital, St. Louis, USA 9. Emergency Care, Washington University School of Medicine, St. Louis, USA 10. Emergency Medicine, Harvard Medical School, Boston, USA

Corresponding author: Anita Chary, anita.chary@gmail.com

Abstract

Background

Evaluating older adults with altered mental status in emergency settings can be challenging due to the inability to obtain a history from patients directly and limited collateral information about the change from a patient's mental status baseline. Documents and videos establishing a patient's mental baseline could represent useful communication tools to aid emergency clinicians.

Methods

Qualitative interviews conducted with 22 emergency clinicians (12 physicians and 10 advanced practice providers) identified methods they use to determine baseline mental status of older adults in the ED and the perceived utility of document- and video-based information about an older adult's baseline mental status. Interview transcripts were coded for dominant themes using deductive and inductive approaches.

Results

Participants determine an older adult's baseline mental status by obtaining information about the patient's baseline cognition (memory and communication) and function (activities of daily living and mobility). The techniques they use include 1) reviewing the electronic medical record, 2) speaking with family members or caregivers by phone or in person, and 3) obtaining verbal or phone reports from emergency medical services personnel or health care providers from short- or long-term care facilities. The majority of participants thought that a document or video with information about a patient's baseline mental status would be useful (n=15, 68%), qualifying that content ought to be brief, clearly dated, and periodically updated.

Conclusions

Documents or videos could assist emergency clinicians in establishing baseline cognitive function when evaluating geriatric patients and may have implications for improving the detection of delirium.

Categories: Emergency Medicine

Keywords: emergency medicine, geriatrics, delirium, altered mental status, communication tools

Introduction

Altered mental status accounts for approximately 25% of emergency department (ED) visits among older adults [1]. Clinicians use the broad term "altered mental status" to refer to changes in cognition, level of consciousness, and behavior, which may result from diagnoses such as delirium, mild cognitive impairment, and dementia [2-4]. Delirium, a syndrome of disturbance in consciousness and attention which may be provoked by acute illness, is undetected in at least two-thirds of ED cases [1,5,6]. When detected in the ED, delirium is associated with prolonged hospitalization, falls, and increased mortality [7-9]. Cognitive impairment, or difficulty with memory and executive functioning, is similarly underrecognized in EDs [1,10].

ED evaluation of older adults with altered mental status can be challenging, as emergency clinicians cannot always obtain an accurate history from patients themselves [7,11,12]. Information from family, caregivers, or residential care professionals about a patient's baseline mental status and any changes from it (i.e., collateral information) is often missing or not readily available on presentation to the ED [13]. These challenges have been amplified by the COVID-19 pandemic with infection control measures of social

How to cite this article

Chary A, Joshi C, Castilla-Ojo N, et al. (December 22, 2021) Emergency Clinicians' Perceptions of Communication Tools to Establish the Mental Baseline of Older Adults: A Qualitative Study. Cureus 13(12): e20616. DOI 10.7759/cureus.20616

distancing and hospital visitor restrictions [14]. Lack of collateral information can lead to delays in establishing diagnoses and under-recognition of delirium [7], which itself can be a presenting feature of COVID-19 among older adults [15].

Communication tools, or instruments that convey information about patients and serve as adjuncts to history-taking and chart review, could improve clinical evaluation of patients who cannot provide their own history. As one example, the Alzheimer's Society developed a written packet entitled "This is me" to characterize the baseline cognition and function of a person with dementia for healthcare providers and professional caregivers in home, hospital, and residential care settings [16]. As another example, video-based testimonials communicating older adults' pre-recorded advanced care plans can help clinicians understand patients' goals of care and clarify written advanced care planning documentation in times of serious illness [17,18]. Similar communication tools could be deployed to offer insights into an older adult's baseline cognitive and functional status compared to ED presentation. To our knowledge, such tools do not exist for the purpose of establishing older adults' baseline mental status. We conducted an exploratory qualitative study with emergency clinicians to assess the feasibility and inform the development of such document- and video-based communication tools, which could ultimately facilitate delirium recognition. Improving emergency clinicians' ability to evaluate changes in mental status could increase detection of delirium, with potential downstream effects on preventing associated adverse outcomes, both of which are priority areas in geriatric emergency medicine [7,9,11].

Materials And Methods

We performed qualitative interviews with 12 emergency physicians and 10 advanced practice providers regarding the perceived utility of communication tools to demonstrate a patient's baseline mental status. From February to May 2021, we recruited interview participants via emails to physician and APP list-servs of EDs of two urban academic hospitals and one affiliated community hospital in the United States Northeast.

A research assistant (IS) trained by an experienced qualitative investigator with doctoral training in anthropology (AC) obtained informed consent and conducted interviews over an online audio-visual platform. Interviews focused on clinicians' experiences evaluating and obtaining collateral information about older adults with altered mental status, prior to and during the COVID-19 pandemic. The qualitative approach to interviewing was phenomenology, which seeks to characterize phenomena as experienced and lived by individuals within a situation. Participants were asked about: 1) the information they sought to determine a patient's baseline mental status; 2) how useful they would find a document depicting a patient's baseline mental status, with the interviewer screen sharing the "This is me" packet as an example [16]; and 3) how useful they would find a video depicting a patient's baseline mental status and a neurological exam.

De-identified transcripts of audio recordings served as the basis for data analysis. A team of six researchers performed thematic analysis using both a deductive approach, in which codes are created based on interview questions, and an inductive approach, wherein themes emerge from data rather than a priori hypotheses. Specifically, the researchers reviewed the first seven transcripts for codes, or repeated patterns and meanings, developed a codebook, had two team members independently apply codes to each transcript, and had a third team member reconcile discrepancies in coding [19]. The researchers elucidated common themes for each code. No new themes arose after 18 interviews, which was confirmed with four additional interviews, indicating data saturation and adequate sample size [20], and study enrollment was concluded. This research was deemed exempt by the Partners Healthcare Institutional Review Board, Boston, MA (Protocol 2020P003925). The description of this investigation follows the Standards for Reporting Qualitative Research guidelines [21].

Results

Interviews lasted approximately 15 minutes. Participants included eight attending physicians, four resident physicians, eight physician assistants, and two nurse practitioners whose practice spanned two academic hospitals and one community hospital. Half practiced in an academic hospital and half practiced in both academic and community hospitals. Additional demographics are outlined in Table 1. Information about participants' racial/ethnic identity, gender identity, and age is not reported to avoid the identification of participants. The number of years of emergency medicine clinical practice, rather than age, is reported as a reflection of clinical experience. Themes emerged regarding 1) prioritizing domains of cognition and function when establishing baseline mental status; 2) the perceived utility of a document or video in saving time and improving understanding of a patient's baseline; and 3) key concerns and suggestions surrounding brevity and updating of information.

Characteristic	n (%)
Practice Setting	
Academic	11 (50%)
Academic & Community	11 (50%)
Professional Role	
Attending Physician	8 (36%)
Resident Physician	4 (18%)
Physician Assistant	8 (36%)
Nurse Practitioner	2 (9%)
Years Practicing Emergency Medicine (Range)	
Attending Physician	6 to 41
Resident Physician	1 to 4
Physician Assistant	2 to 17
Nurse Practitioner	1 to 10

TABLE 1: Demographics of Clinician Participants in a Qualitative Study of Emergency Clinicians' Perceptions of Communication Tools to Establish the Mental Baseline of Older Adults

Establishing baseline mental status

Participants used multiple sources to obtain information about a patient's baseline mental status, including the electronic medical record (EMR), remote or in-person conversations with family members and caregivers, reports from emergency medical services personnel, and for patients arriving from short- or long-term care facilities, transfer documentation or verbal reports by phone from referring health care providers. When asked what information they sought to determine an older adult's baseline mental status, participants' responses fell under four major categories related to both cognitive and functional status (Figure 1).

- 1) Communication: The patient's usual method of communication (verbal, written, facial expressions) and types of information able to communicate (yes/no questions, simple sentences, conversations)
- 2) Memory: The patient's short and long-term recall and presence of dementia
- 3) Activities of daily living (ADLs): The patient's performance of specific ADLs (shopping, toileting/bathing, feeding) independently vs. with assistance
- 4) Mobility: The patient's ability to ambulate and use assistive devices (cane, walker, wheelchair).

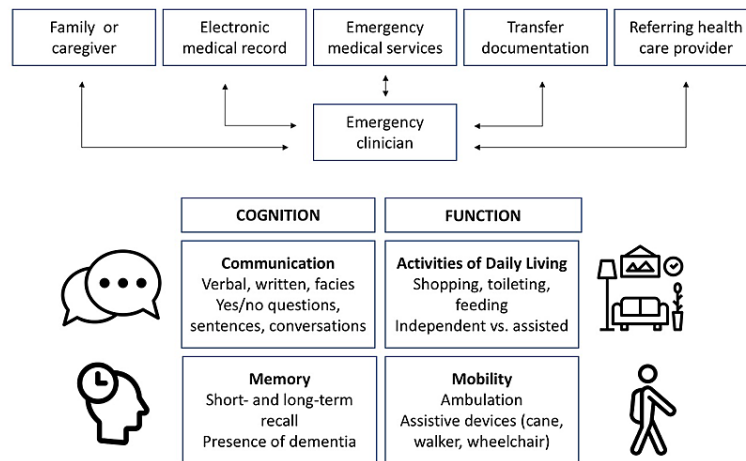


FIGURE 1: Sources of collateral information and information sought to establish baseline mental status

Perceived utility of a document

The majority of participants felt that a document with information about a patient's baseline mental status would be useful ($n=15$, 68%). The "This is me" packet, which the interviewer shared with participants, contains three pages of written information organized into multiple sections [16]. The content that participants identified as most valuable for emergency clinicians were related to communication, memory, mobility, and ability to perform ADLs, reflecting the categories they prioritized when trying to obtain information about a patient's mental status baseline. Participants felt that other information described in the "This is me" packet, such as cultural and religious affiliation, habits, triggers of anxiety, and calming measures would be more useful in the inpatient setting, though three participants voiced that such information could help with delirium prevention and management in the ED. Three participants also pointed out that as a whole, the document could help humanize an older adult by helping providers "better understand who they are as a person and as a patient" (Participant 117, attending physician). A minority of participants thought a document would not be useful ($n=3$, 14%), given emergency clinicians' time constraints, with two reflecting that a document like "This is me" would be "too long to be useful in the ED" (Participant 119, attending physician). Others qualified that they would find a document useful ($n=4$, 18%) only if brief and inclusive of key information that could be rapidly reviewed.

Perceived utility of a video

Most participants expressed that they would find a video depicting a patient's baseline mental status and neurological exam useful ($n=15$, 68%). Participants noted that EMRs did not always contain accurate or complete information about prior neurologic exams and that they could not rely on family members or caregivers to describe a patient's prior neurologic exam. Some suggested that capturing baseline speech and mobility on video would allow for rapid and objective comparison to a current ED presentation. For example, as one participant stated: "To the extent that the medical records can't be trusted, having an actual video recording of the patient would be certainly more reliable" (Participant 115, attending physician).

Some participants expressed uncertainty about whether they would find a video helpful ($n=6$, 27%), offering that the utility of the video would depend on whether included elements of the neurological exam were directly relevant to a patient's current ED presentation. They also expressed that they would find the video useful only if they were not able to obtain collateral information from a family member. One APP participant would not find a video useful and thought similar information could be obtained from other sources ($n=1$, 5%).

Key suggestions

Regarding both document and video options, participants emphasized that either would need to be brief and highlight high-yield information, given emergency clinicians' time constraints. Participants noted that a potential benefit of either tool was saving clinicians' time by having key information collated in one place, rather than necessitating that they "dig through the chart" (Participant 107, attending physician). Some suggested incorporation of a document or video into the EMR as a key report, similar to an advanced care planning tab. Participants recommended that reports or videos ought to be clearly dated and that content be periodically updated, given that changes in cognition occur over time, particularly among older adults with dementia. Further illustrative quotes for all themes are provided in Table 2.

Code	Theme	Quotation
Establishing baseline mental status	Cognition: communication and memory	"What they can communicate? How's their memory--if they remember short term things, if they remember long term things?" (Participant 111, attending physician) "Are they typically alert? Can tell you their name, date, year, where they are, all that stuff?" (Participant 123, physician assistant)
	Function: ADLs and mobility	"What their baseline is, again, is fundamental. What are they able to do, the ADLs [activities of daily living], what's their normal day like?" (Participant 105, nurse practitioner) "Do they have to use a walker, or do they climb stairs? Do they need a cane?" (Participant 109, resident physician)
Perceived utility of document or video	Potential to save clinician's time	"This is information that isn't always included in a chart or it's buried in Epic and three thousand different notes, you know. So it's actually hard to get to." (Participant 117, attending physician) "If I could see a video of what they're normally like for 30 seconds, I think that would eliminate a large fraction of what I'm trying to figure out from family. So it would be very helpful." (Participant 118, resident physician)
	Potential to facilitate comparison of current presentation to reliable or objective information about patient's baseline	"Our medical documentation is very, isn't that good. It's fine for like, extremities and heart and lungs, but it's not so good for neuro, especially mental status, as that's almost always barely mentioned, if at all." (Participant 111, attending physician) "To the extent that the medical records can't be trusted, having an actual video recording of the patient would be certainly more reliable." (Participant 115, attending physician) "I think a video would be super helpful...when it comes to patients that you're worried about stroke." (Participant 109, resident physician)
	Potential to humanize or allow for more holistic view of a patient	"I think it just also adds to the patient encounter, because oftentimes in the emergency department, we don't have time to ask them these personal questions. So it's nice to learn more about the patient." (Participant 125, physician assistant) "I think that would give you a fuller sense of...who the patient is." (Participant 117, attending physician)
Key suggestions and concerns	Brevity	"I think in the emergency department, having about 10 percent of the [This is Me] document would be helpful...a briefer version of that for the emergency setting would be great." (Participant 116, physician assistant) "Perhaps a more targeted or streamlined version of [This is Me] would be quite helpful." (Participant 124, physician assistant) "I wonder how many people would review that [a video] in a time crunch situation." (Participant 114, physician assistant) "That would be really helpful to [have] some kind of standardized question/answer, you know, quick--as quick as it could be to get all the elements." (Participant 111, attending physician)
	Dating videos and keeping information up to date	"I think it has the potential to be helpful if it's recent and timely and hits on the major points that you would need to be aware of, such as a memory or cognition." (Participant 117, attending physician) "My only worry would be that if somebody is in a subacute decline and the video is like a couple of months old...[If] that video was old and our deficit is small, that's not as big a deal, whereas if I'm deciding whether or not to give TPA to this person--and right now they can't form words fully, but it seems like a week ago they could, based on this video--like that would be very important." (Participant 109, resident physician)

TABLE 2: Illustrative Quotations for Selected Themes in a Qualitative Study of Emergency Clinicians' Perceptions of Communication Tools to Establish the Mental Baseline of Older Adults

Discussion

In this qualitative study, the majority of emergency clinicians viewed documents and videos depicting a patient's baseline mental status as useful adjuncts in evaluating older adults with altered mental status. The development and use of document- or video-based communication tools could have important implications for improving the detection of delirium, which goes undetected in at least two-thirds of ED cases [7,9]. To our knowledge, pre-recorded video of a patient has not previously been used to help clinicians identify delirium or dementia; this novel and pioneering approach could be promising given the recent rapid expansion and increased acceptability of telemedicine and video-based care during the COVID-19 pandemic [22].

Participants' emphasis on brevity as an essential feature of any communication tool reflects emergency clinicians' time constraints and competing priorities when evaluating older adults [3,7,9]. In light of such

challenges, the Geriatric Emergency Applied Research Network recommends that delirium detection measures should ideally not create significant time demands for emergency clinicians and nurses [7]. ED staff can perceive even brief geriatric screening exams that take less than one minute to perform as time-consuming and cognitively burdensome [23]. An important goal of a document or video would be saving clinicians' time by collating key information in one place, which could be facilitated through EMR report functions, topical tabs, or information "dashboards." A report in the EMR including key information about a patient's baseline mental and functional status could be designed, highlighting a patient's communication, memory, mobility, and ADLs, as prioritized by our participants. The Institute for Healthcare Improvement suggests a similar approach to incorporating the "4 Ms" of geriatrics (mentation, medications, mobility, what matters) into an EMR dashboard [24], and this strategy has been used to support interdisciplinary care for hospitalized older adults [25]. As interviewees also recognized, emergency and admitting teams do not often accurately document mental and cognitive status over - 60% of the time, as one study found [26] - making chart review a potentially unreliable source of information [1,10]. EMR dashboards have previously been shown to improve the accuracy of information conveyed and reduce medical errors in care handoffs [27]. Clear and succinct information about mental and functional status, whether in video or document format, could potentially help clinicians interpret and clarify information from other sources. Prior studies have shown that video messages can help emergency physicians and emergency medical services personnel clarify content in living wills and Physician Order of Life-Sustaining Treatment forms [17,18].

If document- or video-based interventions are developed to improve mental status evaluations of patients in the ED and within health systems more broadly, two topics raised by study participants merit further consideration. First, prioritizing content, specifically the key elements of a neurological or mental status examination that affect clinicians' decision-making, will be important. Expert working groups from national geriatric emergency medicine associations could help determine the utility of capturing tests of baseline attention, concentration, or a brief delirium triage screen on video. Special attention should be paid to the standardization of prioritized content, as variety in the structure of such tools could introduce cognitive biases that affect decision-making. Second, stakeholders including ED administrators, end-users, and information and technology services teams should inform the accessibility of document- or video-based tools. Incorporation of video or document adjuncts into the EMR could address participants' suggestions that information must be clearly dated and updated to allow robust comparison with a patient's ED presentation. End-users and geriatrics experts should be queried about ideal time points for updating communication tools, such as after a care transition and recovery following hospitalization. Given potential concerns over video storage and retrieval, a smartphone-accessible online platform represents an alternative feasible system [17,18,28]. One such system called My Informed Decision on Video (MIDEO), designed to communicate older adults' advanced care planning wishes, utilizes identification cards with QR codes allowing video retrieval in 10 seconds or less [28]. As MIDEO is external to the EMR, it is accessible across health systems and EMRs, and patients and caregivers can update video messages as their care priorities change [28]. Overall, future work should focus on how to make communication tools standardized, consistent, up to date, and relevant to ED clinical decision-making. Additional considerations which did not emerge from this study, but are nonetheless important, include but are not limited to patient consent and involvement in the generation of materials.

Limitations

This study relied on a convenience sample of volunteer participants from two urban academic hospitals and one academic-affiliated community hospital in the Northeast. Interviewees may have had a special interest in this topic and may not be representative of emergency clinicians within their institutions. Findings may not capture perspectives of emergency clinicians in rural community settings or other regions of the United States. We performed our study during the COVID-19 pandemic, and increased challenges in evaluating older adults during this time could have affected participants' interest in and perceived utility of communication tools. Additionally, while the strength of qualitative research is eliciting participants' perceptions and values about a topic, a larger-scale survey could provide information about the broader acceptability of communication tools and represents an important direction for future research. This study focused on emergency clinicians' perceptions of novel communication tools that have not been validated in clinical settings. Additionally, the proposed tools would require health system resources for generation, updating, and maintenance involving multiple other stakeholders such as primary care clinicians and information technologists, whose perspectives were not sought for this study and represent an area of future inquiry.

Conclusions

Evaluating older adults with changes in mental status in the ED poses challenges to clinicians, who must obtain collateral information from various sources to establish a patient's mental baseline and understand deviation from it. In our study, the majority of emergency clinicians interviewed perceived utility in a document or video depicting an older adult's baseline mental status. Such adjuncts could improve emergency clinicians' evaluations of geriatric patients while potentially enhancing their ability to detect delirium.

Additional Information

Disclosures

Human subjects: Consent was obtained or waived by all participants in this study. Partners Healthcare Institutional Review Board issued approval 2020P003925. This research was deemed exempt by the Partners Healthcare Institutional Review Board, Boston, MA (Protocol 2020P003925). **Animal subjects:** All authors have confirmed that this study did not involve animal subjects or tissue. **Conflicts of interest:** In compliance with the ICMJE uniform disclosure form, all authors declare the following: **Payment/services info:** ANC received funding support for this project from the Academy of Geriatric Emergency Medicine, Society of Academic Emergency Medicine. **Financial relationships:** All authors have declared that they have no financial relationships at present or within the previous three years with any organizations that might have an interest in the submitted work. **Other relationships:** ANC and ADN receive support from the Houston Veterans Administration Health Services Research and Development Center for Innovations in Quality, Effectiveness, and Safety (CIN13-413). CRC serves on the Society for Academic Emergency Medicine Board of Directors, the American College of Physicians (ACEP) Geriatric Emergency Department Accreditation (GEDA) Advisory Panel, the Geriatric Emergency Applied Research Network 2.0-Alzheimer's Dementia Research Core, and the Clin-STAR leadership core. SL serves on the ACEP Geriatric Emergency Medical Services Executive Board, is a reviewer for GEDA and an Executive Member of the IFEM Geriatric Emergency Medicine Special Interest Group, and was past-president of the Academy of Geriatric Emergency Medicine. MK serves on the ACEP GEDA Board of Governors. Otherwise, the authors declare no conflicts of interest.

References

- Hustey FM, Meldon SW: The prevalence and documentation of impaired mental status in elderly emergency department patients. *Ann Emerg Med.* 2002, 39:248-53. [10.1067/mem.2002.122057](https://doi.org/10.1067/mem.2002.122057)
- Han JH, Wilber ST: Altered mental status in older patients in the emergency department. *Clin Geriatr Med.* 2013, 29:101-36. [10.1016/j.cger.2012.09.005](https://doi.org/10.1016/j.cger.2012.09.005)
- Wilber ST: Altered mental status in older emergency department patients. *Emerg Med Clin North Am.* 2006, 24:299-316, vi. [10.1016/j.emc.2006.01.011](https://doi.org/10.1016/j.emc.2006.01.011)
- Wilber ST, Ondrejka JE: Altered mental status and delirium. *Emerg Med Clin North Am.* 2016, 34:649-65. [10.1016/j.emc.2016.04.012](https://doi.org/10.1016/j.emc.2016.04.012)
- Élie M, Rousseau F, Cole M, Primeau F, McCusker J, Bellavance F: Prevalence and detection of delirium in elderly emergency department patients. *Canadian Medical Association Journal.* 2000, 163:977-81.
- Han JH, Zimmerman EE, Cutler N, et al.: Delirium in older emergency department patients: recognition, risk factors, and psychomotor subtypes. *Acad Emerg Med.* 2009, 16:193-200. [10.1111/j.1553-2712.2008.00359.x](https://doi.org/10.1111/j.1553-2712.2008.00359.x)
- Carpenter CR, Hammouda N, Linton EA, et al.: Delirium prevention, detection, and treatment in emergency medicine settings: a geriatric emergency care applied research (GEAR) network scoping review and consensus statement. *Acad Emerg Med.* 2021, 28:19-35. [10.1111/acem.14166](https://doi.org/10.1111/acem.14166)
- Kakuma R, du Fort GG, Arsenault L, et al.: Delirium in older emergency department patients discharged home: effect on survival. *J Am Geriatr Soc.* 2003, 51:443-50. [10.1046/j.1532-5415.2003.51151.x](https://doi.org/10.1046/j.1532-5415.2003.51151.x)
- Kennedy M, Webb M, Gartaganis S, et al.: ED-DEL: development of a change package and toolkit for delirium in the emergency department. *J Am Coll Emerg Physicians Open.* 2021, 2:e12421. [10.1002/emp2.12421](https://doi.org/10.1002/emp2.12421)
- Carpenter CR, DesPain B, Keeling TN, Shah M, Rothenberger M: The six-item screener and AD8 for the detection of cognitive impairment in geriatric emergency department patients. *Ann Emerg Med.* 2011, 57:653-61. [10.1016/j.annemergmed.2010.06.560](https://doi.org/10.1016/j.annemergmed.2010.06.560)
- Shenvi C, Kennedy M, Austin CA, Wilson MP, Gerardi M, Schneider S: Managing delirium and agitation in the older emergency department patient: The ADEPT tool. *Ann Emerg Med.* 2020, 75:136-45. [10.1016/j.annemergmed.2019.07.023](https://doi.org/10.1016/j.annemergmed.2019.07.023)
- Han JH, Bryce SN, Ely EW, et al.: The effect of cognitive impairment on the accuracy of the presenting complaint and discharge instruction comprehension in older emergency department patients. *Ann Emerg Med.* 2011, 57:662-71.e2. [10.1016/j.annemergmed.2010.12.002](https://doi.org/10.1016/j.annemergmed.2010.12.002)
- Dyer AH, Nabeel S, Briggs R, O'Neill D, Kennelly SP: Cognitive assessment of older adults at the acute care interface: the informant history. *Postgrad Med J.* 2016, 92:255-9. [10.1136/postgradmedj-2015-133768](https://doi.org/10.1136/postgradmedj-2015-133768)
- Sabih A, Perry A, Weeks R, Malone L: Care of older adults in rural emergency departments during the COVID-19 pandemic. *J Geriatric Emerg Med.* 2020, 2:1-4.
- Kennedy M, Helfand BK, Gou RY, et al.: Delirium in older patients with COVID-19 presenting to the emergency department. *JAMA Netw Open.* 2020, 3:e2029540. [10.1001/jamanetworkopen.2020.29540](https://doi.org/10.1001/jamanetworkopen.2020.29540)
- Alzheimer's Society United Against Dementia, "This is me". (2020). Accessed: November 6, 2020: https://www.alzheimers.org.uk/sites/default/files/2020-03/this_is_me_1553.pdf.
- Mirarchi FL, Cooney TE, Venkat A, et al.: TRIAD VIII: nationwide multicenter evaluation to determine whether patient video testimonials can safely help ensure appropriate critical versus end-of-life care. *J Patient Saf.* 2017, 13:51-61. [10.1097/PTS.0000000000000357](https://doi.org/10.1097/PTS.0000000000000357)
- Mirarchi F, Cammarata C, Cooney TE, Juhasz K, Terman SA: TRIAD IX: can a patient testimonial safely help ensure prehospital appropriate critical versus end-of-life care?. *J Patient Saf.* 2021, 17:458-66. [10.1097/PTS.0000000000000387](https://doi.org/10.1097/PTS.0000000000000387)
- Kiger ME, Varpio L: Thematic analysis of qualitative data: AMEE Guide No. 151. *Med Teach.* 2020, 42:846-54. [10.1080/0142159X.2020.1755030](https://doi.org/10.1080/0142159X.2020.1755030)
- Guest G, Namey E, Chen M: A simple method to assess and report thematic saturation in qualitative research. *PLoS One.* 2020, 15:e0232076. [10.1371/journal.pone.0232076](https://doi.org/10.1371/journal.pone.0232076)
- O'Brien BC, Harris IB, Beckman TJ, Reed DA, Cook DA: Standards for reporting qualitative research: a synthesis of recommendations. *Acad Med.* 2014, 89:1245-51. [10.1097/ACM.0000000000000388](https://doi.org/10.1097/ACM.0000000000000388)
- Centers for Medicare & Medicaid Services, "Medicare Telemedicine Health Care Provider Fact Sheet".

- (2020). Accessed: June 9, 2021: <https://www.cms.gov/newsroom/fact-sheets/medicare-telemedicine-health-care-provider-fact-sheet>.
23. Elder NM, Bambach KS, Gregory ME, Gulker P, Southerland LT: Are geriatric screening tools too time consuming for the emergency department? A workflow time study. *J Geriatric Emerg Med.* 2021, 2:1-5.
 24. Age-Friendly Health Systems: Guide to Electronic Health Record Requirements for Adoption of the 4Ms . (2019). Accessed: June 15, 2021: http://www.ihl.org/Engage/Initiatives/Age-Friendly-Health-Systems/Documents/IHI_Age_Friendly_Health_Systems_EPIC_Impl...
 25. Schlientz DM, Wong S, Previll L, White H, Pavon J: Implementing plan-do-study-act to optimize access to inpatient electronic geriatrics patient health data. *J Am Geriatrics Soc.* 2020, 68:S133.
 26. Heidt JW, Carpenter CR: 259: occult cognitive impairment in admitted older emergency department patients is not identified by admitting services. *Annals Emerg Med.* 2009, 54:S81-2.
[10.1016/j.annemergmed.2009.06.289](https://doi.org/10.1016/j.annemergmed.2009.06.289)
 27. Wu DT, Deoghare S, Shan Z, Meganathan K, Blondon K: The potential role of dashboard use and navigation in reducing medical errors of an electronic health record system: a mixed-method simulation handoff study. *Health Syst (Basingstoke).* 2019, 8:203-14. [10.1080/20476965.2019.1620637](https://doi.org/10.1080/20476965.2019.1620637)
 28. MIDEO [My Informed Decision on Video], "MIDEO Card - Video Health Care Directives" . (2021). Accessed: May 30, 2021: <https://mideocard.com>.