Delirium in the Older Emergency Department Patient (ED-DEL)

Change Package and Toolkit

Courtesy of Alain McLaughlin, CPMC, Pacific Campus, San Francisco, CA

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Background and Rationale*

Delirium (also referred to as acute brain failure) is a neurologic emergency characterized by an acute decline in cognitive functioning. It is common and often the only presenting symptom of serious, even fatal, medical conditions, especially among older adults. It is a presenting condition for up to 30% of older adults in the emergency department (ED) *(Gower 2012)* and costs over $164 billion (2011 USD) per year in the United States *(Oh 2017)*. Only 24-35% of delirium cases are recognized, and nearly half of patients are discharged with little consideration of the seriousness of the delirium *(Gower 2012)*, which can lead to substantially increased mortality during the 6 months following ED discharge, 37% vs. 14% *(Han 2010, Kakuma 2003)*. Importantly, delirium prolongs ED length of stay, and hospital stay by a median of 2 days *(Kennedy 2014)*.

Delirium can present as hypoactive, hyperactive, or mixed psychomotor subtype. Hypoactive delirium is more common in older adults in the emergency department, is associated with a worse prognosis including increased risk of mortality, and is commonly missed by clinicians *(Han 2009)*. Older patients presenting with delirium are often quiet, withdrawn, or described as "not quite her usual self"; thus, it is important to consider delirium in older patients with any subdued change in mental status.

With the rapid aging of the U.S. population, delirium rates will continue to increase, and the ED setting represents a frequent point of presentation of older adults with this condition to the healthcare system. Incident delirium can also newly develop during an ED stay. As a preventable condition in 30-50% of cases *(Oh 2017)*, delirium holds substantial public health relevance as a target for interventions to prevent its associated burden of downstream complications and costs.

Purpose

This Change Package and Toolkit were created by Dr. Inouye and staff at the Marcus Institute of Aging Research and the Hospital Elder Life Program, with assistance from the Gary and Mary West Health Institute, as part of a research project to improve delirium recognition, prevention, and management in the ED setting and to pilot test the Change Package and Toolkit in three EDs. The purpose of this Change Package and Toolkit is to provide **a structured approach, change strategies, resources, and a step-by-step guide** to help you set up a Delirium Program in your ED.

The approach laid out in this Change Package is based loosely on the Institute for Healthcare Improvement's Breakthrough Series[1], and many quality improvement concepts were derived from the Model for Improvement[2]. The materials also include practical tools, resources to guide you in this process, and a reference bibliography. The resources provided are not intended to be comprehensive, but we hope will provide a starting point and handy reference guide as you establish and adapt your program. We hope you will share new resources you develop with us, so we can improve this Toolkit and help others in the future. Most of all, we hope you will find useful guidance, as well as inspiration in these pages.

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[1] IHI Innovation Series white paper. Boston: Institute for Healthcare Improvement, 2003
[2] Langley GL. The Improvement Guide: A Practical Approach to Enhancing Organizational Performance, 2009
*References in Bibliography (Appendix A)

Guide to Setting Up Your ED Delirium Program

Setting up a new program can be a daunting task. It becomes doable if you take things step-by-step with a roadmap (**Figure 1**). Here are some helpful tried-and-true steps:

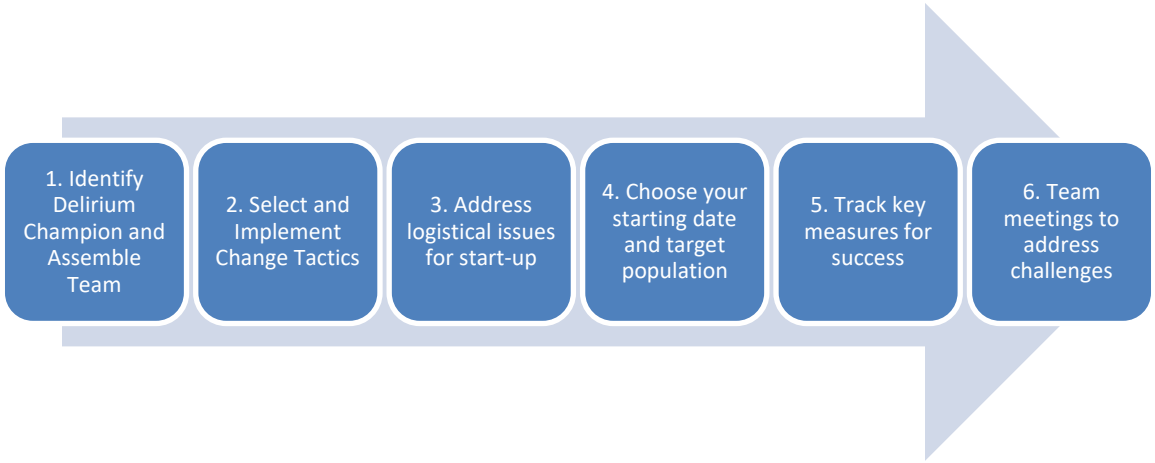
1. Identify your Delirium Champion and assemble your team. The best way to launch is to identify one or more Delirium Champion(s) to spearhead the program (see Toolkit for description). Assemble your team and organize regular meetings.
   - Gain buy-in from administrative leaders and the ED staff you will need to work with.
2. Review Change Package and Toolkit resources. Select your change tactics. Set your initial goals (see Change Tactics, Table 1) and timeline. Keep them realistic.
3. Address logistical issues: EHR adaptations, develop forms and tracking tools, train staff, provide educational materials, and obtain equipment.
4. Choose your starting date. Identify your target population (at-risk) and how they will be screened and handled.
5. Identify key measures to track for success.
6. Address questions and challenges at ongoing team meetings. Plan for sustainability from the start (see Sustainability Planning, below).

This Change Package and Toolkit will provide details and resources to guide you in the steps above. Assessing your organization's readiness for change can also be helpful as a starting point (See ORIC Survey, Pg. 43). Be sure to connect with administrative leaders in the ED, hospital, nursing and physician leadership, early on to gain their support for your roll-out.

ED Delirium Roadmap

Completing the steps of this Roadmap (**Figure 1**) will help you establish a successful program. Regardless of which Change Tactics you choose to start with, being intentional about following these steps will greatly enhance your chances of success. You may discover that some components of a Delirium Program are already in place, and thus, you may begin at various stages of the Roadmap. The general sequence of activities outlined below has proven successful previously for other initiatives of this type.

Figure 1. Overview of ED Delirium Roadmap



Step 1: Assemble your Delirium Team

Begin by identifying your ***Delirium Champions***. – We recommend that you select champions who work at different times of day to achieve 24-7 coverage if possible. The Delirium Champion is a healthcare professional (typically MD, RN, or SW) who has a commitment to quality improvement, knowledge about delirium, proactive leadership and communication skills, and a particular interest in improving care for older patients. The Champion will provide education, lead meetings, and spearhead the delirium program in the ED. For more details about this role, please review 'The Role of the Delirium Champion' in the toolkit.

An interdisciplinary team is the most effective strategy to achieve success in this program. It is valuable to include multiple care team members if possible—such as physicians, nurses, patient care associates/technicians, case managers or social workers, pharmacists, physical and occupational therapists, speech therapists, and others interested in delirium prevention. It is important to gain buy-in and engagement from administrative leaders (both ED and hospital leaders), as well as the ED staff. Administrative leaders are critical to helping allocate personnel and resources, remove barriers, and provide backing for the Delirium Program. Importantly, schedule regular meetings of your Delirium Team to get the initiative underway.

Step 2: Select the change tactics your team will be implementing

Review the Change Package (**Table 1**) and select your strategy, change concept, and change tactics to begin your initiative. Ideally, you will identify several change tactics your team would like to test or implement for your Delirium Program as a starting point. The aim is to set realistic initial goals along with a timeline and add more tactics over time. Note that in your program, there is no expectation all tactics need to be implemented to achieve positive outcomes. However, after full implementation, we do recommend you test your final program locally to assure effectiveness and to quantify your results. Consider small-scale testing using *Plan-Do-Study-Act or PDSA cycles* (see Toolkit for more details). This iterative, four-stage performance improvement model is used for improving a process or carrying out change. As improvement happens, gradually incorporate the new tactics to more patients until you are confident or there is evidence that the changes can be adopted more widely. While the PDSA approach is widely used, there are several different quality improvement models, and you should use the model that you feel most comfortable with.

The ED Delirium Change Package is organized into **strategies**, **change concepts**, **tactics**, and **tools/resources**. The strategies are presented sequentially since many successful programs have found it useful to begin with Strategy 1, then move to Strategy 2 and so on. If you are developing a new program, we recommend starting with tactics from Strategy 1, "Create engagement in prioritizing delirium as a part of ED care" or Strategy 2, "Assess delirium risk to target screening and management approaches in the ED." However, it is fine to proceed *in any order* based on your ED's priorities and resources.

Each **strategy** is supported by the change concepts and tactics. **Change concepts** are general approaches that are intended to stimulate creative and critical thinking and are further grounded in specific **tactics** that any organization can begin testing for the purposes of improving quality of care, improving health outcomes, and reducing costs of care. Lastly, when available, tools, resources, and measures are presented to give concrete examples of how to operationalize the tactics and measure progress towards goals. This Change Package should be seen as providing a starting point for this work. Sites can customize and adapt these strategies and tactics to their local circumstances and add their own materials to optimize the program. Further detail about the tools, resources, and measures can be found in the Appendices.

Table 1. ED Delirium Change Package

Strategies	Change Concepts	Change Tactics	Toolkit Resources (hyperlinks)
1 – Create engagement in prioritizing delirium as a part of ED care	Assess and enhance organizational readiness for change	• Hold meetings or focus groups with key leaders and staff • Use organizational readiness for implementing change survey to assess readiness and target areas for improvement	• Pg. 25 Plan-Do-Study-Act Cycle: A Model for Improvement • Pg. 28 Translating Research into Practice (TriP model) • Pg. 30 Organizational Readiness for Implementing Change (ORIC) Survey • Pg. 31 Summary Table: Outcome Measures to Track

	Engender buy-in and accountability from administrative and clinical leaders, and front-line staff*	• Enlist and prepare 'delirium champion(s)' to lead efforts in the ED
		• Educate staff and hospital leaders about the clinical, financial, and societal importance of prioritizing the issue of delirium recognition/prevention in ED
		• Educate staff about non-pharmacologic approaches to management of agitation in delirium
			• Pg. 33 The Role of the Delirium Champion
			• Pg. 48 Fact Check: Delirium in the ED
			• Pg. 53 Wall poster: 6 Proven Strategies to Prevent Delirium in Older Adults
			• Pg. 70 Brochure: Delirium in the Emergency Department
			• Pg. 36 Business Case
			  ○ Table: Costs Associated with Delirium
			  ○ Infographic
			  ○ Sample Slide Deck
			• Pg. 17 ED Delirium Toolkit: Bibliography
			• Pg. 51 The Geriatric Emergency Department Guidelines

2 – Assess delirium risk to target screening and management approaches in the ED	Evaluate delirium risk in each adult age 65 and older early in the person's ED stay, at triage or during the primary nurse assessment and identify next steps	• Risk-stratify according to predictive models; target moderate to high-risk patients for next steps • Educate all ED staff about approach • Monitor and ensure consistency of implementation	• Pg. 82 Predictive Model for Delirium Risk • Pg. 81 Identification of High-Risk Patients for Delirium
	In high-risk patients, screen for delirium using validated tools	• Determine feasible strategy for screening in at-risk patients and settings (e.g., Observation setting) • Apply cognitive testing and valid delirium instrument • Assess baseline mental status from family member, caregiver, or clinician	• Pg. 83 Summary Table of Delirium Instruments

Strategies	Change Concepts	Change Tactics	Toolkit Resources (hyperlinks)
3 – Evaluate at-risk and screen-positive ED patients with thorough, focused medical workup, including general and specific, targeted testing	Conduct thorough evaluation to identify underlying causes	• Perform history, physical and neurological examination, vital signs, O_2 saturation, and finger stick glucose • Assess history of alcohol and benzodiazepine usage • Conduct targeted laboratory evaluation, guided by the history and physical examination	• Pg. 95 Protocol for Delirium Assessment and Evaluation • Pg. 92 Recommendation Set Part 1: Assessment of "Altered Mental Status"
	Identify and address medications posing high risk for delirium	• Evaluate prescription medication listing and determine any recent changes • Assess all over-the-counter medication usage, including herbal and complementary and alternative approaches, as well as recreational substances (alcohol, cannabis, other) • Institute de-prescribing as appropriate	• Pg. 94 Beers List Criteria Pocket Card
4 – Implement prevention strategies for ED patients at highest risk for delirium and assure effective transitions of care	Apply effective non-pharmacologic approaches to prevent delirium (prioritized by anticipated ED stay)	• Use proven approaches to provide adequate nutrition and hydration, promote mobility and reduce tethers and alarms, maximize vision and hearing, provide orienting communication, and maintain sleep cycle. • Review medication list and reduce/minimize psychoactive medications • Encourage and facilitate the involvement of families and caregivers throughout ED stay	• Pg. 95 Protocol for Delirium Prevention and Treatment • Pg. 100 Recommendation Set Part 2: Prevention of Delirium • Pg. 102 Non-Pharmacological Interventions from the Hospital Elder Life Program
	Optimize communication and approaches to assure effective and safe transitions of care from ED to next site of care (e.g. home, inpatient, SNF, etc.)	• Communicate clearly to inpatient care providers about the presence of delirium in the patient, the risk of developing delirium, and the management strategies implemented • Use clear communication when transferring care from ED to home or care facility about delirium risk and management, with special education of patient, family, and caregivers about delirium	• Pg. 103 The Hospital Elder Life Program: One-Page Summary • Pg. 106 Be Prepared to Go Home Checklist • Pg. 69 Family Education: What is Delirium? • Pg. 73 How to Be an Effective Advocate for Aging Parents • Pg. 75 Navigating a Hospital Stay: A Guide for Caregivers and Patients with Cognitive Loss • Pg. 78 Family Education: Delirium Care After Discharge • Pg. 104 Transfer Checklist: ED to Inpatient

Strategies	Change Concepts	Change Tactics	Toolkit Resources (hyperlinks)
5 – Treat delirium using multi-modal and non-pharmacologic approaches, and if needed, appropriate use of medications following recommended guidelines	Use multi-pronged nonpharmacologic approach to management of delirium	• Apply multi-pronged approach. Non-pharmacologic approaches appropriate to improve sedation of hypoactive delirium and agitation with hyperactive delirium 1) Manage symptoms: relaxation and de-escalation procedures for agitation 2) Evaluate and treat underlying causes 3) Maintain mobility and functioning; avoid tethers, sit up in a chair, walk 4) Improve physical comfort: warmth, hunger, thirst 5) Decrease irritants: loud nose, bright lights, monitors, tethers 6) Provide orientation and stimulation: family presence, other companions	• Pg. 110 Agitation in the ED (TADA Approach) • Pg. 111 Recommendation Set Part 3: Management of Delirium
	Reserve pharmacologic approaches for treatment of delirium symptoms as last resort, using evidence-based protocols for treatment.	Use pharmacologic approaches cautiously only for severe agitation, where patient is a threat to themselves or others—using the lowest doses possible for the shortest duration possible	• Pg. 115 Role of the Clinical Pharmacist in the ED for Prevention and Management of Delirium

Step 3: Address logistical issues for start-up

The development of forms and tracking tools will be critical for the start-up of your program. As a first step, consider developing paper-based forms and tracking tools for your program. Before you fully implement forms and tracking tools into your IT systems, you should test them to make sure they work smoothly with your workflow. As the next step, you will want to work with your IT department to create necessary adaptations of the electronic order entry system, template notes and smart-phrases for the medical record, and automated reports to facilitate your program. Education and staff training will be essential to program implementation along with procuring necessary equipment and supplies. Also, communication through multiple vehicles e.g., huddles, staff meetings, brochures, emails, and hospital newsletters and social media will aid in program dissemination.

Step 4: Choose your starting date and identify your target population
Choose a starting date that allows adequate time for preparation, set up, education, engagement, and communication about the program. As you set up your program, you will need to address: Who, What, When, Where and How.

- **Who** will be responsible for screening for delirium risk (e.g., triage nurse versus primary ED nurse versus ED physician)
- **What**--Determine which ED patients you will target (high risk, long-stay, observation patients), and how they will be identified and tracked
- **When** will you start; allow enough time to set up and engage stakeholders
- **Where** during ED care will screening occur; attend to work-flow issues
- **How** will delirium be recorded and monitored

Step 5: Identify key measures to track for success
Why is measurement important? Tracking key measures is critical to "see" where you are, and to allow for improvement over time. Sharing results with your team and ED staff will allow you to celebrate successes as they occur and identify opportunities for improvement. Sharing results with your ED/hospital leadership will allow you to demonstrate progress towards your goals, and ultimately, facilitate the sustainability of the program.

Which measures you choose to track should be guided by considerations of your program capacity as well as ED priorities. **Table 2** presents some recommended measures to track the clinical process and outcomes.

It is important to note that some of the outcome measures are already tracked by your hospital. It will be helpful for you to coordinate with the departments that track these outcomes to obtain these measures on your specific patients, such as length of ED stay (hours/days) and ED discharge disposition. This will enable you to track these key outcomes and demonstrate the impact of your Delirium Program (for example: comparing a 3-month period before implementation to a 3-month period after implementation). Ideally, you will measure key processes and outcomes over time to detect trends. These data can also be used for internal benchmarking at your site. Key metrics include:

- ED and hospital length of stay, ED revisits, readmissions, hospital costs (Recommend meeting with your finance/billing team to fully understand what is needed to sustain the program; they'll be able to help you track this information.)
- Discharge destination and readmissions (may be tracked by care coordination)
- Falls and restraint use (may be tracked by your falls committee, risk management, patient safety, or quality improvement departments)

Table 2. Process and Outcome Measures to Track for ED Delirium Program

Domain	Measure and Definition	Rationale
Process Measures		
Delirium Risk Assessment	Percentage of patients age 65 and older screened for delirium risk during triage or clinical evaluation	Assessment for delirium risk is the essential first step to identify older adults at high risk for delirium and for whom the delirium prevention protocol is indicated
Delirium Prevention Protocol	Percentage of at-risk patients who had a delirium prevention protocol initiated.	Providing prompt non-pharmacologic intervention to patients at high risk reduces the likelihood of adverse delirium outcomes, including functional decline, increased ED LOS, hospital costs, falls, and death.[2]
Mobility	Percentage of at-risk patients who walked at least once per shift in ED	Mobility is a key intervention for prevention and management of delirium
Hydration	Percentage of at-risk patients who received appropriate hydration (IV or PO) in ED	Dehydration is a leading risk factor for delirium in the ED. Attending to patients' fluid and nutritional status is key to prevention.
Non-Pharmacologic Management of Delirium	Percentage of patients with delirium who were managed with evidence-based, proven non-pharmacologic approaches for delirium symptoms of sedation or agitation.	Non-pharmacologic management for delirium has demonstrated effectiveness for reducing agitation and delirium symptoms
Use of Beers Criteria medications	Percentage of at-risk patients who received Beers Criteria medications	Goal is to reduce the percentage. Beers criteria medications are potentially inappropriate medications for older adults and may increase the risk of delirium and other adverse outcomes.
Benzodiazepine Use	Percentage of patients with agitated delirium receiving a benzodiazepine (except in those with active benzodiazepine or alcohol use)	Goal is to reduce the percentage. Benzodiazepines increase the risk of delirium, functional/cognitive decline, falls, and other adverse outcomes in older adults.[5]
Antipsychotic Use	Percentage of patients with agitated delirium receiving an antipsychotic	Goal is to reduce the percentage. Antipsychotics are ineffective to treat delirium, may prolong delirium, increase the risk of functional/cognitive decline, falls, and other adverse outcomes in older adults.
Use of Beers Criteria medications	Percentage of at-risk patients who received Beers Criteria medications	Goal is to reduce the percentage. Beers criteria medications are potentially inappropriate medications for older adults and may increase the risk of delirium and other adverse outcomes. Consider seeking input from a clinical pharmacist.
Use of Physical Restraints and/or Bed-Chair Alarms	Percentage of patients at-risk or with delirium who were physically restrained or placed on an alarm at any time during ED stay	Goal is to reduce the percentage. Use of physical restraints (or bed/chair alarms) is a precipitating factor for delirium.[4]
Use of Sitters (Paid Companions)	Percentage of patients with delirium who required sitters during their stay in the ED	Goal is to optimize use. Use of sitters can provide non-pharmacological management and improve comfort and safety of patients. However, they can be substantial ED costs.

Security Calls/Code White	Percentage of patients requiring a Code White or security call during their ED stay	Goal is to reduce frequency of these events
Outcome Measures		
Emergency Department Length of Stay (LOS)	Number of hours/days spent in emergency department or observation unit	Goal is to reduce in most cases. Delirium increases ED LOS, and conversely, ED LOS greater than 10 hours is associated with a higher risk of delirium in older adults.[1] Note: In some circumstances, longer ED stay may be beneficial when it leads to discharge to hospital at home or home care resources and avoids hospitalization.
Emergency Department Discharge Disposition	Proportion of patients transferred to observation unit; transferred to floor; discharged home without services; discharged home with services; discharged to post-acute care or other setting	This measure allows for assessment of patient's status following ED visit.
Patient/Family Satisfaction with ED Care	Satisfaction surveys, questionnaires, complaints, letters	Goal is to improve patient/family satisfaction with care

Other measures to consider: % with new delirium; % transitional care received; % discharged with delirium

1. Bo M, et al. Length of Stay in the Emergency Department and Occurrence of Delirium in Older Medical Patients. J Am Geriatr Soc 2016;64(5):1114-9.
2. Josephson SA, et al. Quality Improvement in Neurology: Inpatient and Emergency Care Quality Measure Set: Executive Summary. Neurology 2017;89.
3. Inouye SK, et al. A Multicomponent Intervention to Prevent Delirium in Hospitalized Older Patients. N Engl J Med 1999;340:669-676.
4. Inouye SK, et al. Precipitating Factors for Delirium in Hospitalized Elderly Persons: Predictive Model and Interrelationship with Baseline Vulnerability. JAMA 1996;275(11):852-7.
5. American Geriatrics Society Beers Criteria Update Expert Panel. 2019 Updated AGS Beers Criteria for Potentially Inappropriate Medication Use in Older Adults. JAGS 2019;[Epub ahead of print]:1-21.

Step 6: Address challenges at team meetings and plan for sustainability

It is inevitable you will encounter questions and challenges during the course of your program. Addressing these in regularly scheduled team meetings is an effective strategy moving forward. The team can propose and implement action plans to address identified barriers and challenges. As you move forward with your program, we recommend planning for long-term sustainability from the start. This is important at every stage of the program. Continued measurement and ongoing comprehensive communication will help you to develop, refine, and sustain your program.

Continued Measurement. It will be important to continue to measure key clinical process and outcome measures. These data will help your Delirium Team make the case for continued support of the program at your ED.

Comprehensive, Regular Communication. Planning for sustainability is important at every stage of the program, and we would like to highlight some key considerations.

- Communicate regularly with your ED and hospital leaders.
- Track your process measures and results; we recommend presenting an Annual Report to your ED and hospital leadership.
- Publicize your program through ED/hospital communications, newsletters and websites, local and national media, conference presentations, awards and commendations.

Annual Report. An annual report is a useful tool to document your program's status, progress and achievements. It can be distributed to team members and collaborating clinicians to help build buy-in and engagement. It can be distributed to hospital administrators or other stakeholders to help advocate for your program, demonstrate quality improvement, and gain their continued recognition and support for your program. The annual report can take many formats, and there may be a preferred approach at your organization. Reach out to your ED/hospital leaders to find out what is preferred: some prefer a PowerPoint presentation; others prefer a written document; some will ask for both.

Some key aspects to include are:

- Description of your program:
- Goals of your program, and alignment with ED/hospital mission
- Structure of your program--leadership, staffing (numbers of each, dedicated FTEs)
- Number of at-risk patients for delirium served each year
- Process measures--give numbers and show improvement over time
- Key results of interest to your hospital (for example):
- Number of patients or proportion of all eligible patients with delirium prevention protocol implemented
- Decrease in ED falls
- Decrease in restraint or alarm use
- Decrease in benzodiazepine use
- Decreased length of ED stay
- Discharge location (e.g., timelier transition to inpatient setting, more discharges to home, less to post-acute care or nursing home)
- Improved patient and family satisfaction with care
- Decreases in ED costs (in collaboration with your hospital finance department)
- Qualitative feedback: Patient, Family, Staff testimonials and letters—which can provide compelling, powerful, and personal stories
- Overall summary of successes of your program during this reporting period

A draft version of this Change Package and Toolkit was piloted at four sites in 2020 and was used to inform revisions prior to Toolkit finalization. These sites were chosen to represent a range of ED environments, including urban, suburban, academic, and non-academic medical centers with varying annual ED volumes. Appendix B, Section X provides a summary of the pilot sites' qualitative feedback on their Toolkit implementation experience along with tips and lessons learned. A manuscript on the pilot results is currently under development.

Acknowledgments

This Change Package and Toolkit was developed by Dr. Sharon Inouye and staff at the Marcus Institute for Aging Research along with the Hospital Elder Life Program, the Gary and Mary West Health Institute's geriatric acute care research team, and the ED Delirium Expert Workgroup. We thank our collaborators for sharing their expertise, feedback and guidance in developing these delirium resources for the ED.

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Appendix A:
ED Delirium Bibliography

Overview

The following bibliography includes references that may also assist you in implementing a delirium program in the emergency department at your hospital. Consider these references as you gather the critical evidence necessary to justify your program and make your case to hospital leaders. While this bibliography is not intended to be comprehensive, it provides a general overview and important background to help with the launch of your program.

Below you will find links to PubMed abstracts or PubMed Central (PMC) full text when available.

Appendix A: ED Delirium Bibliography

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Change Management: Background and References for Creating Change

- Institute for Healthcare Improvement Model for Improvement.
    - Available at: http://www.ihi.org/resources/Pages/HowtoImprove/default.aspx
- American Society for Quality Plan-Do-Check-Act (PDCA) Cycle:
    - Available at: https://asq.org/quality-resources/pdca-cycle
- Pronovost PJ, Berenholtz SM, Needham DM. Translating evidence into practice: a model for large scale knowledge translation. BMJ 2008;337:a1714.
    - PubMed: https://www.ncbi.nlm.nih.gov/pubmed/18838424
- Shea CM, Jacobs SR, Esserman DA, Bruce K, Weiner BJ. Organizational Readiness for Implementing Change: A Psychometric Assessment of a New Measure. Implementation Science 2014;9:7.
    - PubMed (full text): https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3904699/

Background References on Delirium

- Kennedy M, Helfand BKI, Gou RY, et al. Delirium in Older Patients with COVID-19 Presenting to the Emergency Department. JAMA Netw Open. 2020;3(11):e2029540. doi:10.1001/jamanetworkopen.2020.29540.
    - PubMed: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7677760/
- Perry A, Macias Tejada J, Melady D. An Approach to the Older Patient in the Emergency Department. Clinical Geriatric Medicine 2018;34:299-311.
    - PubMed: https://www.ncbi.nlm.nih.gov/pubmed/30031418
- Han JH, Suyama J. Delirium and Dementia. Clinical Geriatric Medicine 2018;34:327-54.
    - PubMed: https://www.ncbi.nlm.nih.gov/pubmed/30031420
- Sinvani L, Kozikowski A, Pekmezaris R, Akerman M, Wolf-Klein G. Delirium: A Survey of Healthcare Professionals' Knowledge, Beliefs, and Practices. J Am Geriatr Soc. 2016 Dec;64(12):e297-e303. doi: 10.1111/jgs.14544. Epub 2016 Nov 23. PMID: 27879983.
    - PubMed: https://pubmed.ncbi.nlm.nih.gov/27879983/
- Gower LEJ, O'Keefe Gatewood M, Kang CS. Emergency Department Management of Delirium in the Elderly. Western Journal of Emergency Medicine 2012;13:194-201.
    - PubMed (full text): https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3415810/
- Oh ES, Fong TG, Hshieh TT, Inouye SK. Delirium in Older Persons: Advances in Diagnosis and Treatment. JAMA 2017;318:1161-74.
    - PubMed: https://www.ncbi.nlm.nih.gov/pubmed/28973626
- Marcantonio, ER. Delirium in Hospitalized Older Adults. New England Journal of Medicine 2017;377:1456-66.
    - PubMed (full text): https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5706782/

Selected Delirium Guidelines (2014 – 2020)

- American College of Emergency Physicians. Assess, Diagnose, Evaluate, Prevent, Treat (ADEPT) Tool (2018).

    The ADEPT tool includes guidelines for assessment, diagnosis, evaluation, prevention, and treatment of confusion and agitation in the elderly emergency department patient. The tool provides specific interventions with supporting literature for each section of the guidelines.

    - Available at: https://acep.org/adept

- American College of Emergency Physicians, American Geriatrics Society, Emergency Nurses Association, Society for Academic Emergency Medicine. The Geriatric Emergency Department Guidelines (2014).

    The Geriatric Emergency Department Guidelines provide a full set of recommendations on transforming the emergency department to provide higher quality care to older adults. See pages 28-34 for details on delirium.

    - Available at: http://www.saem.org/agem/resources/geriatric-ed-guidelines

- National Institute for Health and Care Excellence. Delirium in Adults (2014).

  The recommendations in the NICE guideline cover the care of adults (18 and older) with, or at risk of, delirium in hospital and in long-term residential care or a nursing home. The guidelines describe methods of preventing, identifying, diagnosing, and managing delirium.

  - Available at: https://www.nice.org.uk/guidance/qs63

- Australian Commission on Safety and Quality in Health Care. Delirium Clinical Care Standard (2016).

  The Delirium Clinical Care Standard is one of several clinical care standards developed by the Australian Commission on Safety and Quality in Healthcare. The standard was developed by a working group of clinicians, researchers, and consumers using current evidence from standards and guidelines, evidence gaps in the scientific literature, and consideration of issues that are important to consumers.

  - Available at: https://www.safetyandquality.gov.au/our-work/clinical-care-standards/delirium-clinical-care-standard/

- American Geriatrics Society, American College of Surgeons. Clinical Practice Guideline for Post-Operative Delirium in Older Adults (2014).

  The Clinical Practice Guideline for Post-Operative Delirium in Older Adults includes recommendations to improve clinical care based on literature that includes surgical and non-surgical cohorts. The guideline addresses both non-pharmacologic and pharmacologic interventions to prevent and treat delirium.

  - Available at: https://geriatricscareonline.org/ProductAbstract/american-geriatrics-society-clinical-practice-guideline-for-postoperative-delirium-in-older-adults/CL018

Outcomes Associated with Delirium in the ED

- Israni J, Lesser A, Kent T, Ko K. Delirium as a Predictor of Mortality in US Medicare Beneficiaries Discharged from the Emergency Department: a National Claims-Level Analysis Up to 12 Months. BMJ Open 2018;8:e021258.
  - PubMed (full text): https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5942463/
- Han JH, Shintani A, Eden S, et al. Delirium in the Emergency Department: An Independent Predictor of Death within 6 Months. Annals of Emergency Medicine 2010;56:244-52.
  - PubMed: https://www.ncbi.nlm.nih.gov/pubmed/20363527
- Emond M, Boucher V, Carmichael P-H, et al. Incidence of Delirium in the Canadian Emergency Department and its Consequences on hospital length of stay: a prospective observational multicenter cohort study. BMJ Open 2018;8:e018190.
  - PubMed: https://www.ncbi.nlm.nih.gov/pubmed/29523559
- Han JH, Eden S, Shintani A, et al. Delirium in Older Emergency Department Patients is an Independent Predictor of Hospital Length of Stay. Academic Emergency Medicine 2011;18:451-7.
  - PubMed: https://www.ncbi.nlm.nih.gov/pubmed/21521405
- Han JH, Vasilevskis EE, Chandrasekhar R, Liu X, Schnelle JF, Dittus RS, Ely EW. Delirium in the Emergency Department and Its Extension into Hospitalization (DELINEATE) Study: Effect on 6-month function and cognition. Journal of the American Geriatrics Society 2017;65:1333-8.
  - PubMed (full text): https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5478452/
- Kakuma R, du Fort GG, Arsenault L, Perrault A, Platt RW, Monette J, Moride Y, Wolfson C. Delirium in older emergency department patients discharged home: effect on survival. J Am Geriatr Soc 2003;51(4):443-450.
  - PubMed: https://www.ncbi.nlm.nih.gov/pubmed/12657062
- Josephson SA, Ferro J, Cohen A, Webb A, Lee E, Vespa PM. Quality Improvement in Neurology: Inpatient and Emergency Care Quality Measure Set: Executive Summary. Neurology 2017;89(7):730-735.
  - PubMed: https://www.ncbi.nlm.nih.gov/pubmed/28733339

Screening and Diagnosis of Delirium

- Tamune H, Yasugi D. How can we identify patients with delirium in the emergency department? A review of available screening and diagnostic tools. American Journal of Emergency Medicine 2017;35:1332-4.
    - PubMed: https://www.ncbi.nlm.nih.gov/pubmed/28571901
- LaMantia MA, Messina FC, Hobgood CD, Miller DK. Screening for Delirium in the Emergency Department: A Systematic Review. Annals of Emergency Medicine 2014;63:551-60.
    - PubMed: https://www.ncbi.nlm.nih.gov/pubmed/24355431
- De J, Wand APF. Delirium Screening: A Systematic Review of Delirium Screening Tools in Hospitalized Patients. Gerontologist 2015;55:1079-99.
    - PubMed: https://www.ncbi.nlm.nih.gov/pubmed/26543179
- Delaney M, Pepin J, Somes J. Emergency Department Delirium Screening Improves Care and Reduces Revisits for the Older Adult Patient. Journal of Emergency Nursing 2015;41:521-4.
    - PubMed: https://www.ncbi.nlm.nih.gov/pubmed/26409656/
- Han JH, Schnelle JF, Ely EW. The Relationship Between a Chief Complaint of "Altered Mental Status" and Delirium in Older Emergency Department Patients. Academic Emergency Medicine 2014;21:937-40.
    - PubMed: https://www.ncbi.nlm.nih.gov/pubmed/25154589

Determining Risk for Delirium and Prediction Models

- Kennedy M, Enander RA, Tadiri SP, Wolfe RE, Shapiro NI, Marcantonio ER. Delirium Risk Prediction, Health Care Utilization and Mortality of Elderly Emergency Department Patients. Journal of the American Geriatrics Society 2014;62:462-9.
    - PubMed (full text): https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3959285/
- Han JH, Zimmerman EE, Cutler N, et al. Delirium in Older Emergency Department Patients: Recognition, Risk Factors, and Psychomotor Subtypes. Academic Emergency Medicine 2009;16:193-200.
    - PubMed (full text): https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5015887/
- Lindroth H, Bratzke L, Purvis S, et al. Systematic Review of prediction models for delirium in the older adult inpatient. BMJ Open 2018;8:e019223.
    - PubMed: https://www.ncbi.nlm.nih.gov/pubmed/29705752
- Pendlebury ST, Lovett NG, Smith SC, Wharton R, Rothwell PM. Delirium risk stratification in consecutive unselected admissions to acute medicine: Validation of a susceptibility score based on factors identified externally in pooled data for use at entry to the acute care pathway. Age and Ageing 2017;46:226-31.
    - PubMed (full text): https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5386005/

Prevention of Delirium

- Hshieh TT, Yue J, Oh E, Puelle M, Dowal S, Travison T, Inouye SK. Effectiveness of multicomponent nonpharmacological delirium interventions: a meta-analysis. JAMA Internal Medicine 2015;175:512-20.
    - PubMed (full text): https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4388802/
- Schnitker L, Martin-Khan M, Beattie E, Gray L. What is the Evidence to Guide Best Practice for the Management of Older People with Cognitive Impairment Presenting to Emergency Departments? A Systematic Review. Advanced Emergency Nursing Journal 2013;35(2):154-69.
    - PubMed: https://www.ncbi.nlm.nih.gov/pubmed/23636047
- Inouye SK, Bogardus ST, Charpentier PA, Leo-Summers L, Acampora D, Holford TR, Cooney LM. A Multicomponent Intervention to Prevent Delirium in Hospitalized Older Patients. New England Journal of Medicine 1999;340:669-76.
    - PubMed: https://www.ncbi.nlm.nih.gov/pubmed/10053175

- Sanon M, Baumlin KM, Kaplan SS, Grudzen CR. Care and Respect for Elders in Emergencies Program: A Preliminary Report of a Volunteer Approach to Enhance Care in the Emergency Department. Journal of the American Geriatrics Society 2014;62:365-70.
    - PubMed: https://www.ncbi.nlm.nih.gov/pubmed/24428229
- Hullick C, Conway J, Higgins I, Hewitt J, Stewart B, Dilworth S, Attia J. An assistant workforce to improve screening rates and quality of care for older patients in the emergency department: findings of a pre- post, mixed methods study. BMC Geriatrics 2018;18:126.
    - PubMed (full text): https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5975558/

Treatment of Delirium

- Rosen R, Connors S, Clark S, et al. Assessment and Management of Delirium in Older Adults in the Emergency Department: Literature Review to Inform Development of a Novel Clinical Protocol. Advanced Emergency Nursing Journal 2015;37:183-E3.
    - PubMed (full text): https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4633298/
- Neufeld KJ, Yue J, Robinson TN, Inouye SK, Needham DM. Antipsychotics for Prevention and Treatment of Delirium in Hospitalized Adults: A Systematic Review and Meta-Analysis. Journal of the American Geriatrics Society 2016;64:705-14.
    - PubMed (full text): https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4840067/
- Inouye SK, Marcantonio ER, Metzger ED. Doing Damage in Delirium: The Hazards of Antipsychotic Treatment in Elderly Persons. Lancet Psychiatry 2014;1:312-5.
    - PubMed (full text): https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4180215/
- Girard TD, Exline MC, Carson SS, et al. Haloperidol and Ziprasidone for Treatment of Delirium in Critical Illness. New England Journal of Medicine 2018;379:2506-16.
    - PubMed: https://www.ncbi.nlm.nih.gov/pubmed/30346242
- Page VJ, Ely EW, Gates S, et al. Efficacy and Intravenous Haloperidol on the Duration of Delirium and Coma in Critically Ill Patients (Hope-ICU): a Randomised Placebo-Controlled Trial. Lancet Respiratory Medicine 2013;1:515-23.
    - PubMed (full text): https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4730945/

Transitions of Care in Delirious Patients

- Hwang U, Dresden SM, Rosenberg MS, et al. Geriatric Emergency Department Innovations: Transitional Care Nurses and Hospital Use. Journal of the American Geriatrics Society 2018;66:459-66.
    - PubMed: https://www.ncbi.nlm.nih.gov/pubmed/29318583
- Hsieh SJ, Madahar P, Hope AA, Zapata J, Gong MN. Clinical deterioration in older adults with delirium during early hospitalization: a prospective cohort study. BMJ Open 2015;5:e007496.
    - PubMed: https://www.ncbi.nlm.nih.gov/pubmed/26353866
- 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. Annals of Emergency Medicine 2011;57:662-71.
    - PubMed: https://www.ncbi.nlm.nih.gov/pubmed/21272958
- Burton JK, Guthrie B, Hapca SM, Cvoro V, Donnan PT, Reynish EL. Living at home after emergency hospital admission: prospective cohort study in older adults with and without cognitive spectrum disorder. BMC Medicine 2018;16:231.
    - PubMed: https://www.ncbi.nlm.nih.gov/pubmed/30526577

- Milano A, Stankewicz H, Stoltzfus J, Salen P. The Impact of a Standardized Checklist on Transition of Care during Emergency Department Resident Physician Change of Shift. Western Journal of Emergency Medicine 2018;20:29-34.
    - PubMed: https://www.ncbi.nlm.nih.gov/pubmed/30643598

Medications and Delirium

- The 2019 American Geriatrics Society Beers Criteria Update Expert Panel. American Geriatrics Society 2019 Updated AGS Beers Criteria for Potentially Inappropriate Medication Use in Older Adults. Journal of the American Geriatrics Society 2019;[Epub ahead of print]:1-21.
    - PubMed: https://www.ncbi.nlm.nih.gov/pubmed/30693946
- Dresden SM, Allen K, Lyden AE. Common Medication Management Approaches for Older Adults in the Emergency Department. Clinical Geriatric Medicine 2018;34:415-33.
    - PubMed: https://www.ncbi.nlm.nih.gov/pubmed/30031425
- Hein C, Forgues A, Piau A, Sommet A, Vellas B, Nourhashémi F. Impact of Polypharmacy on Occurrence of Delirium in Elderly Emergency Patients. JAMDA 2014;15:850.e11-e.15.
    - PubMed: https://www.ncbi.nlm.nih.gov/pubmed/25405712
- Van Velthuijsen EL, Zwakhalen SMG, Pijpers E, et al. Effects of a Medication Review on Delirium in Older Hospitalised Patients: A Comparative Retrospective Cohort Study. Drugs Aging 2018;35:153-61.
    - PubMed: https://www.ncbi.nlm.nih.gov/pubmed/29396715
- Frank C, Weir E. Deprescribing for Older Patients. Canadian Medical Association Journal 2014;186:1369-76.
    - PubMed: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4259770/



Appendix B: ED Delirium Toolkit

How to Use this Toolkit:

This Toolkit is designed to be used in conjunction with the ED Delirium Change Package (Table 1). After reviewing the Change Package, most sites choose several Change Tactics as a starting point. This Toolkit provides resources and examples to guide you. We recommend reviewing the resources for the Change Tactic you have selected, to provide some preliminary ideas as you implement your program. While not intended to be comprehensive, we hope this Toolkit will provide a starting point as you initiate your change process. We realize that these may need to be adapted to your local circumstances.

General background information on delirium can be found in the Bibliography and in many resources in the attached Toolkit. In particular, the "Making the Case for your Program" (PPT), "Business Case Infographic", "Fact Check: Delirium in the ED" all provide useful background information for you to educate your hospital administration to support your program.

If you do create new resources, we hope you will share them with us, so that we can improve the Toolkit that will ultimately benefit others in the future.

Wishing you success on your ED Delirium journey!

Appendix B: ED Delirium Toolkit
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Section I. Change Management Tools

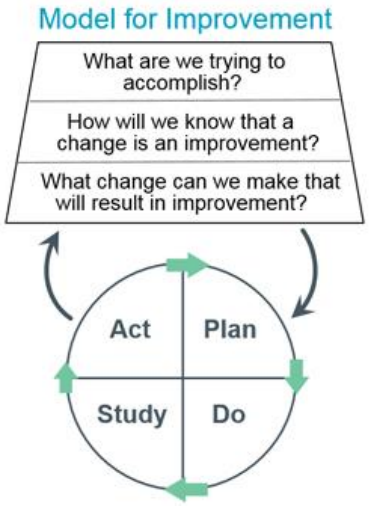
Resource 1-A: Science of Improvement: Testing Changes

Model for improvement: Plan-Do-Study-Act (PDSA) Cycles

The PDSA cycle is a framework that is recommended as you begin to implement change in your Emergency Department. Once a team has set an aim, established its members, and developed measures to determine whether a change leads to an improvement, the next step is to test a change in the real work setting. The Plan-Do-Study-Act (PDSA) cycle is shorthand for testing a change — by planning it, trying it, observing the results, and acting on what is learned. This is the scientific method, used for action-oriented learning.

Reasons to Test Changes:

- To increase your belief that the change will result in improvement.
- To decide which of several proposed changes will lead to the desired improvement.
- To evaluate how much improvement can be expected from the change.
- To decide whether the proposed change will work in the actual environment of interest.
- To decide which combinations of changes will have the desired effects on the important measures of quality.
- To evaluate costs, social impact, and side effects from a proposed change.
- To minimize resistance upon implementation.



Steps in the PDSA Cycle:

Step 1: Plan

Plan the test or observation, including a plan for collecting data.

- State the objective of the test.
- Make predictions about what will happen and why.
- Develop a plan to test the change. (Who? What? When? Where? What data need to be collected?)

Step 2: Do

Try out the test on a small scale.

- Carry out the test.
- Document problems and unexpected observations.
- Begin analysis of the data.

Step 3: Study

Set aside time to analyze the data and study the results.

- Complete the analysis of the data.
- Compare the data to your predictions.
- Summarize and reflect on what was learned.

Step 4: Act

Refine the change, based on what was learned from the test.

- Determine what modifications should be made.
- Prepare a plan for the next test.

More information and resources on the PDSA cycle available at: http://www.ihi.org/resources/Pages/HowtoImprove/default.aspx

Section I. Change Management Tools
Resource I-A: Science of Improvement: Testing Changes

Example of a Test Change (Plan-Do-Study-Act Cycle)

Depending on their aim, teams choose promising changes and use Plan-Do-Study-Act (PDSA) cycles to test a change quickly on a small scale, see how it works, and refine the change as necessary before implementing it on a broader scale. The following example shows how a team started with a small-scale test for delirium training.

- **Plan:** Train one nurse in how to use the Confusion Assessment Method for delirium detection in the ED.
- **Do:** The nurse was given training videos and a training manual.
- **Study:** The nurse identified two cases of delirium that were confirmed by a geriatrician's diagnosis.
- **Act:** Training will be completed by all nurses on the floor.

The next example shows how a team completed the PDSA cycle on a larger scale, adapted from Dr. Ula Hwang at the Icahn School of Medicine at Mount Sinai, NY:

Section I. Change Management Tools

Resource I-A: Science of Improvement: Template: PDSA Short Form

Date: _____
Change Idea: _____
PDSA#: _____

Objective (What question(s) do we want to answer?):

_____

1) Plan: "What will happen if we try something different?"

- What will you do? When and where will you do it? Who will do it?
- What data will you collect and how will you collect it?
- What do you predict will happen?

Response:

2) Do: "Let's try it."

- Run the test: Carry out the plan. Collect and record the data.

Response:

3) Study: "What happened?"

- Did the test go as planned?
- What did you learn?
- Was your prediction right or wrong?

Response:

4) Act: "What's next?"

- Adapt? Adopt? Abandon? Run again?

Response:

Section I. Change Management Tools

Resource I-B: TriP Framework Summary

The Translating Research into Practice (TriP) model for change management is a framework composed of four phases: 1. develop an evidence-based intervention, 2. identify barriers to implementation, 3. measure performance, and 4. ensure that all patients receive the intervention (See diagram below).

First Phase: Develop an evidence-based intervention

- Identify interventions associated with improved outcomes
- Select interventions with the largest benefit and lowest burden

Second Phase: Identify barriers to implementation

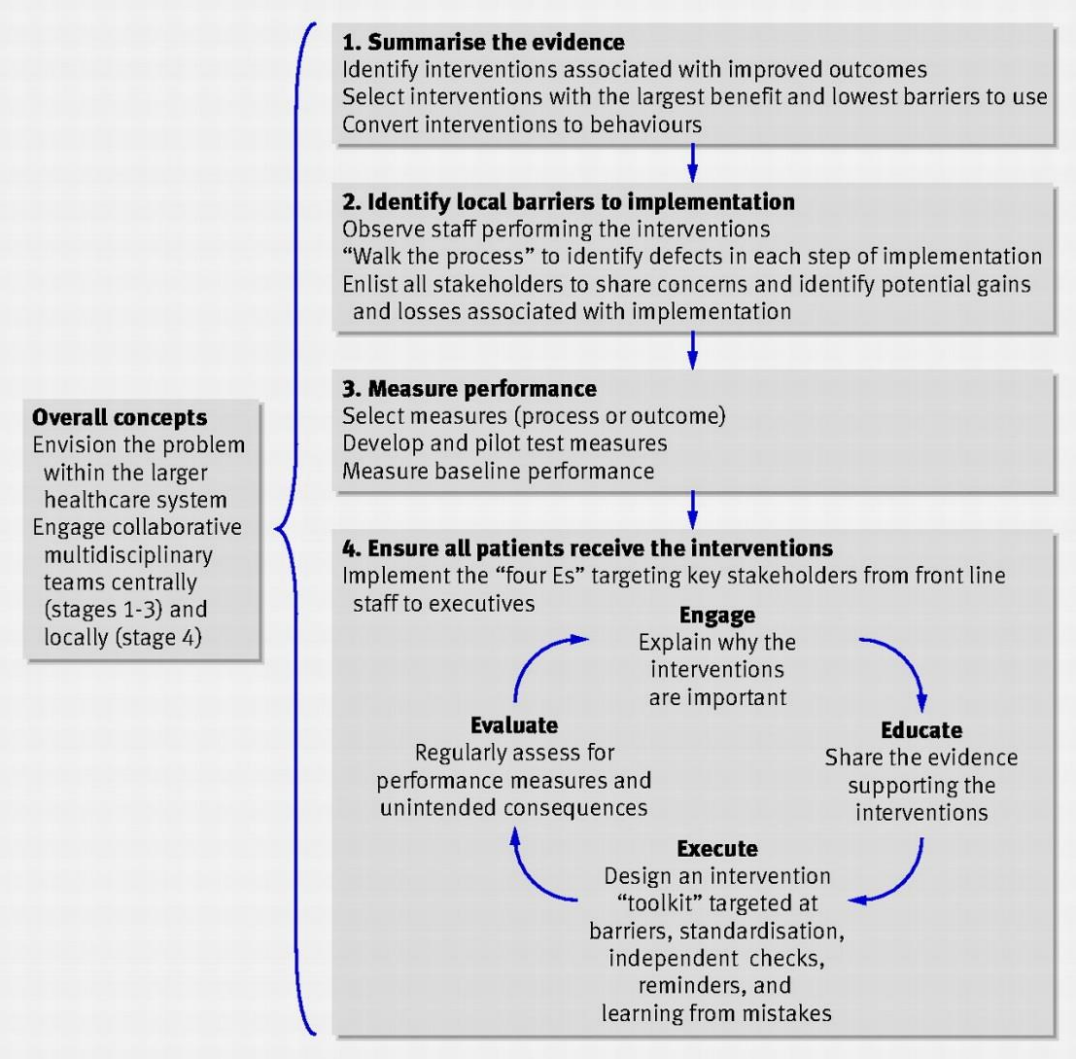
- Engage with a variety of stakeholders to understand what will make compliance easier and more efficient

Third phase: Measure performance

- Gather data on adherence and patient outcomes to gain critical insight on interventions effectiveness

Fourth phase: Ensure that all patients receive the intervention*

- Ensures the new intervention improved care quality and becomes integrated into local hospital culture
- Implement the "Four E's" (see Figure)

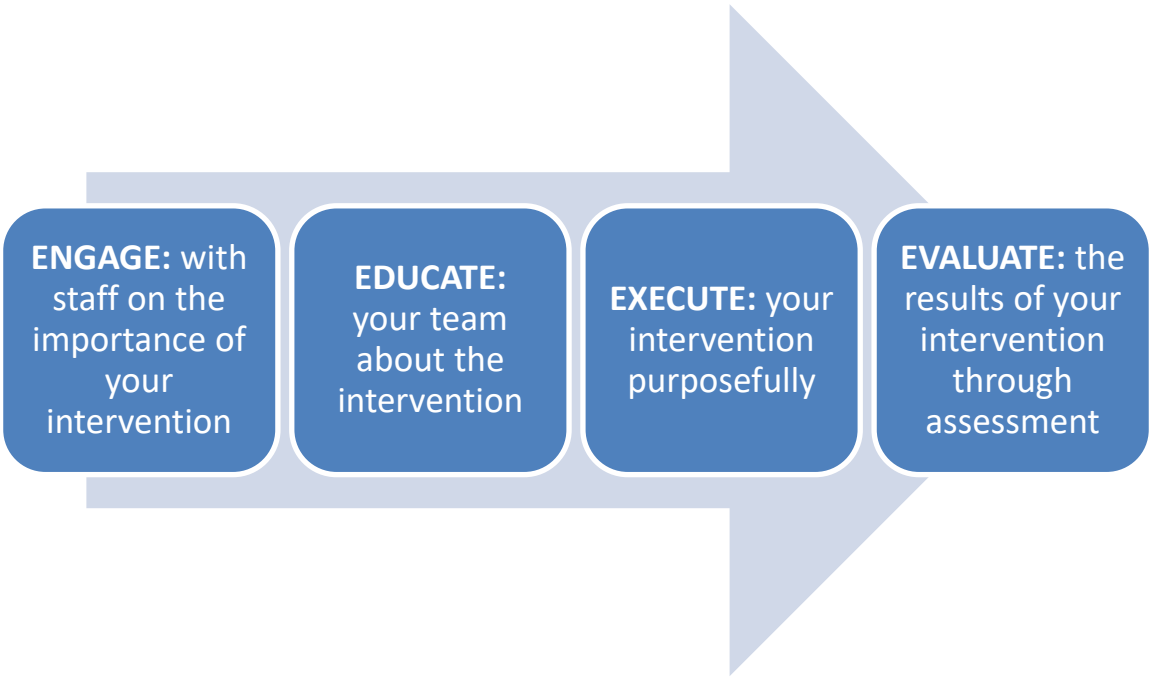


Reproduced from [Pronovost P, et al. Translating Evidence into Practice: A Model for Large Scale Knowledge Translation. BMJ 2008;337:a1714] with permission from BMJ Publishing Group Ltd.

Section I. Change Management Tools
Resource I-B: TriP Framework Summary (cont.):

The Four E's

The Four E's comprise Step 4 of the TriP Framework (above). These steps will enhance your implementation to ensure that all patients receive the interventions. To do so, staff must be thoroughly engaged with the intervention and understand its importance. The key initial step is education about all components of the intervention and their importance. The intervention must be executed purposefully to ensure adherence. Evaluation will provide regular checks that the intervention is meeting its goals and outcomes.



Reference: Early Mobility Toolkit: Your Work Plan for Translating Evidence into Practice. Johns Hopkins Medicine, Armstrong Institute for Patient Safety and Quality.
https://cdn.community360.net/app/jh/VAP/resources_e/Early_Mobility_Toolkit%206.10.14nr.docx

Section I. Change Management Tools

Resource I-C: Organizational Readiness for Implementing Change (ORIC) Survey

The Organizational Readiness for Implementing Change Survey is a way to assess if your organization is ready to implement a change. If your organization has low readiness to change, it may be beneficial to spend additional time focusing on gaining buy-in from staff and administration before implementing your planned program.

Please indicate the extent you agree or disagree with the following statements and repeat these measures each month.

Note: 1 = Disagree; 2 = Somewhat Disagree; 3 = Neither Agree nor Disagree; 4 = Somewhat Agree; 5 = Agree.

Statement	**Agreement Level**
1. People who work here feel confident that the organization can get people invested in implementing this change.	
2. People who work here are committed to implementing this change.	
3. People who work here feel confident that they can keep track of progress in implementing this change.	
4. People who work here will do whatever it takes to implement this change.	
5. People who work here feel confident that the organization can support people as they adjust to this change.	
6. People who work here want to implement this change.	
7. People who work here feel confident that they can keep the momentum going in implementing this change.	
8. People who work here feel confident that they can handle the challenges that might arise in implementing this change.	
9. People who work here are determined to implement this change.	
10. People who work here feel confident that they can coordinate tasks so that implementation goes smoothly.	
11. People who work here are motivated to implement this change.	
12. People who work here feel confident that they can manage the politics of implementing this change.	
Total	

Total scores can range from 12-60. Higher scores indicate greater organizational readiness to implement a mobility program.

Shea CM et al. Organizational readiness for implementing change: a psychometric assessment of a new measure. Implementation Science. 2014; 9:7. Used under Creative Commons Attribution License (CC by 2.0).

Section I. Change Management Tools

Resource I-D: Process and Outcome Measures to Track for ED Delirium Program

The process and outcome measures listed below are provided as examples of measures that you may want to track for your program. You should choose 1-2 process and outcome measures to track as you implement your program. These measures will be useful to include in any communication with hospital leadership and in your Annual Report.

Domain	Measure and Definition	Rationale
Process Measures		
Delirium Risk Assessment	Percentage of patients age 65 and older screened for delirium risk during triage or clinical evaluation	Assessment for delirium risk is the essential first step to identify older adults at high risk for delirium and for whom the delirium prevention protocol is indicated
Delirium Prevention Protocol	Percentage of at-risk patients who had a delirium prevention protocol initiated.	Providing prompt nonpharmacologic intervention to patients at high risk reduces the likelihood of adverse delirium outcomes, including functional decline, increased ED LOS, hospital costs, falls, and death.[2]
Mobility	Percentage of at-risk patients who walked at least once per shift in ED	Mobility is a key intervention for prevention and management of delirium
Hydration	Percentage of at-risk patients who received appropriate hydration (IV or PO) in ED	Dehydration is a leading risk factor for delirium in the ED. Attending to patients' fluid and nutritional status is key to prevention.
Non-Pharmacologic Management of Delirium	Percentage of patients with delirium who were managed with evidence-based, proven non-pharmacologic approaches for delirium symptoms or agitation.	Non-pharmacologic management for delirium has demonstrated effectiveness for reducing agitation and delirium symptoms
Use of Beers Criteria medications	Percentage of at-risk patients who received Beers Criteria medications	Goal is to reduce the percentage. Beers criteria medications are potentially inappropriate medications for older adults and may increase the risk of delirium and other adverse outcomes.
Benzodiazepine Use	Percentage of patients with agitated delirium receiving a benzodiazepine (except in those with active benzodiazepine or alcohol use)	Goal is to reduce the percentage. Benzodiazepines increase the risk of delirium, functional/cognitive decline, falls, and other adverse outcomes in older adults.[5]
Antipsychotic Use	Percentage of patients with agitated delirium receiving an antipsychotic	Goal is to reduce the percentage. Antipsychotics are ineffective to treat delirium, may prolong delirium, increase the risk of functional/cognitive decline, falls, and other adverse outcomes in older adults.
Use of Beers Criteria medications	Percentage of at-risk patients who received Beers Criteria medications	Goal is to reduce the percentage. Beers criteria medications are potentially inappropriate medications for older adults and may increase the risk of delirium and other adverse outcomes. Consider seeking input from a clinical pharmacist.
Use of Physical Restraints and/or Bed-Chair Alarms	Percentage of patients at-risk or with delirium who were physically restrained or alarmed at any time during ED stay	Goal is to reduce the percentage. Use of physical restraints (or bed/chair alarms) is a precipitating factor for delirium.[4]

Section I. Change Management Tools

Resource I-D: Process and Outcome Measures to Track for ED Delirium Program (cont.)

Use of Sitters (Paid Companions)	Percentage of patients with delirium who required sitters during their stay in the ED	Goal is to optimize use. Use of sitters can provide non-pharmacological management and improve comfort and safety of patients. However, there may be substantial ED costs.
Security Calls/Code White	Percentage of patients requiring a Code White or security call during their ED stay	Goal is to reduce the frequency of these events.
Outcome Measures		
Emergency Department Length of Stay (LOS)	Number of hours/days spent in emergency department or observation unit	Goal is to reduce in most cases. Delirium increases ED LOS, and conversely, ED LOS greater than 10 hours is associated with a higher risk of delirium in older adults.[1] Note: In some circumstances, longer ED stay may be beneficial when it leads to discharge to hospital at home or home care resources and avoids hospitalization.
Emergency Department Discharge Disposition	Proportion of patients transferred to observation unit; transferred to floor; discharged home without services; discharged home with services; discharged to post-acute care or other setting	This measure allows for assessment of patient's status following ED visit.
Patient/Family Satisfaction with ED Care	Satisfaction surveys or questionnaires, complaints, letters	Goal is to improve patient/family satisfaction with care

Other measures to consider: % with new delirium; transitional care received; discharge with delirium

1. Bo M, et al. Length of Stay in the Emergency Department and Occurrence of Delirium in Older Medical Patients. J Am Geriatr Soc 2016;64(5):1114-9.
2. Josephson SA, et al. Quality Improvement in Neurology: Inpatient and Emergency Care Quality Measure Set: Executive Summary. Neurology 2017;89.
3. Inouye SK, et al. A Multicomponent Intervention to Prevent Delirium in Hospitalized Older Patients. N Engl J Med 1999;340:669-676.
4. Inouye SK, et al. Precipitating Factors for Delirium in Hospitalized Elderly Persons: Predictive Model and Interrelationship with Baseline Vulnerability. JAMA 1996;275(11):852-7.
5. American Geriatrics Society Beers Criteria Update Expert Panel. 2019 Updated AGS Beers Criteria for Potentially Inappropriate Medication Use in Older Adults. JAGS 2019;[Epub ahead of print]:1-21.

Section II. Tools for Setting up an ED Delirium Program

Resource II-A: The Role of the Delirium Champion

Clinical Delirium Champion:

A delirium champion is a health care provider (typically MD, RN, or SW) who has an interest in improving care for older adults who come to the emergency department. Delirium champions are supported by senior management and should be proactive clinician leaders with credibility among staff.

The delirium champion will spearhead education efforts and utilization of delirium assessment, recognition, and prevention tools in the ED. The champion will be familiar with the Delirium Toolkit to guide implementation. The Delirium Champion should communicate with ED administration to share information about how the program is working to maximize administrative buy-in, and to improve engagement and accountability among staff.

Delirium Champions have:

- A commitment to quality care for older adults
- Leadership experience
- Excellent interpersonal skills
- The ability to influence and engage others in a course of action

Delirium Champion Tasks:

- Educational outreach to team members
- Remind staff to complete identified delirium protocols and ensure adherence
- Review charts and provide feedback regarding delirium in the ED
- Lead meetings or interdisciplinary rounds regarding delirium
- Offer tools for success including staff recognition and incentives

It is recommended that each ED has multiple Delirium Champions, ideally at least one on each shift in the ED to fully promote and add stability to your delirium protocol. The Delirium Champions should also meet or communicate regularly with one another to share updates, advice, and experience. To improve sustainability, the tasks required of the Delirium Champion should be included as part of their job description.

Gaining Administrative Support:

The Delirium Champion should also gain administrative support from the ED and hospital leadership. Administrative leaders have a unique, behind-the-scenes role in establishing and supporting a delirium program in the ED. Administrators will lay the groundwork for staff empowerment and can ensure that the different clinical teams gel in this effort. We recommend approaching a senior member of the hospital management team with decision-making capacity. This individual can help support implementation efforts and provide resources to start and sustain your program.

You will need to convince your administrative leadership that a delirium protocol in the ED is an essential paradigm shift that may require providing additional education or hiring staff. This Toolkit provides PowerPoints and resources to help you frame your message. Administrative leaders can help advocate for the change within the hospital decision-making hierarchy and help transmit the importance of the program to other administrative leaders, especially inpatient administrative leaders to help create a cohesive, hospital-wide approach to delirium.

Section II. Tools for Setting up an ED Delirium Program

Resource II-B: Use of the Electronic Health Record

Use of the Electronic Health Record (EHR) for Setting up an ED-Delirium Program

Many EDs have utilized the EHR to help with the successful implementation of their delirium prevention program. EHRs can assist in many ways, including:

- Built- in tools for delirium screening with automated scoring
- Linked nursing activities and order sets for next steps in delirium positive patients
- EHR flags/alerts/triggers that prioritize necessary care for delirium positive patients
- Creation of daily/weekly/monthly reports of rates of delirium; rates of risk factors (e.g., benzodiazepine use); interventions completed; use of educational resources.

In many cases, the assessments can be required based on age or delirium risk factors, and interventions required by nursing can also be mandated in the EHR flow. At the start of setting up an ED-DEL program, communication with your EHR team should be the first step. The following example from a site can provide some real-world ideas.

Tips from the field: Creating Delirium Flags in your EHR to detect and treat patients with Delirium

Creating Delirium Flags in your EHR will assist clinicians in the ED to better manage patients with delirium and provide clear guidelines on interventions needed to treat those patients. Some hospitals already have the CAM assessment implemented within their EHR and mandate a CAM assessment for all ED patients over the age of 18. Once a patient has been flagged as CAM+, a trigger is activated to pull-up nursing best practices or an order set for the clinicians to follow.

It is also helpful to develop medication warnings (for Beers criteria medications) within your system for patients who are at risk of delirium. Some ED's have been able to create best practice or advisory alerts that can identify certain delirium risk factors (e.g., older age, baseline dementia, multiple comorbidities).

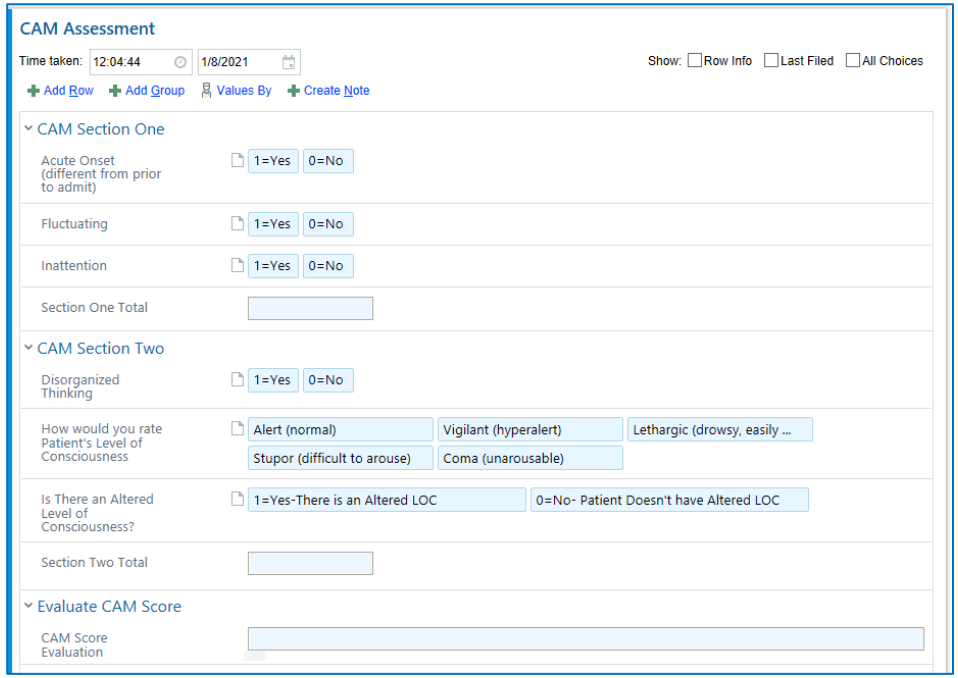
ED's can also develop reports that show the proportion of CAM+ patients, and identifying those who have received nonpharmacological interventions. This will help with ongoing quality improvement efforts and in identifying where more staff education may be needed.

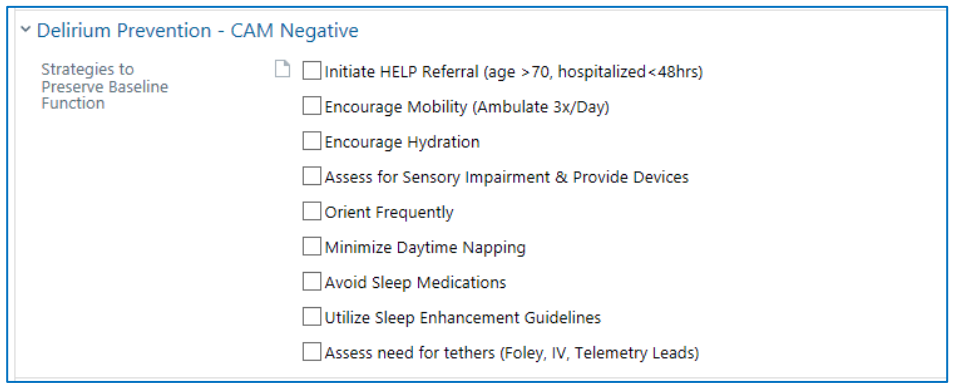
Section II. Tools for Setting up an ED Delirium Program

Resource II-B: Use of the Electronic Health Record (cont.)

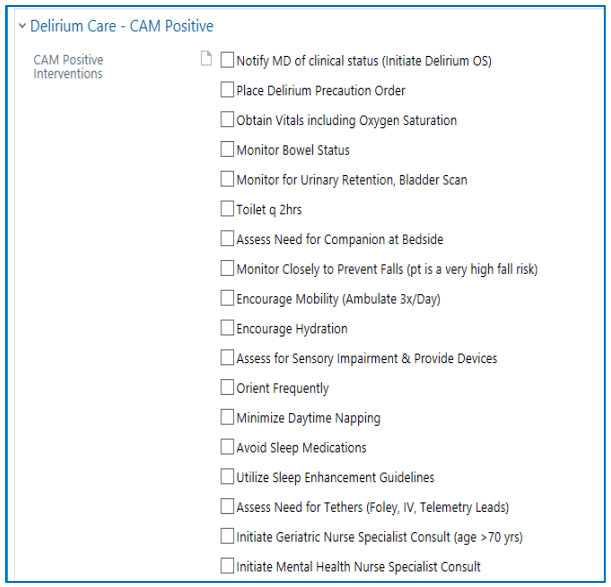
Here are some examples of EHR Screens [*provided by Maine Medical Center]:*

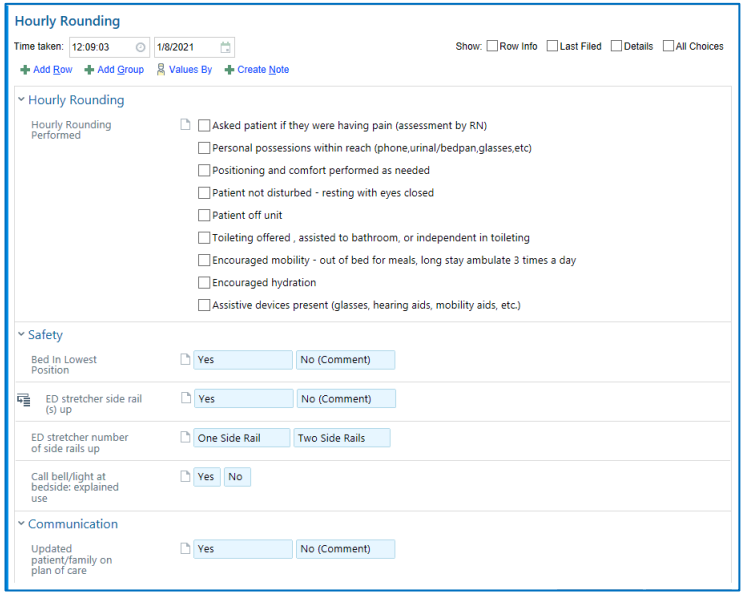
CAM Assessment >





Delirium Prevention or Management Interventions >





Section II. Tools for Setting up an ED Delirium Program

Resource II-C: Costs Associated with Delirium

Making the business case: The following tables and infographic lay out some of the costs associated with delirium which may be helpful to help build your case for why an ED Delirium program is a good idea for your hospital.

Complication	Impact	Source
Delirium		
	Overview: Delirium has been estimated to be associated with over $164 billion (2011 USD) in annual health care expenditures. In part this extrapolation is made up of the following costs attributable to delirium below: Acute care costs per patient per hospital stay: $1,000-$2,000 (2008 USD) [$1,175-$2,350 in 2019 USD]	Rizzo JA et al. Multicomponent Targeted Intervention to Prevent Delirium in Hospitalized Older Patients: What is the Economic Value? Medical Care 2001; 39(7): 740-752. Rubin FH, et al. Sustainability and Scalability of the Hospital Elder Life Program at a Community Hospital. JAGS 2011; 59:359-365.
	Long-term care costs per patient over one year: $10,000 (2000 USD) [$14,680 in 2019 USD]	Leslie DL et al. Consequences of Preventing Delirium in Hospitalized Older Adults on Nursing Home Costs. JAGS 2005; 53: 405-9.
	Incremental delirium-related ICU costs per patient : $17,838 (2007 USD) [$21,747 in 2019 USD]	Vasilevskis EE, et al. The Cost of ICU Delirium and Coma in the Intensive Care Unit Patient. Medical Care 2018; 56(10): 890-7.
	Prolonged length of stay-Delirium in the ED increases median lengths of inpatient hospital stay (4 vs. 2 days): $4,578 additional cost (2013 USD) [$4,967 in 2019 USD]	Kennedy M et al. Delirium Risk Prediction, Health Care Utilization and Mortality of Elderly Emergency Department Patients. JAGS 2014; 62(3): 462-469. Rappleye E. Average Cost Per Inpatient Day Across 50 States. Beckers Hospital Review 2015. Available at: http://www.beckershospitalreview.com/finance/average-cost-per-inpatient-day-across-50-states.html
Hospital Costs: Costs taken from general articles, not necessarily specific to delirium		
Pressure Ulcers	$43,000 per patient (2007 USD) [$52,422 in 2019 USD]	Schiffman J, et al. Operative Debridement of Pressure Ulcers. World J Surg 2009; 33(7): 1396-1402. PubMed: http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2691928/#CR4

Section II. Tools for Setting up an ED Delirium Program

Resource II-C: Costs Associated with Delirium (cont.)

Hospital Falls	$13,000 per patient (2009 USD) [$15,317 in 2019 USD]	Wong CA et al. The Cost of Serious Fall-Related Injuries at Three Midwestern Hospitals. The Joint Commission Journal on Quality and Patient Safety 2011; 37(2): 81-87. PubMed: http://www.ncbi.nlm.nih.gov/pubmed/21939135
Dehydration	Increased total cost associated with dehydration (per patient): $11,565 (2011 USD) [$12,996 in 2019 USD]	Pash E, et al. Economic Burden Associated with Hospital Postadmission Dehydration. Journal of Parenteral and Enteral Nutrition 2014; 38: 58S-64S. PubMed: https://www.ncbi.nlm.nih.gov/pubmed/25233943
Hospital-acquired infections (CAUTI, aspiration pneumonia)	$1,000-26,000 per patient (2001 USD) [$1,427-$37,110 in 2019 USD]	Scott RD II, et al. The Direct Medical Costs of Healthcare-Associated Infections in U.S. Hospitals and the Benefits of Prevention. Centers for Disease Control and Prevention 2009. Available at: Statistical Brief #81. Healthcare Cost and Utilization Project (HCUP). April 2010. Agency for Healthcare Research and Quality, Rockville, MD. www.hcup-us.ahrq.gov/reports/statbriefs/sb81.jsp.
Prolonged LOS	$2,289/additional hospital day (2013 USD) [$2,484 in 2019 USD]	Rappleye E. Average Cost Per Inpatient Day Across 50 States. Beckers Hospital Review 2015. Available at: http://www.beckershospitalreview.com/finance/average-cost-per-inpatient-day-across-50-states.html
Mortality	Overview: Hospital stays ending in death are responsible for 5.1 percent ($17.6 billion, 2007 USD) of all hospital inpatient costs [$21.46 billion in 2019 USD]. Moreover, delirium associated with 7.4-fold increased risk of death Increased hospital costs associated with death in Medicare patients = $23,017 (2007 USD) [$28,060 in 2019 USD]	Moskowitz EE, et al. Post-Operative Delirium is Associated with Increased 5-Year Mortality. American Journal of Surgery 2017; 214(6): 1036-8. PubMed: https://www.ncbi.nlm.nih.gov/pubmed/28947274 Statistical Brief #81. Healthcare Cost and Utilization Project (HCUP). April 2010. Agency for Healthcare Research and Quality, Rockville, MD. www.hcup-us.ahrq.gov/reports/statbriefs/sb81.jsp.

Section II. Tools for Setting up an ED Delirium Program

Resource II-C: Costs Associated with Delirium (cont.)

Post-Hospital Costs: Costs taken from general articles, not necessarily specific to delirium		
Readmissions	Overview: Cost of unplanned readmissions estimated at $17.4 billion (2004 USD) [$23.3 billion in 2019 USD] in the U.S. Increased cost associated with readmission: $8,242 (2013 USD) [$8,943 in 2019 USD] per patient. [All cause, not delirium specific]	Jencks SF, et al. Rehospitalizations Among Patients in the Medicare Fee-For-Service Program. New England Journal of Medicine 2009; 360: 1418-1428. PubMed: https://www.ncbi.nlm.nih.gov/pubmed/19339721 Mayr FB, et al. Proportion and Cost of Unplanned 30-Day Readmissions After Sepsis Compared with Other Medical Conditions. JAMA 2017; 317(5): 530-531. PubMed: https://www.ncbi.nlm.nih.gov/pubmed/28114505
Functional Impairment	Functional impairment associated with increased hospital costs of $20,000 per patient (2012 USD) [$22,019 in 2019 USD	Greysen SR, et al. Functional Impairment: An Unmeasured Marker of Medicare. JAGS 2017; 65(9): 1996-2002. PubMed: https://www.ncbi.nlm.nih.gov/pubmed/28636200
Post-Acute Placement	Patients with delirium have approximately twice (2.41 odds ratio, 33% vs 10%) the risk of nursing home or post-acute placement. The increased costs incurred are on average: $10,700 for post-acute stay, $15,000 for inpatient rehab following hospitalization (2008 USD) [$12,562 for post-acute stay in 2019 USD]	Witlox J, et al. Delirium in Elderly Patients and the Risk of Postdischarge Mortality, Institutionalization, and Dementia. JAMA 2010; 304(4): 443-451. Mechanic R. Post-Acute Care – The Next Frontier for Controlling Medicare Spending. New England Journal of Medicine 2014; 370: 692-4. PubMed: https://www.ncbi.nlm.nih.gov/pubmed/24552315
Formal home health care services	Patient with delirium have increased need for formal home health care, at a cost of: $1,079-$1,700 for home health care costs for 30 days post-discharge (2016 USD) [$1,136-$1,790 in 2019 USD]	Xiao R, et al. Impact of Home Health Care on Health Care Resource Utilization Following Hospital Discharge: A Cohort Study. American Journal of Medicine 2018; 131(4): 395-407. PubMed: https://www.ncbi.nlm.nih.gov/pubmed/29180024

Section II. Tools for Setting up an ED Delirium Program
Resource II-C: Costs Associated with Delirium (cont.)

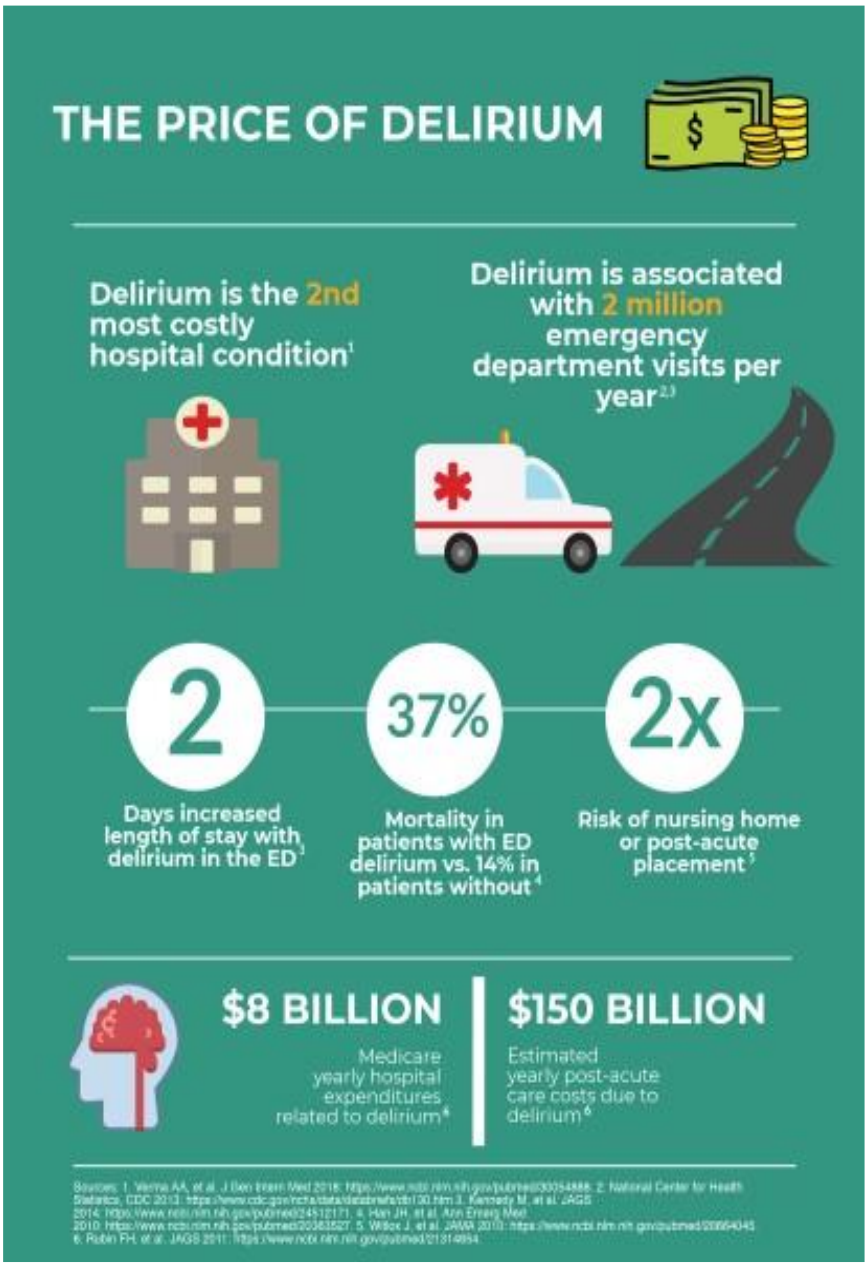
Summary: Costs Associated with Delirium

Component	Costs per patient (2019 USD)
Delirium-Related Increased Costs	
Acute care costs	$1,175-$2,350
Long-term care costs	$14,680
Incremental ICU costs	$21,747
Prolonged length of stay	$4,967
Hospital Costs	
Pressure Ulcers	$52,422
Hospital Falls	$15,317
Dehydration	$12,996
Hospital-acquired infections	$1,427-$37,110
Prolonged LOS	$2,484
Mortality	$28,060
Post-Hospital Costs	
Readmission	$8,943
Functional Impairment	$22,019
Post-Acute Placement	$12,562
Formal home health care services	$1,136-$1,790

This is a summary derived from the above sources.

Section II. Tools for Setting up an ED Delirium Program

Resource II-D: Infographic- The Price of Delirium

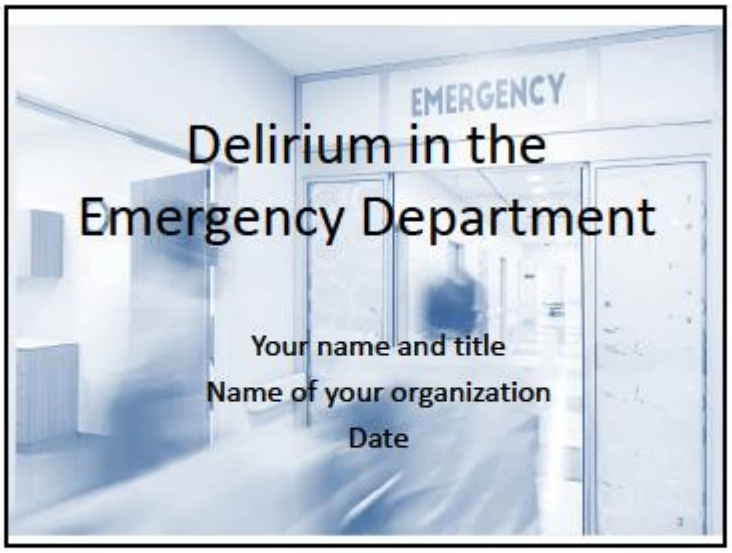


5

7/31/2019

Instructions for using this slide set

- This slide set is designed to help you present your case for implementation of a program to address delirium in the ED
- Please note that this slide set is a template. You should customize the presentation with local data and information as much as possible. Tips for customizing the presentation can be found in the notes section of the slides.



1

Defining the Problem

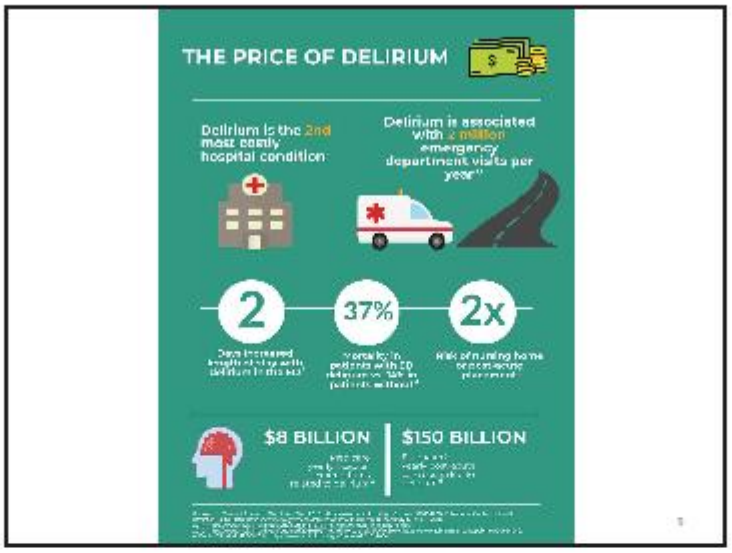
- America's population is aging
  - Higher percentage of older, vulnerable patients presenting to the ED who are at high risk of adverse outcomes
  - A large portion of the cost associated with adverse outcomes is experienced by the patient and healthcare system in the months following discharge
- Delirium:
  - Common among older adults (occurrence rate of 15-30% in the ED setting)
  - Associated with serious complications
  - Preventable in 30-40% of cases

3

Delirium in the ED

- In the US, nearly 20 million older persons are seen in the ED each year, 2 million of whom will have delirium which is unrecognized or overlooked by 75% of ED providers
- Failure to identify and admit patients with delirium is associated with a 3- to 5-fold increased risk of death compared to those without delirium

4



Costs of Delirium

- Delirium has been estimated to be associated with over $164 billion in annual health care expenditures
- Patients who have delirium in the ED have longer median lengths of stay in the hospital (4 days vs. 2 days) costing an additional $4,578 per patient

Oh JAMA 2017; Kennedy JAGS 2014

3

Potential Cost Savings with Prevention of Delirium

Component	Costs per patient (2019 USD)
Delirium-Related Increased Costs	
Acute care costs	$1,175-$2,350
Long-term care costs	$14,680
Incremental ICU costs	$21,747
Prolonged length of stay	$4,967
Hospital Costs	
Pressure Ulcers	$52,422
Hospital Falls	$15,317
Dehydration	$12,996
Hospital-acquired infections	$1,427-$37,110
Prolonged LOS	$2,484
Mortality	$28,060
Post-Hospital Costs	
Readmission	$8,943
Functional Impairment	$22,019
Post-Acute Placement	$12,562
Formal home health care services	$1,136-$1,790

7

Strategies

- *Include the strategies you have chosen from the toolkit in order to gain support from administration for your specific delirium program plan*

8

4

How attention to delirium in the ED will benefit *[[your organization]]*

- Decrease in rates of delirium by up to 40%
- Decreased ED and hospital length of stay
- Improved physical and cognitive functioning
- Reduction in ED falls rates
- Reduction in the use of sedative drugs
- Reduction in agitation and need for physical restraints and alarms in the ED

9

Cost vs. Benefit

- *Compare your cost estimate to the estimated cost savings and non-financial outcomes*

10

Resources

- *Indicate the resources you plan to ask for such as:*
  - Dedicated staff time for Delirium Champions
  - Training for all ED staff
  - IT assistance in updating EMR to incorporate delirium order sets, tracking tools, and care plans
  - Supplies/equipment for interventions

11

Recommended Action

- *How will you implement?*
- *Who are the leaders?*
- *How will monitor progress/outcomes?*
- *Next steps?*

12

Summary

- The ED-Delirium Program is an effective model of care that will significantly contribute to *[[your organization]]*'s mission of *[[your organization's mission statement]]*
- With a potential savings of $____ per *[[case of delirium or year]]*, the program is a cost-effective means of improving quality of care and decreasing costs

Note: Cost savings are on average $1,000-2,000 per patient

Section II. Tools for Setting up an ED Delirium Program

Resource II-E: Fact Check: Delirium in the ED

What is delirium?

Delirium is an acute neurologic emergency (think "brain attack"). Delirium is present in approximately 10% of all older ED patients. It is a symptom of changed mental status (usually sedation or hypoactivity, occasionally agitation) that develops over hours or days and is a clear change from the patient's normal mental status even if they already have dementia. It is usually a reversible symptom of an often serious underlying medical or pharmacologic problem. Delirium is associated with increased hospital length of stay, falls, re-hospitalization or institutionalization, and costs.

What are delirium risk factors?

- Old age > 65 years
- Multiple co-occurring illnesses
- Dementia and depression
- Vision or hearing impairments
- Polypharmacy
- Dehydration/malnutrition
- Sleep deprivation

Delirium vs. Dementia:

While delirium and dementia can sometimes present with the same symptoms, it is important to spot the difference between the two. Delirium has an acute onset while dementia has a slower, progressive course. Sundowning, or other behavioral symptoms of dementia, can make identifying delirium tricky. **Communicate with family members and caregivers to get a sense of the patient's baseline before the patient arrived in the emergency department.**

Identifying Causes of Delirium:

It is important to act quickly if you suspect a patient has delirium. Serious causes of delirium include:[1]

- Any local infection (pneumonia, upper or lower urinary tract infection, skin or soft tissue, intraabdominal, brain)
- Sepsis
- Drug-related: toxicity, withdrawal, intolerance, excess
- Metabolic abnormality (dehydration, abnormally decreased or increased levels of sodium, calcium, potassium, glucose; acute renal impairment)
- Acute coronary syndrome
- Intracranial event (Transient Ischemic Attack, TIA, ischemic/hemorrhagic cerebrovascular accident, CVA)
- Physical discomfort (untreated pain, fecal impaction, urinary retention)

How to Prevent, Treat, or Improve Delirium:

Sometimes because of long stays in the ED or because of their underlying condition, older people develop delirium while in the ED. Here are some things to do to prevent that from happening

- Treat the contributors to delirium
- Ensure the person is eating, drinking, moving, and toileting regularly
- Keep them as comfortable as possible (warm blanket, appropriate lighting)
- Ensure stimulation and orientation by staff, family and other caregivers.
- Enhance sensory input (make an effort to get eyeglasses, hearing aids)
- Minimize inappropriate medications, especially anticholinergics and benzodiazepines.

1. Han JH, Wilson A, Ely EW. Delirium in the Older Emergency Department Patient: A Quiet Epidemic. Emerg Med Clin North Am 2010;28(3):611-31.

This resource is intended to educate clinicians on delirium and is suitable for posting in your emergency department.

Section II. Tools for Setting up an ED Delirium Program

Resource II-F: Sample Annual HELP Report Outline

I. Background and goals
   a. Overview of the HELP program for readers who are not familiar with HELP
   b. Primary goals of the HELP program
      i. Maintaining cognitive and physical functioning of high risk older adults throughout hospitalization
      ii. Maximizing independence at discharge
      iii. Assisting with the transition from hospital to home
      iv. Preventing unplanned hospital readmissions
   c. Specific goals for your HELP site

II. Description of your HELP site
   a. Staff (#FTEs, names, titles)
   b. Number and description of units with HELP program implemented
   c. Number of patients enrolled during the reporting period
   d. Number of volunteers and total volunteer hours for the reporting period

III. Description of your patient population
   a. Number of patients enrolled during the reporting period
   b. Breakdown of patient characteristics such as mean age, gender, ethnicity, average length of stay, etc.

IV. Quality assurance
   a. For the core interventions (orientation, therapeutic activities, sleep enhancement, early mobilization, vision protocol, hearing protocol, fluid repletion, and feeding assistance):
      i. Total number of interventions [overall and by patient days] complete
      ii. Adherence rates-- complete and partial % (i.e., interventions completed/intervention scheduled); reasons for non-adherence

V. HELP outcomes
   a. Core outcomes:
      i. Change in cognitive function between admission and discharge
      ii. Change in functional status (ADL) between admission and discharge
      iii. Length of stay
      iv. Discharge destination (home versus nursing home/post-acute)
      v. Falls
   b. Optional additional outcomes:
      i. Delirium rate
      ii. Hospital costs
      iii. Readmission rate
      iv. Need for sitters / close observation staffing

VI. Patient/caregiver and staff satisfaction
   a. Quantitative data from patient/caregiver and staff surveys
   b. Qualitative information such as quotations and letters of testimony from patients/caregivers, nursing and physician staff

Section II. Tools for Setting up an ED Delirium Program

Resource II-F: Sample Annual HELP Report Outline

Example of some Tables that you may consider including in your annual report.

For a full example visit here: (placeholder for link on NIDUS)

HELP Patient Profile

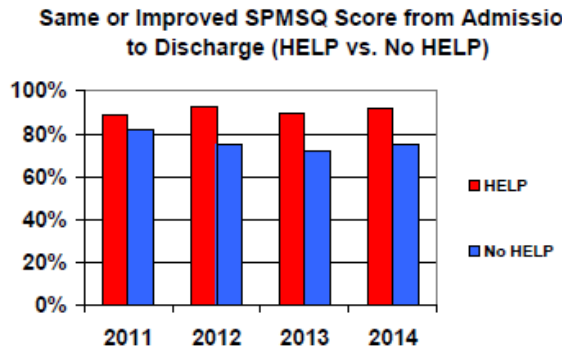
Characteristics of HELP Patients at ABC Hospital

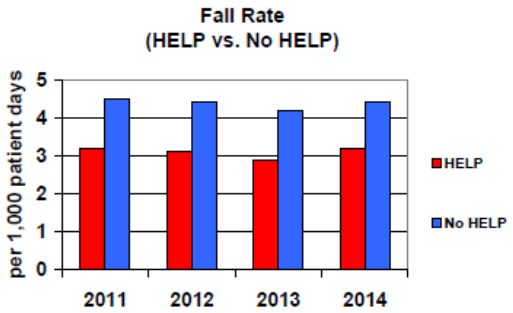
(Total enrolled = 1507)

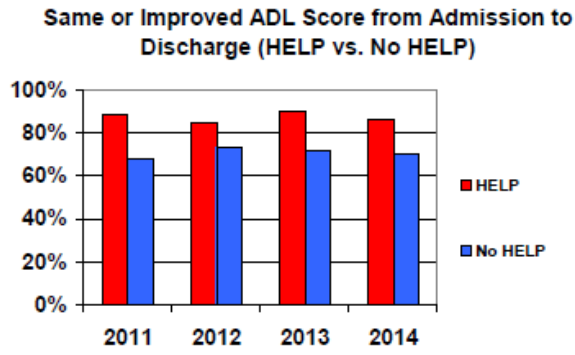
Characteristic	
Age, mean (range) 78 (70-88)	78 (70-88)
Female, N (%) 995 (66)	995 (66)
Non-White, N (%) 256 (17)	256 (17)
Hispanic, N (%) 90 (6)	90 (6)
Length of stay in days, mean 9.2	

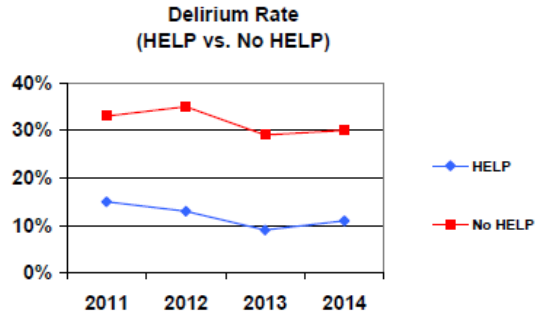
Comparison over time of patient outcomes

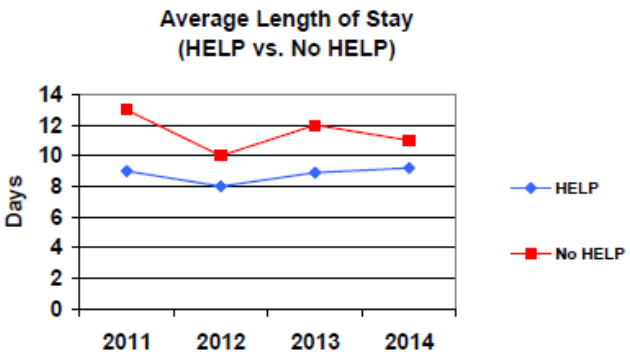
Patients enrolled in HELP (HELP) vs. Eligible patient not enrolled in HELP (No HELP)

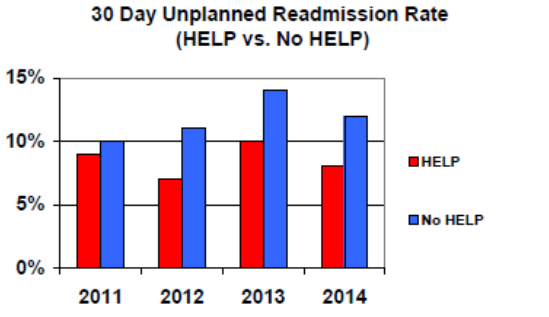












Section III. Educational Materials

Subsection III. Educational Materials for ED Leaders and Staff

Resource III-A: The Geriatric Emergency Department Guidelines: Summary

In 2014, the American College of Emergency Physicians, the American Geriatrics Society, the Emergency Nurses Association, and the Society for Academic Emergency Medicine developed The Geriatric Emergency Department Guidelines, a set of guidelines meant to improve the care of older adults in the emergency department. Their recommendations extend from staffing and administration to transition of care and equipment and supplies. Notably, there are sets of policies, procedures, and protocols geared towards six different categories: the screening of geriatric patients, guidelines for the use of urinary catheters, geriatric medication management, geriatric fall assessment, delirium and dementia, and palliative care.

The delirium and dementia-specific guidelines provide specific recommendations for:

- Assessment for delirium. The Delirium Triage Screen and b-CAM are noted as validated screening tools for delirium.
- Identifying and treating reversible causes. After a diagnosis of delirium, it is recommended to consider underlying causes and provide intervention for known risk factors.
- Minimizing the use of chemical and physical restraints.
- Suggested measures of performance improvement in the area of delirium and dementia in the emergency department include; decreased use of physical restraints, decreased use of benzodiazepines (for agitated delirium), and increased use of orientation techniques.

Reference: American College of Emergency Physicians, American Geriatrics Society, Emergency Nurses Association, Society for Academic Emergency Medicine. The Geriatric Emergency Department Guidelines (2014). Available at: http://www.saem.org/agem/resources/geriatric-ed-guidelines. The page numbers of the delirium-specific guidelines are 28-34.

Starting Senior-Friendly Change: Interested in starting a Geri-ED at your organization? This interview with Dr. Don Melady provides information on the development of a senior-friendly emergency department at Mount Sinai. Dr. Don Melady is a leader in creating senior-friendly emergency departments and discusses his experience: *https://geriatric-ed.com/starting-senior-friendly-change/*

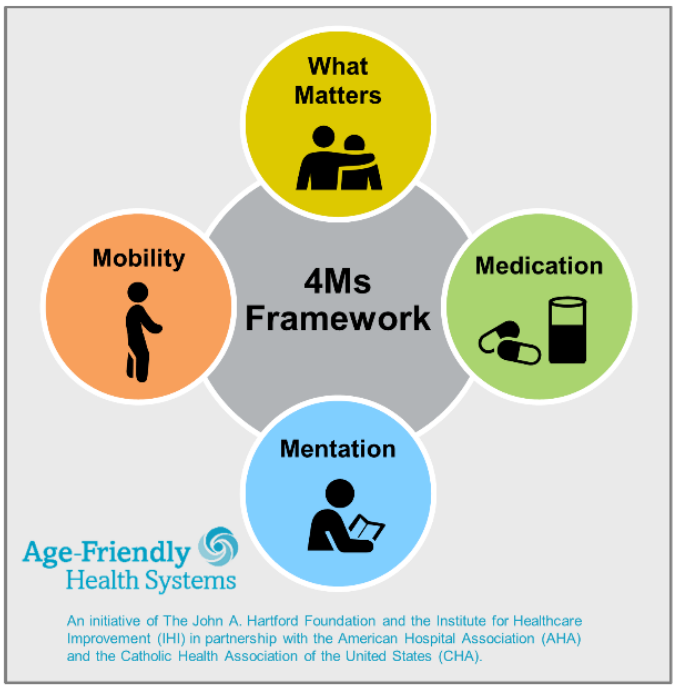
For more information about Geriatric-ED and to view a comprehensive senior-friendly ED checklist, go here: *https://geriatric-ed.com/complete-checklist/).* These resources can help you begin the process of setting up a Geri-ED.

Subsection III. Educational Materials for ED Leaders and Staff

Resource III-B: 4M's Framework of an Age-Friendly Health Systems

The 4MS Framework, What Matters, Medication, Mentation, and Mobility is a helpful framework to utilize when developing your Delirium program, it identifies core issues that help to drive decision making in the care of older adults.

THE "4MS" FRAMEWORK



What Matters: Know and align care with each older adult's specific health outcome goals and care preferences including, but not limited to, end-of-life care, and across settings of care.

Medications: If medications are necessary, use age-friendly medications that do not interfere with What Matters, Mentation or Mobility.

Mentation: Prevent, identify, treat and manage depression, dementia and delirium across settings of care.

Mobility: Ensure that older adults move safely every day to maintain function and do What Matters.

An Age-Friendly Health System is one in which every older adult's care:

- Is guided by an essential set of evidence-based practices (the 4Ms);
- Causes no harms; and
- Is consistent with What Matters to the older adult and their family.

Additional information and resources about the Age- Friendly Health Systems Initiative and 4Ms Framework can be found at Institute for Healthcare Improvement.

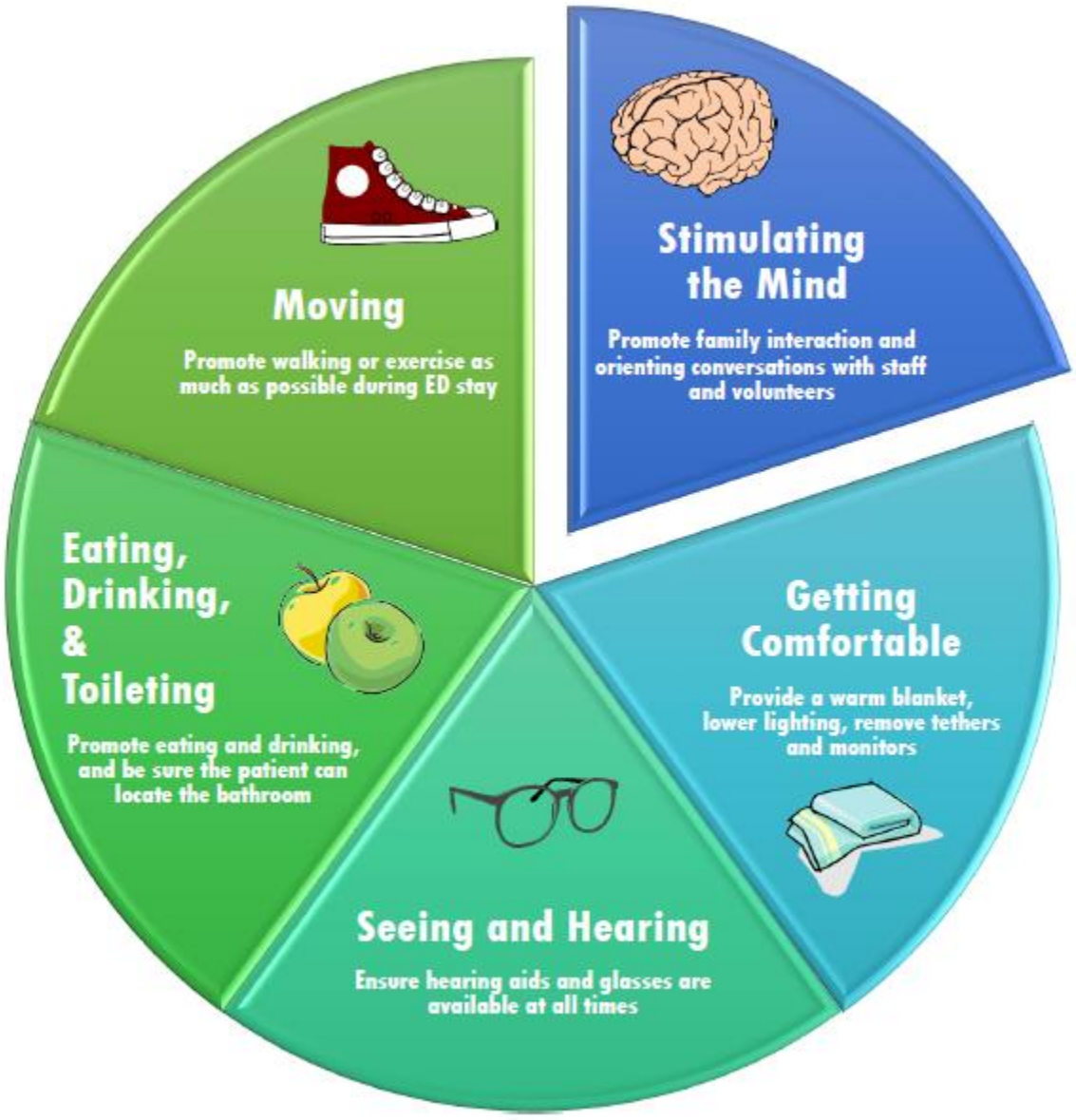
Subsection III. Educational Materials for ED Leaders and Staff

Resource III-C: Wall Poster: 6 Proven Strategies to Prevent Delirium

ED DELIRIUM IS PREVENTABLE!

For all older adults, use these proven strategies to help prevent delirium.*

*If delirium develops, support the older adult by continuing to use these strategies



Adapted from: www.hospitalelderlifeprogram.org

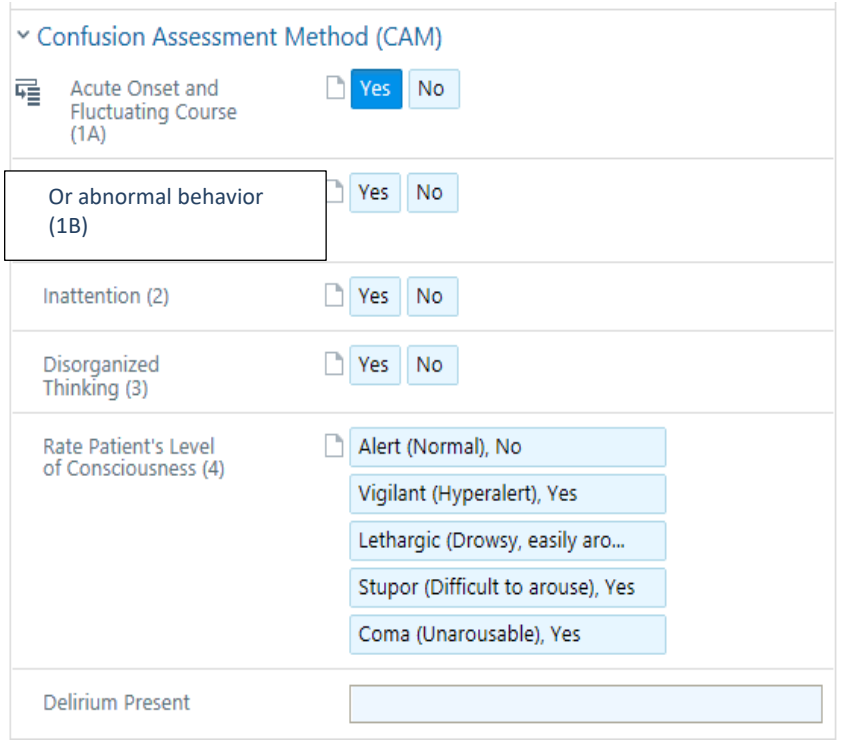
Subsection III. Educational Materials for ED Leaders and Staff

Resource III-D: Delirium Case Study Example

(Below you will find examples and instructions for a case study training related to delirium, contributed by St. Mary Mercy Hospital in Livonia, MI)

89-year-old male with CC of blood in urine, new onset of confusion and lethargy. BP 95/57, HR 105, RR 22, Temp 97.2. Patient resides in a nursing facility. Review of symptoms unable to obtain due to dementia. Medications: Flomax, Metoprolol, and iron. Patient alert only to self. Poor historian. Does not know day of week and unable to answer questions correctly. Lab work shows acute kidney injury, hypernatremia and elevated WBC count. BUN 45 Creatinine 1.2. Positive for cystitis and hematuria. Lactic acid 7.5.

COMPLETE CAM BASED ON SCENARIO



DELIRIUM RISK FACTORS (PRIOR TO ADMISSION)

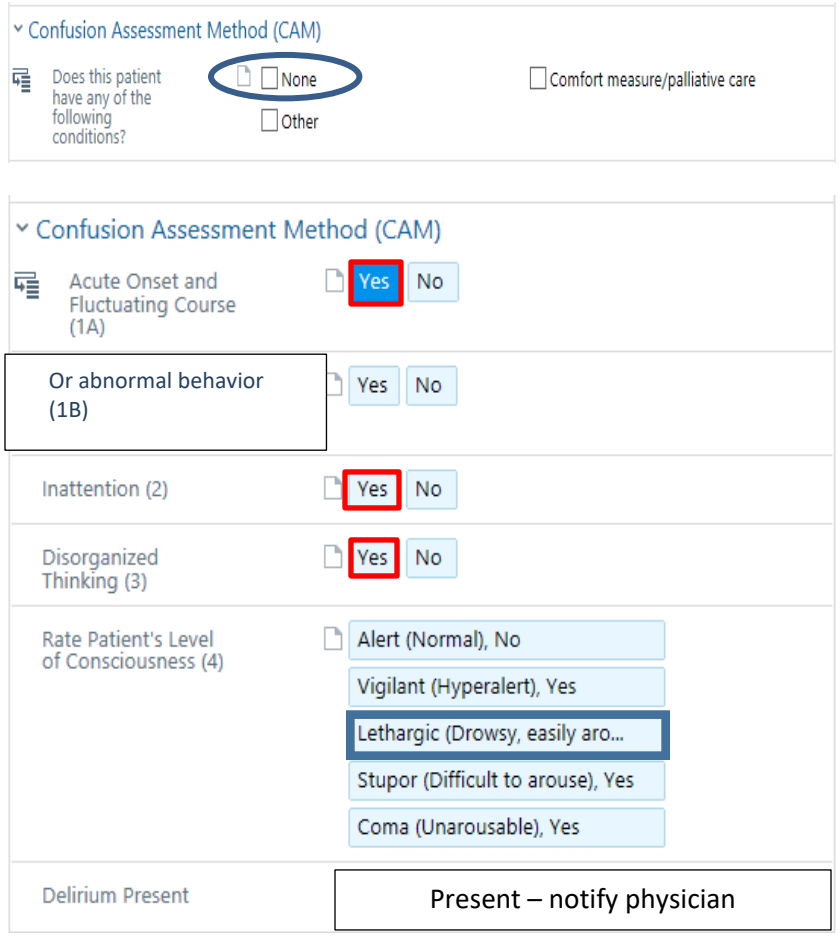
PRECIPITATING FACTORS FOR DELIRIUM

NONPHARMACOLOGICAL TREATMENT

Subsection III. Educational Materials for ED Leaders and Staff
Resource III D- Delirium Case Study Example Answers

89-year-old male with CC of blood in urine, new onset of confusion and lethargy. BP 95/57, HR 105, RR 22, Temp 97.2. Patient resides in a nursing facility. Review of symptoms unable to obtain due to dementia. Medications: Flomax, Metoprolol, and iron. Patient alert only to self. Poor historian. Does not know day of week and unable to answer questions correctly. Lab work shows acute kidney injury, hypernatremia and elevated WBC count. BUN 45 Creatinine 1.2. Positive for cystitis and hematuria. Lactic acid 7.5.

COMPLETE CAM BASED ON SCENARIO



DELIRIUM RISK FACTORS (PRIOR TO ADMISSION)

Age
Dementia
Multiple comorbidity

PRECIPITATING FACTORS FOR DELIRIUM

Dehydration, hypernatremia
Acute renal impairment
Infection

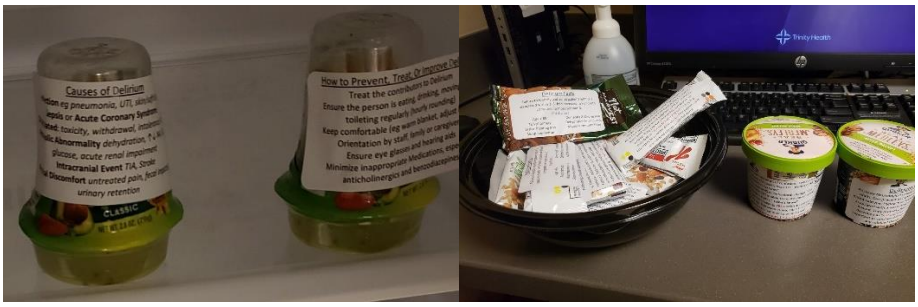
NONPHARMACOLOGICAL TREATMENT

Treat underlying cause
Ensure mobility once stable
Orientation
Ensure hydration/nutrition
Minimize inappropriate medications
Measures for pain (including analgesics if pain suspected – consider PAIN-AD)

Subsection III. Educational Materials for ED Leaders and Staff

Resource III-E: Delirium Fact Labels

These delirium "Snack Facts" are staff incentives-snack labels containing Delirium facts, causes, risks & treatments. Find picture examples, as well as sample labels for use contributed by St. Mary Mercy Hospital in Livonia, MI. Full labels found here: https://sites.google.com/view/delirium-in-the-ed/ed-staff-education-resources/delirium-snack-facts



Delirium Facts

An acute Neurological Emergency; Common in older adults. Can present as hypoactive, hyperactive, or mixed subtype. Hypoactive (lethargy) is more common, associated with a worst prognosis, and is commonly missed. They present often quiet, withdrawn, or described as "not quite her usual self." Thus, it is important to consider delirium in older patients with any subdued change in mental status.

Delirium Facts

An acute Neurological Emergency; Common in older adults. Can present as hypoactive, hyperactive, or mixed subtype. Hypoactive (lethargy) is more common, associated with a worst prognosis, and is commonly missed. They present often quiet, withdrawn, or described as "not quite her usual self." Thus, it is important to consider delirium in older patients with any subdued change in mental status.

Delirium Facts

Failure to identify and admit patients with **D** is associated with a 3- 5- fold increased risk of death compared to those without **D**.

Risk Factors

- Age > 65
- Polypharmacy
- Vision/hearing loss
- Sleep deprivation
- Dementia & Depression
- Dehydration/malnourish
- Multiple comorbidities

Delirium Facts

Failure to identify and admit patients with **D** is associated with a 3- 5- fold increased risk of death compared to those without **D**.

Risk Factors

- Age > 65
- Polypharmacy
- Vision/hearing loss
- Sleep deprivation
- Dementia & Depression
- Dehydration/malnourish
- Multiple comorbidities

How to Prevent, Treat, Or Improve Delirium

Treat the contributors to Delirium
Ensure the person is eating, drinking, moving, and toileting regularly (hourly rounding)
Keep comfortable (eg warm blanket, adjust lights)
Orientation by staff, family or caregivers
Ensure eye glasses and hearing aids
Minimize inappropriate Medications, especially anticholinergics and benzodiazepines

How to Prevent, Treat, Or Improve Delirium

Treat the contributors to Delirium
Ensure the person is eating, drinking, moving, and toileting regularly (hourly rounding)
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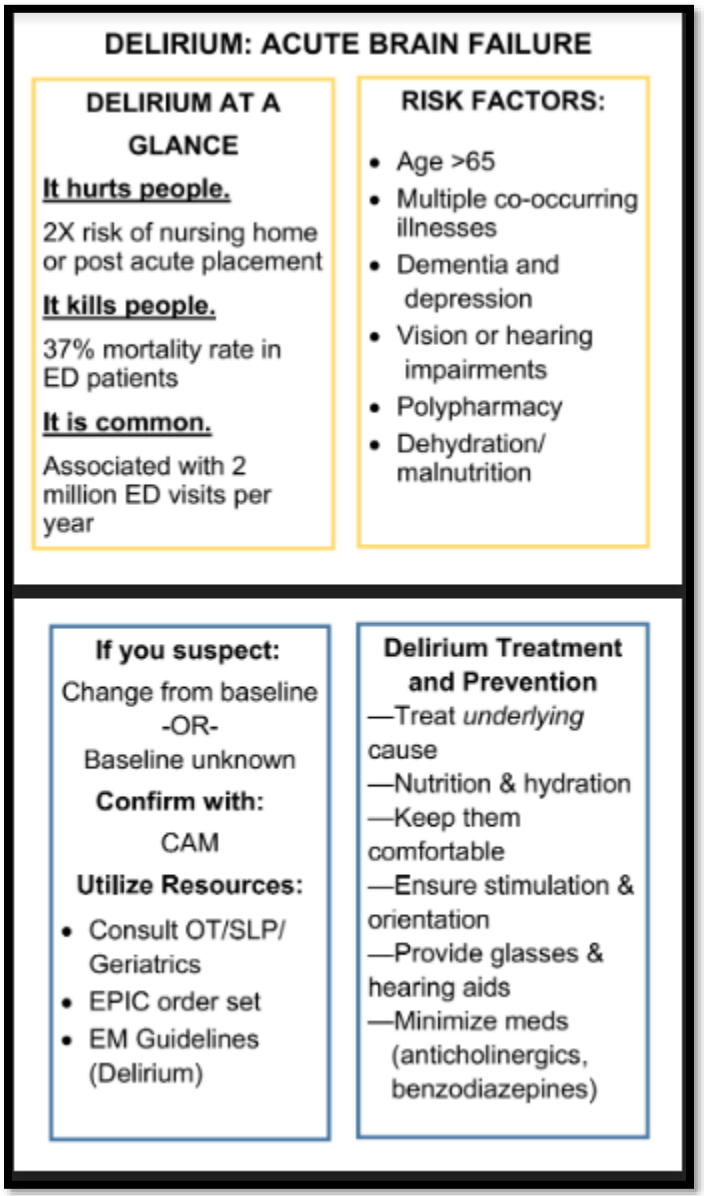
Minimize inappropriate Medications, especially anticholinergics and benzodiazepines

Subsection IV. Educational Materials for ED Leaders and Staff

Resource III-F: Delirium 'Badge' Cards

These cards are designed to go on the back of the ID badge, and contain "Delirium At a Glance" quick facts, as well as risk factors and treatment and prevention strategies, all in a badge format for easy access. Contributed by Maine Medical Center.



Subsection IV. Educational Materials for ED Leaders and Staff

Resource III-G: Staff Training PowerPoint- Assessment, Diagnosis and Evaluation

Delirium in the Emergency Department: Staff Training

Assessment, Diagnosis, and Evaluation

Marcus Institute for Aging Research
Hebrew SeniorLife

westhealth institute

Setting the Stage

- Background on Delirium
  - Delirium presents in up to 30% of older adults in the ED and costs over $164 billion per year in the US [1]
  - Can lead to prolonged ED and hospital length of stay, substantial increased mortality 6 months after ED discharge [2,3]
- ED-DEL Pilot Project
  - Testing the use of a Change Package and Toolkit to improve delirium screening, prevention, and management in ED settings
  - One of 4 pilot sites across the US

1. Gower LEJ, O'Keefe Gatewood M, Kang CS. Emergency Department Management of Delirium in the Elderly. West J Emerg Med 2012;13:194-201.
2. Han JH, Shintani A, Eden S, et al. Delirium in the Emergency Department: An independent predictor of death within 6 months. Ann Emerg Med 2010;56:244-52.
3. Kakuma R, du Fort GG, Arsenault L, Perrault A, Platt RW, Monette M, Moride Y, Wolfson C. Delirium in older emergency department patients discharged home: effect on survival. J Am Geriatr Soc 2003;51(4):443-450.

ED-DEL and ADEPT Framework

- Our methods will be based on ED-DEL and ADEPT: Assess, Diagnose, Evaluate, Prevent, and Treat
- ADEPT Tool created by the American College of Emergency Physicians (ACEP)
  - Comprehensive tool and mobile app for delirium in older adults presenting to the ED
- Each training will focus on different elements of ADEPT
- ED-DEL Project developed a Change Package and ToolKit based on ADEPT to provide resources to help with implementing an ED delirium program .

Where to Find the ADEPT Tool

- ADEPT Tool: https://www.acep.org/patient-care/adept/
- Publication:

  Shenvi C, et al. Managing Delirium and Agitation in the Older Emergency Department Patient: The ADEPT Tool. Ann Emerg Med 2020; 75:136-145. https://www.annemergmed.com/article/S0196-0644(19)30609-2/fulltext

Assessment, Diagnosis, Evaluation

- This training will focus on the first three steps of ADEPT: assessment, diagnosis, and evaluation
- This training session will discuss:
  - Assessing an older adult patient in the ED for change in cognition and mental status
  - Risk screening, diagnosing delirium, and the use of validated screening methods
  - Evaluating for underlying causes that can be treated
- Assessment, diagnosis, and evaluation are critical to identify life-threatening conditions and determine appropriate delirium prevention and management

Assessment

Initial Assessment: First Steps

- Patient over 65 years old presents to the ED with altered mental status
- Look for immediately treatable conditions:
  - Hypoxia
  - Hypoglycemia
  - ST-segment elevation myocardial infarction
- Targeted evaluation (physical and labs):
  - Finger stick blood sugar, vital signs
  - Trauma: bruising, abrasions
  - Signs of stroke, intracranial hemorrhage, subclinical seizures
  - Sacral ulcers

Initial Assessment: Safety

- For agitated patients, assess safety risk:
  - Suicidal or homicidal ideation
  - Auditory of visual hallucinations
  - Falls risk
- Establish appropriate precautions, such as 1:1 sitters to prevent injury while in ED
- Aspiration precautions as needed

Establishing Baseline Mental Status

- Establishing a baseline mental status is critical to determine altered mental status and delirium
- How to determine baseline in the ED?
  - Seek input from family members, caregivers
  - "Is the patient acting differently than they normally would?"
  - "Have you noticed any differences in your loved one in the past few hours/days/weeks?"

Gaining Information from Family Caregivers

- Ask families if they notice changes such as:
  - Difficulty understanding what is happening around them
  - Saying things that do not make sense
  - Changes in personality
  - Becoming quiet and withdrawn
  - Becoming anxious, stressed, or hyper
  - Altered sleeping schedule/drowsiness
  - Hallucinations

Additional clues to establishing baseline mental status:

- Decline in daily functioning
  - Unable to care for self
  - Problems with walking new falls
  - Getting lost while driving

Medication History

- Obtain patient's medication history:
  - Over-the-counter medications
  - Alcohol use
  - Illicit drug use
  - Recent changes or altered compliance with medications
  - Missed medications
- High risk meds include:
  - Sedatives
  - Steroids
  - Antihistamines (e.g., Benadryl)
  - Anticholinergics
  - Tricyclic antidepressants
  - Muscle relaxants
  - Opioids

Beers List Criteria – Pocket Card

- Each of you will receive an American Geriatrics Society (AGS) Beers Criteria Pocket Card (ED DEL Toolkit pg. 67)
- This card lists potentially inappropriate medications for older adults, which increase delirium risk
- The back of the card includes drugs with strong anticholinergic properties
- Consider these medications as you obtain the medication history – will also be used as a resource for delirium prevention and management
- Keep the card with you as a resource

Reference: Table 3, 2019 Updated AGS Beers Criteria for Potentially Inappropriate Medication Use in Older Adults. J Am Geriatr Soc 2019. https://www.ncbi.nlm.nih.gov/pubmed/30693946

Diagnosis

Risk Screening

- There are multiple factors that can put patients at high risk for developing delirium
- The following table is designed for clinicians to identify patients that are at high risk, adapted from the NICE 2010 Guidelines – **these patients should undergo formal delirium screening** (ED-DEL Toolkit pg. 57)

A person is at high-risk for delirium if they present to ED with two or more of the following:
• Age 65 years or older
• Cognitive impairment (past or present) and/or dementia. If cognitive impairment is suspected, confirm it using a standardized and validated cognitive impairment measure.
• Current hip fracture
• Severe illness (a clinical condition that is deteriorating or is at risk of deterioration), serious infection, or multi-morbidity
• Resident of a long-term care facility

Reference: National Institute for Health and Care Excellence (2010) *Delirium: Prevention, Diagnosis, and Management* (NICE Guideline CG103). Available at: https://www.nice.org.uk/guidance/cg103

Diagnosis

- Emergency clinicians formally diagnose delirium in less than 20% of delirious patients!
- The Delirium Triage Screen (DTS) takes less than 1 minute to complete and can very quickly determine if a patient should undergo a formal delirium screen
- The Confusion Assessment Method (CAM) is a formal delirium screening tool that has served as a reference standard in delirium for many years
- The CAM takes less than 3 minutes and is highly effective, particularly following the DTS

The Confusion Assessment Method (CAM)

(1) Acute onset and fluctuating course
-and-
(2) Inattention
-and either-
(3) Disorganized thinking
-or-
(4) Altered level of consciousness

1. The CAM has over 27 validation studies and has been cited nearly 5,000 times
2. Sensitivity for the CAM has been measured at 100%, with specificity at 94%
3. There are excellent training resources for using the CAM effectively, following the widely accepted algorithm shown above

Collecting Data: Risk Screening and Diagnosis

We are collecting data on risk screening and delirium screening, and we need your help

Identifying Delirium

- Delirium can be subcategorized into 3 main psychomotor types:
  - Hyperactive: agitation, increased psychomotor activity, heightened level of arousal
    - Most easily recognized, but accounts for less than 10% of delirium cases in the ED
  - Hypoactive: somnolence (extreme drowsiness) and psychomotor retardation
    - By far most common, 90% of cases
    - Highest mortality rate
  - Mixed: combination of hypoactive and hyperactive symptoms

Screening for Underlying Major Neurocognitive Disorder

- Use test such as Mini-Cog or other brief tests to screen for dementia:
  - Ask patient to repeat3 items (banana, sunrise, chair), draw a clock face showing10 mins past 11, then recall the 3 items at 5 minutes
- Talk to the family
  - Baseline mental status?
  - Previous diagnosis of dementia?
- Delirium can often be mistaken for "sundowning"

Evaluation

Is it delirium?

- Is it delirium or dementia?

Characteristic	Delirium	Dementia
Onset	Acute	Gradual
Course	Fluctuating	Progressive
Diminished level of consciousness	May be present (hypoactive/mixed delirium)	Absent
Orientation	Fluctuating	Impaired
Duration	Hours to months	Months to years
Hallucinations	Common	Rare until end stage
Attention	Impaired	Preserved until end stage
Sleep-wake pattern	Disrupted	Normal or fragmented

Evaluation vs. Diagnosis

- Once you have diagnosed delirium, the next step is to evaluate the patient to determine an *underlying cause(s)*
- Conduct a focused history and examination of the patient
- Workup driven by the initial evaluation
- Look for a specific underlying cause, and be aware that the causes are often multi-factorial in an older adult

Delirium Superimposed on Dementia

- Cognitive impairment, such as dementia, is a major risk factor for delirium
- Delirium can be superimposed on dementia (DSD), with many delirium symptoms present
- It can be tricky to spot DSD
- DSD ranges from 22% to 89% prevalence in hospitals and community-dwelling settings
- DSD can specifically lead to adverse outcomes in higher rates than in patients just with delirium or dementia:
  - Re-hospitalization
  - Nursing home placement after discharge
  - Increased healthcare utilization and costs

Wei LA, Fearing MA, Sternberg EJ, Inouye SK. The Confusion Assessment Method (CAM): A Systematic Review of Current Usage. J Am Geriatr Soc 2009; 56:823-830.

Common Precipitants/Contributors to Delirium and Altered Mental Status

Category	Examples
Readily reversible causes	Hypoxia, hypercarbia, hypoglycemia, hyperglycemia, hyponatremia hyperkalemia
Infection	Urinary tract infection pneumonia, intra-abdominal infections, meningitis/encephalitis, sepsis from other source
Neurologic	Transient ischemic attack, stroke, intracranial hemorrhage, intracranial mass
Medication-induced adverse effects, intentional or unintentional overdose, supratherapeutic levels because of renal or liver disease	Anticholinergic medications (including tricyclic antidepressants, antihistamines, muscle relaxants, promethazine, typical antipsychotics, sedative hypnotics (benzodiazepines, zolpidem), corticosteroids, polypharmacy (considered ≥4 medications), salicyla toxicity
Toxicologic	Intoxication with alcohol or substance use, alcohol or benzodiazepi withdrawal
Metabolic	Hyper- or hypoglycemia hyper- or hyponatremia, dehydration, acute kidney injury, uremia, diabetic ketoacidosis
Cardiopulmonary	Acute coronary syndrome, dissection, hypoxia, hypotension, anemi
Environmental factors	New or unfamiliar environment, lack of sleep, lack of hearing or vision aids
Other factors	Pain, urinary retention

Tests to Consider

- Blood Glucose – finger stick
- Complete Cell Count – anemia, leukocytosis
- Basic Metabolic Panel – hypo/hypernatremia, dehydration, renal failure, hyper/hypokalemia, hypercalcemia
- Urinalysis and Culture – infection (UTI)*
- EKG – dysrhythmias and ischemic changes

* Treat as UTI only for signs of infection, such as fever or leukocytosis.

Additional Testing Suggested by H&P

- Infection: Chest X ray, blood cultures, lactate, chest or abdomen/pelvis CT, LP
- Drug or medication complications: Specific drug levels (such as lithium, digoxin, acetaminophen, salicylate), venous blood gas
- Drug or alcohol abuse or withdrawal: ethanol level, urine drug screen, CIWA scoring
- Electrolyte and metabolic derangements: complete metabolic panel, liver function tests, venous blood gas, ammonia (which may be elevated due to medications or liver failure)

Additional Testing (continued)

- Trauma evaluation: CT head – if focal deficits, signs of head injury, severe headache, otherwise unexplained decreased level of arousal, or seizure
- Cardiac disease: EKG, troponin, BNP, chest X ray
- Other considerations: venous blood gas for hypercarbia, thyroid stimulating hormone level if history/exam suggestive of hypo- or hyperthyroidism, carboxyhemoglobin if other symptoms suggestive of possible carbon monoxide toxicity. Core temperature if concern for hypo- or hyperthermia

Q&A

- Questions regarding delirium assessment, diagnosis, or evaluation?

Next Steps

Next Training Session

- Next session will focus on delirium prevention and management as outlined in the ADEPT Tool

Subsection IV. Educational Materials for ED Leaders and Staff

Resource III-H: Staff Training PowerPoint- Prevention and Management

Delirium in the Emergency Department: Staff Training

Prevention and Management

Marcus Institute for Aging Research
Hebrew SeniorLife

westhealth institute

Where to Find the ADEPT Tool

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Setting the Stage

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3. Kakuma R, du Fort GG, Arsenault L, Perrault A, Platt RW, Monette J, Moride Y, Wolfson C. Delirium in older emergency department patients discharged home: effect on survival. J Am Geriatr Soc 2003;51(4):443-450.

Prevention and Management

- This training will focus on the final two steps of ADEPT: prevention and management
- This training session will discuss:
  - Preventing delirium in older adults(65+) admitted to the emergency department(without delirium)
  - Managing delirium in older adults(65+) if admitted with delirium or newly developed during ED stay
- Delirium has been proven preventable in 40% of hospitalized older adults,[1] and there are effective methods for treatment to reduce adverse patient outcomes

1. Fong T, et al. Delirium in Elderly Adults: Diagnosis, Prevention, and Treatment. Nat Rev Neurol 2009; 5:210-220.

ED-DEL and ADEPT Framework

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- ED-DEL Project developed a Change Package and Toolkit based on ADEPT to provide resources to help with implementing an ED delirium program .

Contributors to Delirium

Treat Underlying Conditions

- Patient over 65 years old presents to the ED with altered mental state or at high risk for delirium
- The first step to preventing and treating delirium is to treat any underlying conditions that may contribute to delirium
  - Infection
  - Electrolyte disorders
  - Dehydration
  - Medication-related
- Delirium is often multifactorial, and treating underlying conditions is a crucial first step

Medication Review

- Medication review is paramount to preventing delirium and limiting its duration
- Restart home meds unless contraindicated
- Avoid use of high-risk medications (Beers criteria drugs):
  - Benzodiazepines
  - Diphenhydramine
  - Sedatives
  - Muscle-relaxants
  - Ketamine
  - Antihistamines
  - Antipsychotics
  - Anticholinergics

Symptom Relief

Pain

- Pain symptom relief can help with delirium prevention and management
- Moderate Pain:
  - Acetaminophen 650mg q6 hours, standing
  - Low dose oxycodone 2.5-5mg q4 hours PRN breakthrough
  - Lidoderm patch
  - NSAIDs considered on case by case basis (risk of GI bleeding and renal impairment)
- Severe Pain
  - Hydromorphone 0.25-0.5 q4 hours PRN
  - Consider nerve block by skilled professional if appropriate

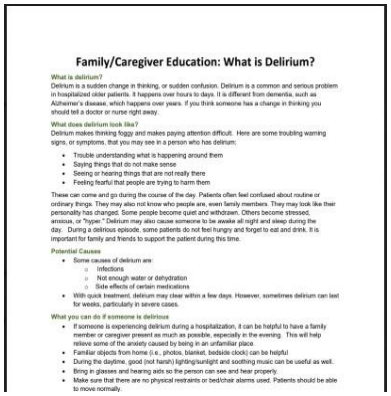
Nausea, Constipation

- To provide relief from nausea, consider:
  - Antacid, such as Maalox 30 cc
  - Ondansetron (4-8mg PO or 2-4mg IV q8 hours PRN)
- To provide relief from constipation, consider:
  - Senna 8.6 one tab BID
  - Polyethylene glycol 17 grams daily
  - Bisacodyl 10mg suppository

Dry Mouth, Dehydration, and Hunger

- To provide relief from dry mouth, dehydration, and hunger:
  - Ice chips, mouth swabs
    - *Consider family involvement in assisting*
  - Encourage PO intake/oral fluids (if patient not NPO)
  - PO diet order (if patient not NPO), encourage to eat
    - *Consider volunteer and/or family involvement in assisting with meals*
  - Aspiration precautions
  - If unable to take PO, consider maintenance normal saline

"What Is Delirium?" (ED-DEL Toolkit pg. 48)



Family/Caregiver Education: What is Delirium?

What is delirium?
Delirium is a sudden change in thinking, or sudden confusion. Delirium is a common and serious problem in hospitalized older patients. It happens over hours to days. It is different from dementia, such as Alzheimer's disease, which happens over years. If you think someone has a change in thinking you should tell a doctor or nurse right away.

What does delirium look like?
Delirium makes thinking foggy and makes paying attention difficult. Here are some troubling warning signs, or symptoms, that you may see in a person who has delirium:

- Trouble understanding what is happening around them
- Saying things that do not make sense
- Seeing or hearing things that are not really there
- Feeling fearful that people are trying to harm them

These can come and go during the course of the day. Patients often feel confused about routine or ordinary things. They may also not know who people are, even family members. They may look like their personality has changed. Some people become quiet and withdrawn. Others become stressed, anxious, or "hyper." Delirium may also cause someone to be awake all night and sleep during the day. During a delirious episode, some patients do not feel hungry and forget to eat and drink. It is important for family and friends to support the patient during this time.

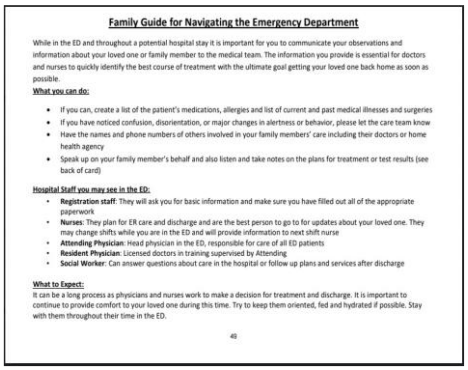
Potential Causes

- Some causes of delirium are:
  - Infections
  - Not enough water or dehydration
  - Side effects of certain medications
- With quick treatment, delirium may clear within a few days. However, sometimes delirium can last for weeks, particularly in severe cases.

What you can do if someone is delirious

- If someone is experiencing delirium during a hospitalization, it can be helpful to have a family member or caregiver present as much as possible, especially in the evening. This will help relieve some of the anxiety caused by being in an unfamiliar place.
- Familiar objects from home (i.e., photos, blanket, bedside clock) can be helpful
- During the daytime, good (not harsh) lighting/sunlight and soothing music can be useful as well.
- Bring in glasses and hearing aids so the person can see and hear properly.
- Make sure that there are no physical restraints or bed/chair alarms used. Patients should be able to move normally.

"Family Guide for Navigating the Emergency Department" (ED-DEL Toolkit pg. 49)



Family Guide for Navigating the Emergency Department

While in the ED and throughout a potential hospital stay it is important for you to communicate your observations and information about your loved one or family member to the medical team. The information you provide is essential for doctors and nurses to quickly identify the best course of treatment with the ultimate goal getting your loved one back home as soon as possible.

What you can do:

- If you can, create a list of the patient's medications, allergies and list of current and past medical illnesses and surgeries
- If you have noticed confusion, disorientation, or major changes in alertness or behavior, please let the care team know
- Have the names and phone numbers of others involved in your family members' care including their doctors or home health agency
- Speak up on your family member's behalf and also listen and take notes on the plans for treatment or test results (see back of card)

Hospital Staff you may see in the ED:

- **Registration staff**: They will ask you for basic information and make sure you have filled out all of the appropriate paperwork
- **Nurses**: They plan for ER care and discharge and are the best person to go to for updates about your loved one. They may change shifts while you are in the ED and will provide information to next shift nurse
- **Attending Physician**: Head physician in the ED, responsible for care of all ED patients
- **Resident Physician**: Licensed doctors in training supervised by Attending
- **Social Worker**: Can answer questions about care in the hospital or follow up plans and services after discharge

What to Expect:
It can be a long process as physicians and nurses work to make a decision for treatment and discharge. It is important to continue to provide comfort to your loved one during this time. Try to keep them oriented, fed and hydrated if possible. Stay with them throughout their time in the ED.

49

Nonpharm Approaches to Agitation

- As much as possible, try nonpharm methods to calm and de-escalate an agitated, delirious patient
  - Respect personal space
  - Do not be provocative
  - Establish verbal contact
  - Be concise and use simple language
  - Identify the patients wants and feelings
  - Listen closely to what the patient is saying
  - Agree or agree to disagree
  - Set clear limits
  - Offer choices and optimism
  - Debrief the patient and staff

TADA Approach to Agitation

- TOLERATE: Tolerating non-normal behaviors in the hospital can help patients to maintain calm. Consider a patient's request to walk; establish touch when communicating
- ANTICIPATE: Keep IV's hidden by wrapping; taping a 'decoy' IV to the other arm; put IV line behind patient's pillow
- DON'T AGITATE: Move slowly and gently; state intentions clearly before lifting or palpating the patient; do not ask too many questions too quickly

https://www.youtube.com/watch?v=GrJypBgHUxk

Pharmacologic Methods for Management of Delirium

Pharmacologic Approaches to Prevention?

There is currently NO evidence that medications are useful for prevention or treatment of delirium!

1. Neufeld KJ, Needham DM, Oh ES, et al. Antipsychotics for the Prevention and Treatment of Delirium. Rockville, MD: AHRQ Comparative Effectiveness Review; 2019. Available from https://effectivehealthcare.ahrq.gov/sites/default/files/pdf/delirium_-finalreport.pdf
2. Oh ES, Needham DM, Nikooie R, et al. Antipsychotics for Preventing Delirium in Hospitalized Adults: A Systematic Review. Ann Intern Med 2019;171:474 -484. https://annals.org/aim/article_-abstract/2749494

When Pharmacologic Approaches Become Necessary

- Where to start when pharmacologic treatment becomes necessary for severe agitation?
- Reserve pharm treatment for patients who are at risk of harming themselves or others, and ONLY after nonpharm approaches have failed!
- Medications should be prescribed at the lowest effective dose for shortestperiod of time
- If patient prescribed antipsychotic previously, try restarting this first
- **Note: Antipsychotics may prolong delirium and result in worse clinical outcomes**

Reducing ED Length of Stay

- Increased ED length of stay is associated with worse outcomes, and may increase the risk or severity of delirium
- Avoid boarding in hallway beds and prioritize transfer to a floor bed once admission decision is made
- ED clinical staff should communicate to inpatient clinical staff the presence of dementia, delirium, and/or agitation

Start LOW and Go SLOW!

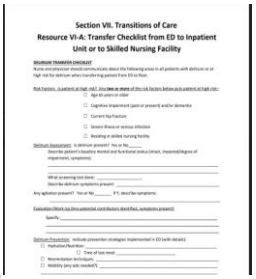
ORAL TREATMENTS	
Medication and Oral Dose	**Specific Contra-indications and Risks**
Haloperidol 0.25-0.5 mg *May repeat q1hr, not to exceed 3-5mg in 24h*	May cause orthostatic hypotension and somnolence; **RARE** dystonia or QT prolongation *Consider discontinuation if QTc>500; absolute contraindication in Parkinson's*
Olanzapine 2.5-5mg BID PRN *Anti-emetic effects* *Available sublingually*	May cause orthostatic hypotension and somnolence
Quetiapine 12.5-25mg BID PRN *Fewer extra-pyramidal side effects in patients with Parkinsonism. Sedating; consider for nighttime symptoms*	May cause orthostatic hypotension and somnolence
Risperidone 0.5-1mg BID PRN	Caution in frail or volume-depleted patients, may cause orthostatic hypotension

If oral medications are not effective, consider IM or IV medications. Use lowest possible dose to maintain patient and staff safety. AVOID ≥5mg IM of haloperidol, as these can have prolonged side effects. Redose oral medications no sooner than 30-60 mins.

IM and IV TREATMENTS	
Medication and IM or IV Dose	**Specific Contra-indications and Risks**
Haloperidol 0.5-1 mg IM Haloperidol 0.25-0.5mg IV	May repeat q1hr, not to exceed 3-5mg in 24h. Higher risk for extra-pyramidal side-effects than the atypical anti-psychotics. High risk with IV, so IM is preferred. Higher risk of orthostatic hypotension and QT prolongation/torsades with IV usage, which should be administered in a monitored setting.
Olanzapine 2.5-5mg IM BID PRN	Caution in intoxicated or volume-depleted patients.
Ziprasidone 10 IM q 2h PRN (not to exceed 40mg in 24hr)	Caution in uncontrolled heart failure or cardiac disease, intoxicated, or volume depleted/orthostatic patients.

Your Inpatient Transfer Checklist (ED-DEL Toolkit pg. 77)

- Share present risk factors for delirium, any present delirium and/or agitation, prevention and treatment methods utilized, and pharmacologic approaches if taken

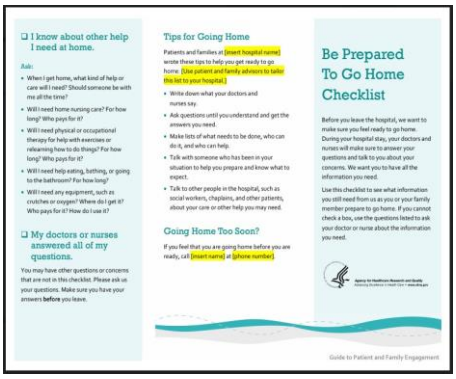

Section VII. Transitions of Care
Resource VI-A: Transfer Checklist from ED to Inpatient Unit or to Skilled Nursing Facility

Ensuring a Successful Transition

Being Discharged Home

- Make sure that the patient and family are prepared for discharge
- Hand out the "Be Prepared to Go Home" brochure and "Delirium Care After Discharge" handout (pages 79 and 56 in the ED-DEL Toolkit)
- Teach family members how to look for delirium symptoms at home
- Provide connection to social work for community placements and questions
- Be sure to provide family and patient with contact information in case symptoms (re)appear

"Be Prepared to Go Home" (ED-DEL Toolkit pg. 79)



❑ I know about other help I need at home.

Ask:

- When I get home, what kind of help or care will I need? Should someone be with me all the time?
- Will I need home nursing care? For how long? Who pays for it?
- Will I need physical or occupational therapy for help with exercises or relearning how to do things? For how long? Who pays for it?
- Will I need help eating, bathing, or going to the bathroom? For how long?
- Will I need any equipment, such as crutches or oxygen? Where do I get it? Who pays for it? How do I use it?

❑ My doctors or nurses answered all of my questions.

You may have other questions or concerns that are not in this checklist. Please ask us your questions. Make sure you have your answers **before** you leave.

Tips for Going Home

Patients and families at [insert hospital name] wrote these tips to help you get ready to go home. [Use patient and family advisors to tailor this list to your hospital.]

- Write down what your doctors and nurses say.
- Ask questions until you understand and get the answers you need.
- Make lists of what needs to be done, who can do it, and who can help.
- Talk with someone who has been in your situation to help you prepare and know what to expect.
- Talk to other people in the hospital, such as social workers, chaplains, and other patients, about your care or other help you may need.

Going Home Too Soon?

If you feel that you are going home before you are ready, call [insert name] at [phone number].

Be Prepared To Go Home Checklist

Before you leave the hospital, we want to make sure you feel ready to go home. During your hospital stay, your doctors and nurses will make sure to answer your questions and talk to you about your concerns. We want you to have all the information you need.

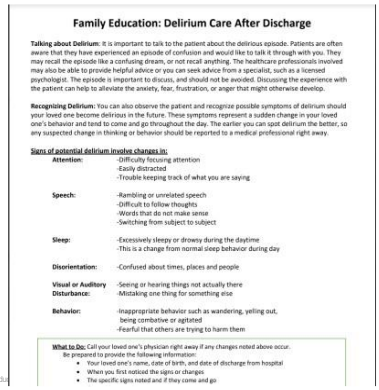
Use this checklist to see what information you still need from us as you or your family member prepare to go home. If you cannot check a box, use the questions listed to ask your doctor or nurse about the information you need.

Guide to Patient and Family Engagement

Collecting Data: Delirium Prevention and Management

- We are collecting data on delirium prevention and management
- We need your help!
- Please use the handouts provided to track the interventions performed by you or your team members.

"Family Education: Delirium Care After Discharge" (ED-DEL Toolkit pg. 56)



Family Education: Delirium Care After Discharge

Talking about Delirium: It is important to talk to the patient about the delirious episode. Patients are often aware that they have experienced an episode of confusion and would like to talk it through with you. They may recall the episode like a confusing dream, or not recall anything. The healthcare professionals involved may also be able to provide helpful advice or you can seek advice from a specialist, such as a licensed psychologist. The episode is important to discuss, and should not be avoided. Discussing the experience with the patient can help to alleviate the anxiety, fear, frustration, or anger that might otherwise develop.

Recognizing Delirium: You can also observe the patient and recognize possible symptoms of delirium should your loved one become delirious in the future. These symptoms represent a sudden change in your loved one's behavior and tend to come and go throughout the day. The earlier you can spot delirium the better, so any suspected change in thinking or behavior should be reported to a medical professional right away.

Signs of potential delirium involve changes in:

Attention: -Difficulty focusing attention
-Easily distracted
-Trouble keeping track of what you are saying

Speech: -Rambling or unrelated speech
-Difficult to follow thoughts
-Words that do not make sense
-Switching from subject to subject

Sleep: -Excessively sleepy or drowsy during the daytime
-This is a change from normal sleep behavior during day

Disorientation: -Confused about times, places and people

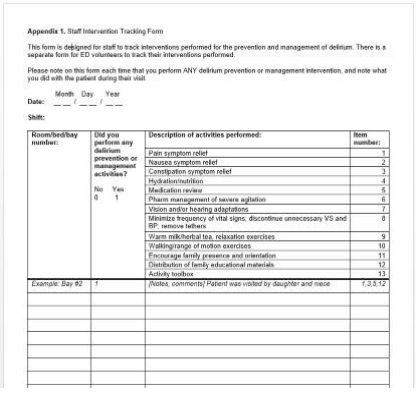
Visual or Auditory Disturbance: -Seeing or hearing things not actually there
-Mistaking one thing for something else

Behavior: -Inappropriate behavior such as wandering, yelling out, being combative or agitated
-Fearful that others are trying to harm them

What to Do: Call your loved one's physician right away if any changes noted above occur.
Be prepared to provide the following information:

- Your loved one's name, date of birth, and date of discharge from hospital
- When you first noticed the signs or changes
- The specific signs noted and if they come and go

Data Collection: Sample Form



Appendix 1. Staff Intervention Tracking Form

This form is designed for staff to track interventions performed for the prevention and management of delirium. There is a separate form for ED volunteers to track their interventions performed.

Please note on this form each time that you perform ANY delirium prevention or management intervention, and note what you did with the patient during their visit.

Date: Month Day Year

Shift:

Room/bed/bay number:	Did you perform any delirium prevention or management activities? No 0 Yes 1	Description of activities performed:	Item number:
		Pain symptom relief	1
		Nausea symptom relief	2
		Constipation symptom relief	3
		Hydration/nutrition	4
		Medication review	5
		Pharm management of severe agitation	6
		Vision and/or hearing adaptations	7
		Minimize frequency of vital signs, discontinue unnecessary VS and BP, remove tethers	8
		Warm milk/herbal tea, relaxation exercises	9
		Walking/range of motion exercises	10
		Encourage family presence and orientation	11
		Distribution of family educational materials	12
		Activity toolbox	13
Example: Bay #2	*1*	*[Notes, comments] Patient was visited by daughter and niece*	*1,3,5,12*

Data Collection: Delirium Prevention and Management

Q&A

- Questions regarding delirium prevention and management?

Subsection IV. Educational Materials for ED Leaders and Staff

Resource III-I: Sample of Beers Criteria Medication to be Avoided

Full fact sheet can be found here: https://sites.google.com/view/delirium-in-the-ed/ed-staff-education-resources/beers-medication-of-the-month-and-consumer-fact-sheet [Contributed by St. Mary Mercy Livonia]

4. BEERS LISTED MEDICATION CLASSES FOR POTENTIALLY INAPPROPRIATE MEDICATION USE IN OLDER ADULTS

THERAPEUTIC CATEGORY	COMMON MEDICATION EXAMPLES	RECOMMENDATION
Estrogens	Estrogens, with or without progesterone	Avoid oral & patch
Gastrointestinal	Metoclopramide, Mineral oil (oral)	Avoid
Genitourinary	Desmopressin	Avoid for treatment of nocturia
Insulins	Insulin aspart, Insulin lispro	Avoid use of rapid/fast- acting insulin without any basal/long-lasting insulin
Pain Control	Meperidine	Avoid
Peripheral Alpha-1 blockers	Doxazosin, Prazosin, Terazosin	Avoid use as an antihypertensive
Proton-Pump Inhibitors	Omeprazole, Pantoprazole, Esomeprazole	Avoid use > 8 weeks, unless for high-risk patients (chronic NSAID use, Barrett's esophagus, etc.)
NSAIDs	Aspirin > 325 mg/day, **Celecoxib**, Diclofenac, **Etodolac**, Ibuprofen, **Meloxicam**, Naproxen, Sulindac, Indomethacin, Ketorolac	Avoid chronic use; COX-2 selective agents (bolded) preferred over non-selective agents
Skeletal Muscle Relaxants	Carisprodol, Cyclobenzaprine, Methocarbamol, Orphenadrine	Avoid
Sleep Aids "Z-Drugs"	Eszopiclone, Zaleplon, Zolpidem	Avoid
Sulfonylureas	Glimepiride, Glyburide	Avoid
Thyroid	Desiccated Thyroid	Avoid

Lists are intended as guidance and should not supersede clinical judgement.

Adapted from Bellin Health, 2019 Reference to Beers Criteria

*4 M's of an Age-Friendly Healthsystem (**M**atters, **M**edications, **M**obility, **M**entation)
https://www.johnahartford.org/age-friendly-health-systems-initiative

ST. MARY MERCY LIVONIA
SAINT JOSEPH MERCY HEALTH SYSTEM

Beers Criteria Medication of the Month & Potential Impact on 4 M's*

SPOTLIGHT MEDICATION: BENZODIAZEPINES

Drug Action: Benzodiazepine

Prescribing Concerns:
- Increased sensitivity and decreased metabolism of long-acting agents. Associated with physical dependence and addiction.
- Can affect **M**entation (delirium, sedation, confusion, cognitive impairment), increased risk of falls, fractures (**M**obility) and motor vehicle crashes in older adults that can interfere with "What **M**atters" patient goal/preferences

Recommendation: AVOID. ***Of special concern in patients with delirium or at high risk for delirium, dementia, cognitive impairment, or history of falls or fractures.***

Strength of Recommendation: STRONG

Potentially Inappropriate Benzodiazepine include: Alprazolam, Lorazepam, Oxazepam, Temazepam, Clonazepam, Diazepam

Safer Alternatives: ***(benzodiazepines may be appropriate for seizure disorders, REM sleep disorders, benzodiazepine withdrawal, alcohol withdrawal, severe generalized anxiety disorder, and periprocedural use)***
- Non-pharmacologic interventions (behavioral interventions)
- Anxiety disorder: may consider buspirone, citalopram, escitalopram, sertraline, duloxetine
- Sleep: if failing non-pharmacologic interventions, consider melatonin

When Benzodiazepine must be prescribed, use lowest dose possible.

J Am Geriatric Soc 2019:00:01-21
Curr Treat Options Psychiatry 2017;4(1):33-46
Mayo Clin Proc 2016;91(11):1632-1639
J Am Geriatr Soc 2015;63(12):e8-e18

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1. DRUGS TO BE USED WITH CAUTION IN OLDER ADULTS*

DRUG(S)	RECOMMENDATION
Aspirin (for primary prevention)	Use with caution in patients > 70 years of age
Dabigatran Rivaroxaban	Use with caution for treatment of venous thromboembolism or atrial fibrillation in adults > 75 years of age
Prasugrel	Use with caution in adults > 75 years of age
Antipsychotics, Carbamazepine, Diuretics, Mirtazapine, SNRIs, SSRIs, Oxcarbazepine, TCAs, Tramadol	Use with caution
Dextromethorphan/quinidine	Use with caution
Trimethoprim-sulfamethoxazole	Use with caution in patients on an ACEI or ARB with a decreased creatinine clearance

*These drugs have some cause for concern, but have not shown enough clinical evidence to be added to the main table (Table 4)

2. DRUGS WITH STRONG ANTICHOLINERGIC PROPERTIES

- Highest risk for: decreased secretions, slowed gastrointestinal motility, blurred vision, increased heart rate, sedation, and/or confusion
- May predispose patients to increased falls, or decrease their quality of life

DRUG ACTION	EXAMPLES
Antiarrhythmics	Disopyramide
Antidepressants	Amitriptyline, Amoxapine, Clomipramine, Desipramine, Doxepin (> 6 mg), Imipramine, Nortriptyline, Paroxetine
Antiemetics	Prochlorperazine, Promethazine
Antihistamines (1st Generation)	Chlorpheniramine, Cyproheptadine, Meclizine, Dimenhydrinate, Diphenhydramine (oral), Doxylamine, Hydroxyzine, Dicyclomine, Hyoscyamine
Antimuscarinics (Urinary Incontinence)	Darifenacin, Fesoterodine, Oxybutynin, Solifenacin, Tolterodine, Trospium
Antiparkinsonian agents	Benztropine, Trihexyphenidyl
Antipsychotics	Chlorpromazine, Clozapine, Loxapine, Olanzapine, Perphenazine, Thioridazine
Antispasmodics	Atropine (excludes ophthalmic), Belladonna alkaloids, Scopolamine (excludes ophthalmic)
Muscle Relaxants	Cyclobenzaprine, Orphenadrine

3. CLINICALLY IMPORTANT DRUG-DRUG INTERACTIONS TO AVOID

- ACEIs/ARBs + Another ACEI/ARB
- Opioids + Benzodiazepines
- Opioids + Gabapentinoids (Gabapentin or Pregabalin)
- Anticholinergics + Anticholinergics
- Corticosteroids + NSAIDs
- Lithium + ACEIs
- Lithium + Loop Diuretics
- α-1 blockers + Loop diuretics
- Warfarin + Amiodarone
- Warfarin + Bactrim

4. BEERS LISTED MEDICATION CLASSES FOR POTENTIALLY INAPPROPRIATE MEDICATION USE IN OLDER ADULTS

THERAPEUTIC CATEGORY	COMMON MEDICATION EXAMPLES	RECOMMENDATION
Antiarrhythmics	1. Disopyramide 2. Digoxin 3. Amiodarone	1. Avoid 2. Avoid as first line for heart failure; if used avoid dosages > 0.125 mg/day 3. Avoid
Antidepressants	Amitriptyline, Clomipramine, Desipramine, Imipramine, Nortriptyline, Paroxetine, Doxepin (>6 mg/day)	Avoid
Antihistamines (1st Generation)	Chlorpheniramine, Cyproheptadine, Dimenhydrinate, Diphenhydramine, Doxylamine, Hydroxyzine, Meclizine, Promethazine	Avoid *Alternatives* Allergies: non-sedating antihistamines, nasal steroid Sleep: melatonin, non-pharmacologic
Antihypertensives	Nifedipine	Avoid
Antiparkinsonian	Benztropine, Trihexyphenidyl	Avoid
Antispasmodics	Atropine, Belladonna alkaloids, Dicyclomine, Hyoscyamine, Scopolamine	Avoid
Antiplatelets	Dipyridamole	Avoid
Antipsychotics (1st and 2nd Generation)	Haloperidol, Risperidone, Olanzapine, Quetiapine, Aripiprazole	Avoid, except in: bipolar disorder, schizophrenia, or for short term use as an antiemetic during chemo
Anti-Infectives	Nitrofurantoin	Avoid in individuals with a creatinine clearance < 30 ml/min
Benzodiazepines	Alprazolam, Lorazepam, Oxazepam, Temazepam, Clonzaepam, Diazepam	Avoid

Continued on back panel

Subsection III. Educational Materials for Family/Caregiver

Resource III-J: Family/Caregiver Education: What is Delirium?

What is delirium?

Delirium is a sudden change in thinking or sudden confusion. Delirium is a common and serious problem in hospitalized older patients. It happens over hours to days. It is different from dementia, such as Alzheimer's disease, which happens over years. If you think someone has a change in thinking you should tell a doctor or nurse right away.

What does delirium look like?

Delirium makes thinking foggy and makes paying attention difficult. Here are some troubling warning signs, or symptoms, that you may see in a person who has delirium:

- Trouble understanding what is happening around them
- Saying things that do not make sense
- Seeing or hearing things that are not really there
- Feeling fearful that people are trying to harm them

These can come and go during the course of the day. Patients often feel confused about routine or ordinary things. They may also not know who people are, even family members. They may look like their personality has changed. Some people become quiet and withdrawn. Others become stressed, anxious, or "hyper." Delirium may also cause someone to be awake all night and sleep during the day. During a delirious episode, some patients do not feel hungry and forget to eat and drink. It is important for family and friends to support the patient during this time.

Potential Causes

- Some causes of delirium are:
    - Infections
    - Not enough water or dehydration
    - Side effects of certain medications
- With quick treatment, delirium may clear within a few days. However, sometimes delirium can last for weeks, particularly in severe cases.

What you can do if someone is delirious

- If someone is experiencing delirium during a hospitalization, it can be helpful to have a family member or caregiver present as much as possible, especially in the evening. This will help relieve some of the anxiety caused by being in an unfamiliar place.
- Familiar objects from home (i.e., photos, blanket, bedside clock) can be helpful
- During the daytime, good (not harsh) lighting/sunlight and soothing music can be useful as well.
- Bring in glasses and hearing aids so the person can see and hear properly.
- Make sure that there are no physical restraints or bed/chair alarms used. Patients should be able to move normally.
- Walking with the person can help them have the best recovery possible. Check with the physician or nurse if you can walk with the person.
- Making sure your family member is properly fed and drinking liquids is also recommended.
- Being able to sleep at night without interruption is important.
- Sleeping medications should be avoided unless taken at home; instead ask for a glass of warm milk (or herbal tea), relaxation music, and provide a hand or foot massage.

You can do a lot to help someone with delirium

Section III: Educational Materials. Resource III-E. This resource is intended to educate family/caregivers on delirium and is suitable to distribute in your ED.

Subsection III. Educational Materials for Family/Caregiver

Resource III-K: Brochure: Delirium in the Emergency Department

Ten Tips for reducing the risk of delirium in the emergency department:

1. Bring a list of all medications that your loved one takes. You can bring all of the medication bottles that are at home.
2. Prepare a "medical information sheet" that lists all names and phone numbers of your doctors, the name of your loved one's usual pharmacy, all known medical conditions, and allergies.
3. Bring glasses, hearing aids, and dentures to the emergency department.
4. Make sure your loved one is eating and drinking.
5. Help orient your loved one during the emergency department stay. Speak in a calm tone of voice. Tell them where they are and why they are there.
6. When giving instructions, state one simple task at a time.
7. Massage can be soothing for some patients (hand, foot, backrub).
8. Stay with your loved one in the hospital as much as possible.
9. Tell the nurse or doctor immediately if you notice any symptoms of delirium. Family members are often the first to notice small changes.
10. Learn more about delirium.

Important Things to Remember:

- Delirium is common and usually temporary.
- You have done the right thing to bring your loved one to the hospital for evaluation.
- Family members and caregivers can play an important role in caring for a person with delirium.
- Tell the emergency department nurse or doctor immediately if you notice any changes in behavior or symptoms of delirium.
- Seek medical advice if you notice any symptoms of delirium after returning home.
- Delirium can be a scary experience. If your loved one experiences delirium, talking to a doctor or nurse can help you understand what happened.

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Marcus Institute for Aging Research | Harvard Medical School Affiliate

Delirium

A guide for patients, family members, and caregivers in the emergency department

What is Delirium?

Delirium is a temporary confusion. It causes a person's mind to become clouded and makes paying attention difficult. It develops quickly over hours or days. It usually only lasts for a few hours or a few days, but may last longer. Delirium is a common, serious, and often preventable problem in older adults in the emergency department. Delirium requires immediate treatment.

Who is at risk for delirium?

People who:

- Are age 65 or older
- Have dementia or depression
- Need help to complete self-care and tasks around the house
- Use glasses or hearing aids
- Have not been eating or drinking enough
- Take multiple medications
- Have multiple medical conditions
- Are in the emergency department and/or having surgery

What Does Delirium Look Like?

Symptoms of delirium may come and go while you are in the emergency department or after you have returned home. People with delirium may have some of these symptoms:

- Difficulty understanding what is happening around them
- Saying things that do not make sense
- Changes in personality
- Seeing or hearing things that are not really there
- Thinking that people are trying to harm them
- Becoming quiet and withdrawn
- Becoming stressed, anxious, or hyper

How will I know if my loved one has delirium?

Delirium can be tricky to spot. It is very important to talk with the nurses and doctor if your loved one is behaving differently than they regularly would. Emergency department doctors and nurses do not know how your loved one normally behaves, so you can provide useful information to help them.

Bottom Line: If you think your loved one may have delirium, tell a clinician right away.

What Should I Expect?

If the nurse or doctor thinks that your loved one is delirious, they will perform tests to help them make a diagnosis.

Delirium can happen because of infection, pain, or medications. If your loved one has delirium, they will be admitted to the hospital to treat the underlying cause.

Treatment for delirium includes methods to try to lessen symptoms. You can help by:

- Have a family member, caregiver, or friend stay with the delirious patient as much as possible.
- Help maintain a quiet and peaceful setting.
- If your loved one wears glasses, make sure they are clean and fit well. If your loved one wears hearing aids, make sure the batteries are fully charged.
- Keep your loved one up and moving as much as possible. Talk to the nurse or doctor about the best way to do this.
- If your loved one is in physical restraints, ask if they can be removed.

Subsection III. Educational Materials for Family/Caregiver

Resource III-L: Family/Caregiver Education: Pocket Card: Navigating the ED (for families)

Family Guide for Navigating the Emergency Department

While in the ED and throughout a potential hospital stay it is important for you to communicate your observations and information about your loved one or family member to the medical team. The information you provide is essential for doctors and nurses to quickly identify the best course of treatment with the ultimate goal getting your loved one back home as soon as possible.

What you can do:

- If you can, create a list of the patient's medications, allergies and list of current and past medical illnesses and surgeries
- If you have noticed confusion, disorientation, or major changes in alertness or behavior, please let the care team know
- Have the names and phone numbers of others involved in your family members' care including their doctors or home health agency
- Speak up on your family member's behalf and also listen and take notes on the plans for treatment or test results (see back of card)

Hospital Staff you may see in the ED:

- **Registration staff**: They will ask you for basic information and make sure you have filled out all of the appropriate paperwork
- **Nurses**: They plan for ER care and discharge and are the best person to go to for updates about your loved one. They may change shifts while you are in the ED and will provide information to next shift nurse
- **Attending Physician**: Head physician in the ED, responsible for care of all ED patients
- **Resident Physician**: Licensed doctors in training supervised by Attending
- **Social Worker**: Can answer questions about care in the hospital or follow up plans and services after discharge

What to Expect:

It can be a long process as physicians and nurses work to make a decision for treatment and discharge. It is important to continue to provide comfort to your loved one during this time. Try to keep them oriented, fed and hydrated if possible. Stay with them throughout their time in the ED.

Family Guide for Navigating the Emergency Department

Notes

Use this space to write down important information such as tests or labs performed, potential diagnoses or the plan for treatment.

-

Pocket Card: Navigating the ED (for families) © 2020 by Dr. Sharon K. Inouye is licensed under CC BY-NC-ND 4.0. To view a copy of this license, visit http://creativecommons.org/licenses/by-nc-nd/4.0/

Subsection III. Educational Materials for Family/Caregiver

Resource III-M: Family/Caregiver Education: How to Be an Effective Advocate for Aging Parents

By Amy Goyer, AARP

As family caregivers, we often play many roles, including scheduler, financial manager, housecleaner, encourager, nurse, navigator, nurturer and more. Perhaps the most important role, though, is advocate, as we ensure the best life possible for our family and friends when they are vulnerable.

That includes understanding their wishes for care and quality of life and making sure they're adhered to; helping loved ones manage finances and legal matters; and making certain they receive appropriate and high-quality services and treatments when they need them. We are their voice when they are unable to advocate for themselves.

If the thought of being an advocate for others seems overwhelming, relax. You probably already have the skills to be effective; you just need to develop them and apply them in new ways. A few skills that I think are most important:

1. **Observation.** We are often too busy or exhausted to notice small changes, but sometimes the slightest shift in our loved ones' abilities, health, moods, safety needs or desires is an indicator of a much larger problem or health challenge, and catching those changes early can make all the difference. Observing the services they are receiving and adjusting any subpar care are another crucial responsibility.

   How to get better at it: Try developing your observational skills through mindfulness and meditation (which can also lower your stress levels). Practice in a class, through yoga instruction or with a mindfulness app. Get adequate sleep to keep your mind clear. Take notes of your observations so you can track changes over time.

2. **Organization.** There are so many moving parts in a caregiving plan, it's tough to keep it organized. As an advocate, you'll need to manage caregiving team members, make task lists and organize the mounds of paperwork associated with health care, legal and financial matters. You'll want to make sure you can easily access all legal documents (such as power of attorney for finances and health care) when you need them.

   How to get better at it: If getting or staying organized is a challenge for you, consider taking an organizing course, or hire a professional organizer to help you. Ask family members or friends to assist. Technology can help, too, including caregiver-organizing apps.

3. **Communication.** This is a key skill for building relationships with those who help care for your loved ones (from family members to lawyers, doctors and more). Many people are a bit intimidated by certain topics, such as legal or financial matters. That can make some discussions tough.

   How to get better at it: Be respectful, and try to set emotions aside when you are advocating for a loved one. And remember that listening is just as important as speaking in effective communication. Be clear, concise and get to the point. Express appreciation.

Subsection III. Educational Materials for Family/Caregiver
Resource III M- Family/Caregiver Education:
How to Be an Effective Advocate for Aging Parents (cont.)

4. **Questioning.** My dad, a former professor, used to have a sign in his office that read, "Question everything." Now Dad is 93 and has Alzheimer's disease, and as I advocate for him, I often think of that message. My family's doctors and service providers will attest that I ask plenty of questions! I try to be prepared so I don't waste their time, but it's my job to gather information, and I'm not shy about it.

   How to get better at it: Educate yourself about your loved ones' health conditions and financial or legal matters. Be prepared with a list of questions for meetings with doctors and other professionals. Don't give up until you are satisfied you've got the answers you need to advocate effectively.

   Take notes. Never assume; always clarify. If you hit a roadblock in arranging care or services, question it and think about other ways to achieve the goal.

5. **Tenacity.** Someone once said my role caring for my parents was "chief bulldog." I guess that's true. As their advocate, I've had their best interests at heart and I take that job seriously. Facing a fragmented and frustrating health care system and trying to do more with less money can be discouraging. But I'll never give up.

   How to get better at it: Be clear about your goals and believe that there are solutions. Surround yourself with encouraging people who will pick you up and cheer you on. Follow other caregivers' stories so you hear about the triumphs as well as the challenges. Choosing a positive mind-set is crucial. When caregiving knocks you down, get back up again. Resilience is success.

Subsection III. Educational Materials for Family/Caregiver

Resource III-N: Family/Caregiver Education: Navigating a Hospital Stay: A Guide for Caregivers and Patients with Cognitive Loss

By Sara Merwin, MPH

Most patients and their loved ones experience a wide range of emotions when confronted with a hospital stay: fear, confusion, anxiety. When a loved one does not have the capacity to make decisions on his or her own, **the burden is shifted to the caregiver: a double whammy**. Even more emotions come into play: doubt, guilt and heightened uncertainty about doing the right thing on behalf of another person.

Challenge #1: Navigating a hospital

The hospital is a world and environment unto itself: health professionals of all kinds and other staff bustling about purposefully, super busy and usually overworked. Then there is the baffling language particular to the hospital: a jumble of scientific and medical terms, Latin and abbreviations. These days there are so many types of hospital personnel, each with a specific role in providing patient care and conducting the complex business of the modern health care facility. In teaching hospitals, students, interns and residents are on the front lines interacting with patients, families and caregivers. Yet, these often attentive and informed professionals are not in charge of high level decision-making so a conversation with them about patient care is only a first step.

Challenge #2: Knowing the basics

Once in hospital, both the caregiver and the patient can easily become overwhelmed. Here are some general tips to help the former successfully navigate the inpatient stay and hopefully, feel a little bit more at ease:

- Bring a list of the patient's medications, allergies and list of current and past medical illnesses and surgeries when you go to the Emergency Room. So much "history" can be gleaned from this information and having it in written form will spare you from repeating it multiple times when different members of the care team try to find out about existing and past conditions.
- Ask every hospital provider and staff person to identify themselves and their role in the patient's care.
- Find out which doctor is in charge of the patient's care. If there is a complicated medical situation or there is difficulty making a diagnosis, there may be many "consultants" weighing in and giving opinions, but there will always be one doctor who bears overall responsibility. Remember also that residents –no matter how knowledgeable, communicative and helpful they may be– are never in charge of the patient's care.
- Do not assume that the doctors and nurses are speaking to each other. It is appropriate to confirm (by asking politely) that information about care is being passed between the different professionals.
- Don't be complacent: medical errors happen. It is incumbent upon you to be watchful during a hospital stay and to not let down your guard. A prime source of medical mistakes happen through infections, so make sure you ask if the provider or staff person touching the patient or medical equipment has washed his or her hands.

Subsection III. Educational Materials for Family/Caregiver
Resource III-N: Navigating a Hospital Stay: A Guide for Caregivers and Patients with Cognitive Loss (cont.)

- Observe the principle of "shared decision-making." Decisions about tests, procedures and treatments should be made in concert with the health care providers, which means that you, the caregiver, are an active participant in this process in deciding what happens. It is reasonable for you to ask if there is a less invasive/painful/expensive way to receive treatment or undergo diagnostic testing. This includes surgery!

Challenge #3: The double challenge

Special populations such as patients with dementia or cognitive compromise need extra attention. Hospitals can be a very difficult and even dangerous place for patients with cognitive loss or dementia. When patients with these issues are taken out of their normal environment, they often become more confused and sometimes agitated. If you are a caregiver, here are a few things that you can do:

- If the patient has dementia, tell the doctors and nurses if confusion or agitation has occurred on prior hospital stays so that staff can anticipate and alter the environment to decrease problems. It is important to make sure these patients are placed near a window so they can distinguish between daytime and nighttime. It is also important to make sure they have their eyeglasses if they wear them at home, and hearing aids if they need them. During the daytime, it is also possible for the nurse to place the patient in a chair by the nursing station to keep a closer eye.
- Some hospitals have a large room for four or more patients with cognitive loss who need enhanced observation so that they can be kept safe. Some other hospitals also have ACE (Acute Care of the Elderly) units. These units use a multidisciplinary approach to help prevent the decline which elderly patients can have in the hospital. If the patient has dementia or displays confusion, be sure to ask to have him or her moved to an ACE unit if there is one, and as appropriate to the patient's other medical needs.
- Has your family member been hospitalized before and had episodes of delirium? It is important to share this information. The health care team will be most successful at working with you if they understand the patient's *baseline* (how he or she was before admission). The best way to prevent delirium is to anticipate it in advance and prevent it as best as possible. Patients receiving pain medication or sedatives are at risk as well. To prevent delirium, it is very important to control the patient's environment to optimize orientation. Again, day versus night cues are extremely important, so be aware that patients separated from a window by a curtain are not getting these cues. At-risk patients will also need to have as much of their "faculties" as possible to keep them oriented; glasses, dentures, and hearing aids will help prevent delirium.
- Finally, here are some steps caregivers can take to help prevent delirium in an at-risk patient: educate all health care providers and staff at every shift change about the patient's risk for delirium, advocate for the patient to be moved to a bed by the window, be sure to frequently reorient the patient, and consider asking for a geriatric consultation if you find that the patient is confused and sometimes restrained.

Subsection III. Educational Materials for Family/Caregivers
Resource III-N: Navigating a Hospital Stay: A Guide for Caregivers and Patients with Cognitive Loss (cont.)

Challenge #4: Learning to say "NO"

As a final lesson learned, I would include the usually unknown fact that patients are not obliged to receive the treatment or undergo the tests or procedures that is standard of care. Here is an illustration of this principle, and my personal account as a caregiver:

My father Donald has cognitive loss, and although he can understand complex concepts, he needs help with remembering things and defers to me for medical decisions. When he was admitted to the hospital with lower gastrointestinal bleeding, the doctors in charge of his care recommended that he have a colonoscopy to determine the source of the bleed. The most difficult part of a colonoscopy is the prep, which requires many frequent and often sudden trips to the bathroom. Given that my dad's bleeding had stopped, I made the decision on his behalf but with his agreement, to forego both the prep and colonoscopy. I believed that with his restricted mobility, getting out of bed and back and forth to the bathroom would be too disruptive and anxiety-producing. I also sought the opinions of the geriatrician and GI doctors, who ended up agreeing that this was the best course of action. However, **had I not raised the possibility that we would not "follow protocol"**, my dad would have undergone the test. Our instincts were correct: he was fine. No fishing expedition necessary. **It's all about thinking through what is best for the patient and not just simply following orders.** However, it is important to get the care team of doctors and nurses on your side to explain the reasoning that might lead to a decision.

Knowledge is power!

All things considered, caregiving can be very fulfilling, but it is a big responsibility to undertake, and it usually comes at an emotional and physical cost. As someone that has been a caregiver herself, I wrote this article with the purpose of helping both the patient and the committed caregiver navigate a hospital stay. In the end, the more you understand about it, the better you will be able to advocate and ensure a safer and more favorable inpatient experience. And to make the best of the experience for yourself, too.

Acknowledgement: Sara Merwin, MPH, author of "The Informed Patient: A Complete Guide to a Hospital Stay," 2018. Available at: https://thecaregiverspace.org/navigating-a-hospital-stay-a-guide-for-caregivers-and-patients-with-cognitive-loss/

Section III. Educational Materials. This resource is intended to provide support to family/caregivers of older adults in the emergency department and is suitable to distribute in your ED

Subsection III. Educational Materials for Family/Caregiver

Resource III-O: Family/Caregiver Education: Family Education: Delirium Care After Discharge

Talking about Delirium: It is important to talk to the patient about the delirious episode. Patients are often aware that they have experienced an episode of confusion and would like to talk it through with you. They may recall the episode like a confusing dream, or not recall anything. The healthcare professionals involved may also be able to provide helpful advice or you can seek advice from a specialist, such as a licensed psychologist. The episode is important to discuss, and should not be avoided. Discussing the experience with the patient can help to alleviate the anxiety, fear, frustration, or anger that might otherwise develop.

Recognizing Delirium: You can also observe the patient and recognize possible symptoms of delirium should your loved one become delirious in the future. These symptoms represent a sudden change in your loved one's behavior and tend to come and go throughout the day. The earlier you can spot delirium the better, so any suspected change in thinking or behavior should be reported to a medical professional right away.

Signs of potential delirium involve changes in:

Attention:	-Difficulty focusing attention -Easily distracted -Trouble keeping track of what you are saying
Speech:	-Rambling or unrelated speech -Difficult to follow thoughts -Words that do not make sense -Switching from subject to subject
Sleep:	-Excessively sleepy or drowsy during the daytime -This is a change from normal sleep behavior during day
Disorientation:	-Confused about times, places and people
Visual or Auditory Disturbance:	-Seeing or hearing things not actually there -Mistaking one thing for something else
Behavior:	-Inappropriate behavior such as wandering, yelling out, being combative, or agitated -Fearful that others are trying to harm them

What to Do: Call your loved one's physician right away if any changes noted above occur. Be prepared to provide the following information:

- Your loved one's name, date of birth, and date of discharge from hospital
- When you first noticed the signs or changes
- The specific signs noted and if they come and go
- Current temperature
- All current medications (including over the counter) and when last taken
- Medical diagnoses and details of recent hospitalizations, procedures or surgery
- Name and phone numbers of pharmacy and primary care physician

Subsection III. Educational Materials for Family/Caregiver

Resource III-P: Sample Brochure- A guide for patients, family members and caregivers

[Contributed by St. Mary Mercy Livonia]

Tips for Reducing the Risk of Delirium

- Bring a list of all medications that your loved one takes to the emergency department. You can also bring the medication bottles.
- Prepare a medical information sheet that lists the names and phone numbers of your doctors, the name of your loved one's usual pharmacy, all known medical conditions and allergies.
- Bring glasses, hearing aids and dentures to the emergency department.
- Make sure your loved one is eating and drinking.
- Help orient your loved one during their emergency department stay. Speak in a calm voice. Tell them where they are and why they are there.
- When giving instructions, state one simple task at a time.
- Massage can be soothing for some patients (hand, foot, backrub).
- Stay with your loved one in the hospital as much as possible.
- Tell the nurse or doctor immediately if you notice any symptoms of delirium. Family members are often the first to notice small changes.
- Be alert for signs of pain such as grimacing, restlessness or not wanting to move or receive care.

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Delirium

A guide for patients, family members and caregivers

Emergency Department

What is delirium?

Delirium is a temporary confusion. It causes a person's mind to become clouded and makes paying attention difficult. It develops quickly over hours or days. It usually only lasts for a few hours or a few days, but may last longer. Delirium is a common, serious and often preventable. Delirium requires immediate treatment.

Who is at risk for delirium?

People who:

- Are age 65 or older
- Have a history of dementia, depression or strokes
- Need help to complete self-care and tasks around the house
- Use glasses or hearing aids
- Have not been eating, drinking or sleeping enough
- Take multiple medications
- Have multiple medical conditions
- Are having surgery, especially hip or heart

What Should I Expect?

If the nurse or doctor thinks that your loved one is delirious, they will perform tests to help them make a diagnosis and treat the underlying causes.

What are common causes of delirium?

- Infection
- Pain
- Medications
- Dehydration

What does delirium look like?

Symptoms of delirium may come and go throughout the day. People with delirium may experience:

- Difficulty understanding what is happening around them
- Difficulty focusing attention
- Saying things that do not make sense
- Wandering, yelling combative, agitated
- Changes in personality
- Seeing or hearing things that are not really there
- Thoughts that people are trying to harm them
- Becoming quiet and withdrawn
- Becoming stressed, anxious or hyper
- Change in sleeping or eating habits
- Memory problems

How will I know if my loved one has delirium?

Delirium can be difficult to detect. It is very important to talk with the nurses and doctor if your loved one is behaving differently than they regularly would. Doctors and nurses do not know how your loved one normally behaves, so providing baseline mental status will be beneficial.

Bottom Line: If you think your loved one may have delirium, tell a clinician right away.

How can I help?

- Maintain a quiet and peaceful setting
- Bring familiar objects from home
- Make sure the lighting is good, but not too bright
- Play soothing music
- Ensure hearing aids and glasses are available at all times
- Ensure orientation by staff, family or other caregiver
- Make sure loved one is eating, drinking, moving and toileting regularly
- Talk to your loved one about the delirious episode to help lessen anxiety, fear, frustration or anger that might otherwise develop

Important things to remember

- Delirium is common and usually temporary.
- You have done the right thing to bring your loved one to the hospital for evaluation.
- Family members and caregivers play an important role in caring for a person with delirium.
- Tell the emergency department nurse or doctor immediately if you notice any changes in behavior or symptoms of delirium.
- Seek medical advice if you notice any symptoms of delirium after returning home.
- Delirium can be a scary experience. If your loved one experiences delirium, talking to a doctor or nurse can help you understand what happened.

Section IV. Risk Factors and Stratification

Resource IV-A: Identification of High Risk Patients for Delirium in ED[1,2,3]

The following table is designed for clinicians to identify patients that are at high-risk for developing delirium.

A person is at high-risk for delirium if they present to ED with two or more of the following:

- Age 65 years or older
- Cognitive impairment (past or present) and/or dementia. If cognitive impairment is suspected, confirm it using a standardized and validated cognitive impairment measure.
- Current hip fracture
- Severe illness (a clinical condition that is deteriorating or is at risk of deterioration), serious infection, or multi-morbidity
- Resident of a long-term care facility

[1] National Institute for Health and Care Excellence (2010) *Delirium: prevention, diagnosis and management* (NICE Guideline CG103). Available at: https://www.nice.org.uk/guidance/cg103

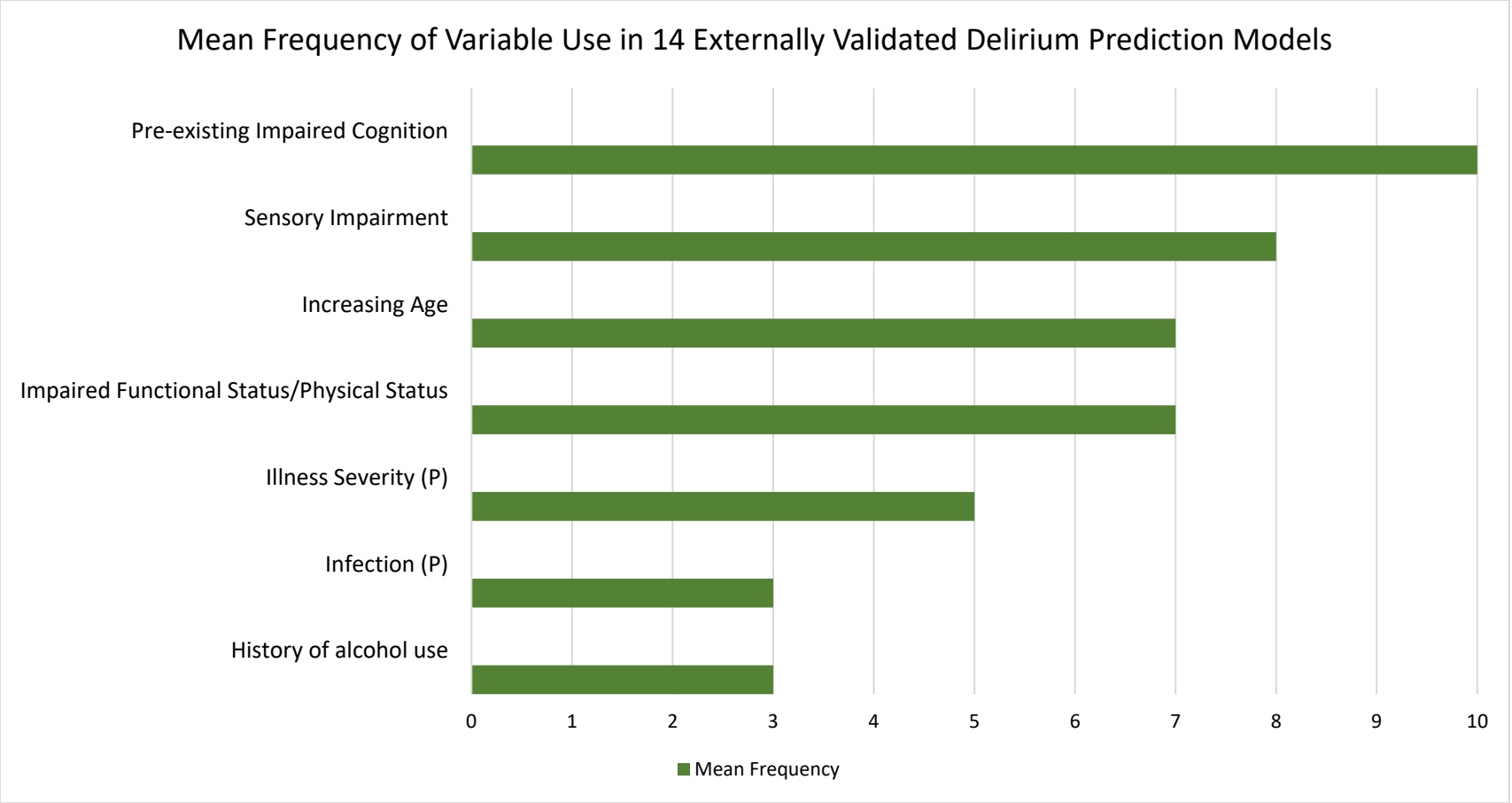
[2] Lindroth H, et al. Systematic Review of Prediction Models for Delirium in the Older Adult Inpatient. BMJ Open 2018;8:e019223.

[3] Kennedy M, et al. Delirium Risk Prediction, Health Care Utilization and Mortality of Elderly Emergency Department Patients. Journal of the American Geriatrics Society 2014;62:462-9.

Section IV. Risk Factors and Stratification

Resource IV-B: Predictive Models for Delirium Risk

The following chart is designed for clinicians to identify risk factors that place patients at high-risk for developing delirium.



This displays the mean frequency of variable use in 14 externally validated delirium prediction models identified in a systematic review of the literature. '(P)' indicates a precipitating risk factor used in a delirium prediction model.

Reference: Lindroth H, et al. Systematic Review of Prediction Models for Delirium in the Older Adult Inpatient. BMJ Open 2018;8:e019223. This work is adapted under the Creative Commons Attribution Non-Commercial (CC BY-NC 4.0) license.

Section V. Assessment and Evaluation

Resource V-A: Delirium Instrument Summary

Delirium Instrument (Year)	Validated in ED	No. items	Time to complete	Rater Qualifications	Sensitivity (95% CI)	Specificity (95% CI)	Special Tested Populations
3D Confusion Assessment Method (3D-CAM)[1]	No	22	3 mins	Trained lay raters or clinicians	0.95 (0.84-0.99) compared to diagnosis by clinical psychologists and practice nurses	0.94 (0.90-0.97) compared to diagnosis by clinical psychologists and practice nurses	Patients with superimposed dementia
4AT[2]	Yes	4	<2 mins	Lay or clinical raters without specialized training	0.93 (0.83-0.98) compared to DSM-IV-TR diagnosis by geriatrician	0.91 (0.88-0.94) compared to DSM-IV-TR diagnosis by geriatrician	Patients with superimposed dementia
Brief Confusion Assessment Method (bCAM)[3]	Yes	7	<2 mins	Trained lay raters or clinicians	0.84 (0.72-0.92) compared to DSM-IV diagnosis by psychiatrist	0.96 (0.93-0.97) compared to DSM-IV diagnosis by psychiatrist	--
Confusion Assessment Method (CAM)[4-6]	Yes	4	2-3 mins (Mini-Cog) 6-8 mins (Abbreviated MMSE)	Trained lay raters or clinicians	0.94 (0.91-0.97) compared to diagnosis from geriatric psychiatrist	0.89 (0.85-0.94) compared to diagnosis from geriatric psychiatrist	Patients with superimposed dementia
Confusion Assessment Method for the Intensive Care Unit (CAM-ICU)[7]	Yes	8	2-3 mins	Trained lay raters or clinicians	1.00 compared to DSM-IV-TR diagnosis	0.98 compared to DSM-IV-TR diagnosis	Mechanically ventilated patients
Delirium Triage Screen* (DTS) with bCAM[3]	Yes	2	<2 mins	Trained lay raters or clinicians	0.82 (0.69-0.90) rated by physician; compared to DSM-IV diagnosis by psychiatrist	0.96 (0.93-0.97) rated by physician; compared to DSM-IV diagnosis by psychiatrist	--
Modified Confusion Assessment Method for the Emergency Department (mCAM-ED)[8]	Yes	12	3-6 mins	Trained clinicians	0.90 (0.70-0.97) compared to DSM-IV-TR diagnosis by geriatrician	0.98 (0.95-0.99) compared to DSM-IV-TR diagnosis by geriatrician	Patients with superimposed dementia
Nursing Delirium Screening Scale (Nu-DESC)[9]	No	5	1-2 mins	Trained lay raters or clinicians	0.86 (0.65-0.95) compared to Confusion Assessment Method	0.87 (0.73-0.94) compared to Confusion Assessment Method	--
Ultrabrief Two-Item Bedside Test for Delirium with 3D-CAM (UB-2)[10]	No	2	<40 seconds	Trained lay raters or clinicians	0.93 (0.81-0.99) compared to DSM-IV diagnosis by geriatrician†	0.64 (0.56-0.70) compared to DSM-IV diagnosis by geriatrician	To be used followed by 3D-CAM for positive screens

*Rule-out measure for delirium; requires rule-in accompanying instrument. Validated in conjunction with bCAM.

† Using paired items from 3D-CAM with highest sensitivity; "What is the Day of the Week?" and Months Backwards

Section V. Assessment and Evaluation
Resource V-A: Delirium Instrument Summary (cont.)

Links provide more information on each Delirium Instrument, from the NIDUS (Network for Investigation of Delirium: Unifying Scientists):
https://deliriumnetwork.org/measurement/adult-delirium-info-cards/ [not available for mCAM-ED]

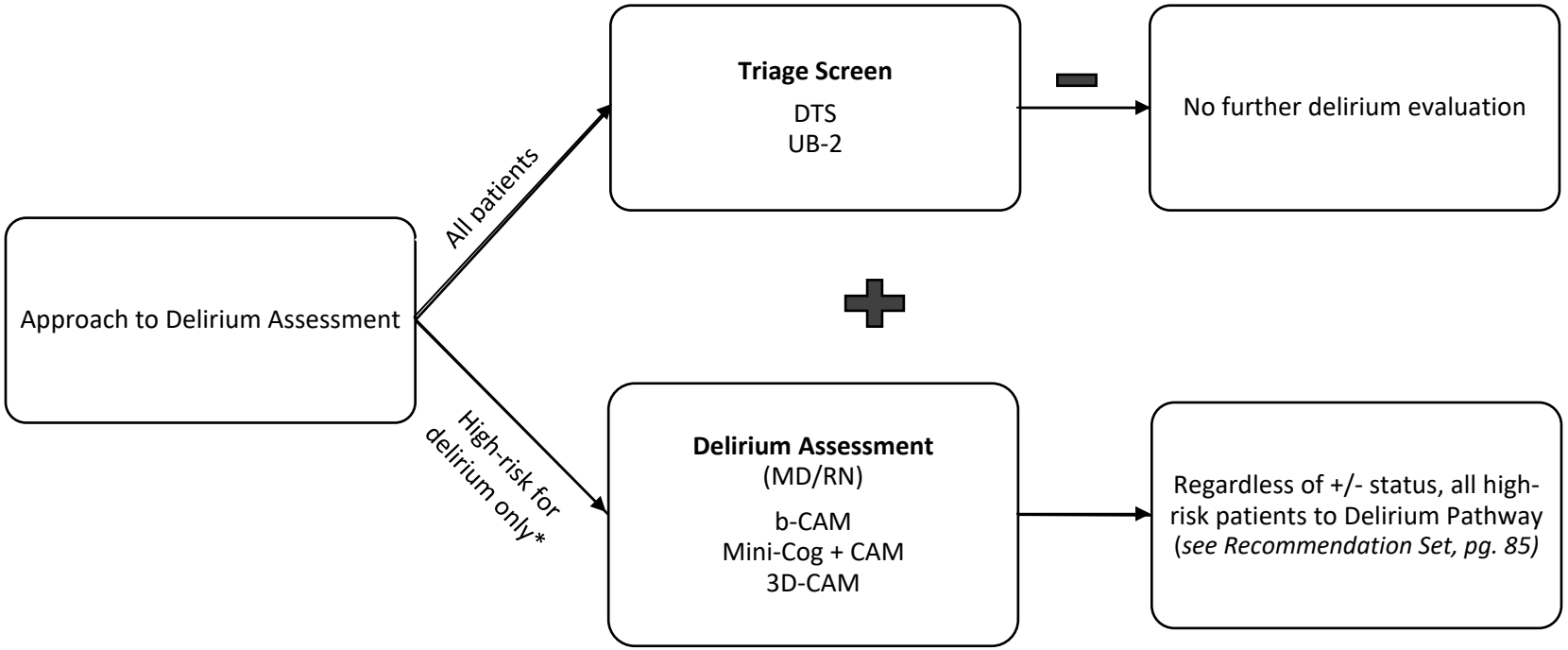
References:

1. Marcantonio ER, et al. 3D-CAM: Derivation and Validation of a 3-Minute Diagnostic Interview for CAM-defined Delirium. Annals of Internal Medicine 2014;161(8):554-561.
2. O'Sullivan D, et al. Validation of the 6-Item Cognitive Impairment Test and the 4AT test for combined delirium and dementia screening in older Emergency Department attendees. Age Ageing 2018;47(1):61-68.
3. Han JH, et al. Diagnosing Delirium in Older Emergency Department Patients: Validity and Reliability of the Delirium Triage Screen and the Brief Confusion Assessment Method. Annals of Emergency Medicine 2013;62(5):457-465.
4. Inouye SK, et al. Clarifying confusion: The Confusion Assessment Method. A new method for detection of delirium. Ann Intern Med 1990;113:941-8.
5. Wei LA, et al. The Confusion Assessment Method (CAM): A systematic review of current usage. J Am Geriatr Soc. 2008;56(5):823-830.
6. Monette J, et al. Evaluation of the Confusion Assessment Method (CAM) as a screening tool for delirium in the emergency room. Gen Hosp Psychiatry 2001;23(1):20-5.
7. Van de Meeberg EK, et al. Improved detection of delirium, implementation and validation of the CAM-ICU in elderly Emergency Department patients. European Journal of Emergency Medicine 2017;24(6):411-6.
8. Hasemann W, et al. Screening and detection of delirium in older ED patients: performance of the modified Confusion Assessment Method for the Emergency Department (mCAM-ED). A two-step tool. Internal and Emergency Medicine 2018;13:915-22.
9. Gaudreau J-D, et al. Impact on delirium detection of using a sensitive instrument integrated into clinical practice. General Hospital Psychiatry 2005;27:194-199.
10. Fick DM, et al. Preliminary Development of an Ultrabrief Two-Item Bedside Test for Delirium. J Hosp Med 2015;10(10):645-650.

Section V. Assessment and Evaluation

Resource V-B: Delirium Assessment Approach

There are many available instruments for the screening of delirium in the emergency department. There are several important considerations when determining your screening approach. First, will you be screening all patients, or just those at high risk? If you are screening all patients, then use a very brief instrument at triage, such as Delirium Triage Screen (DTS) or Ultrabrief Two-Item Bedside Test (UB-2). If you will only screen high risk (such as those age 65+ or with a history of dementia), see risk procedure for triage in Toolkit, then go straight to evaluation with a delirium-specific instrument by the RN or MD, such as Brief Confusion Assessment Method (bCAM), Mini-Cog test with short CAM, or the 3D-Confusion Assessment Method (3D-CAM). When patients have baseline cognitive information available from family member or proxy reporter (e.g., nurse from nursing home), then a determination of delirium can be readily made or ruled out. However, when screening confused patients whose baseline cognitive information is not available, then treat the patient as delirious until the acuity of change mental status can be confirmed. All high-risk patients should continue on the delirium evaluation pathway, regardless of their initial delirium rating.



*See Delirium Risk Assessment (Resource IX. Complete Recommendation Set)

Section V. Assessment and Evaluation

Resource V-C: ADEPT Protocol

Detailed version available at: https://www.acep.org/patient-care/adept/

ADEPT

CONFUSION AND AGITATION IN THE ELDERLY ED PATIENT

SHOW ALL | HIDE ALL

ASSESS

- Perform a thorough evaluation to determine the underlying cause.
- The history, medication review, and collateral information are crucial.
- Perform a thorough physical exam
- References

DIAGNOSE

- Screen for delirium in any agitated or confused older patient.
- Screen for underlying major neurocognitive disorder (dementia).
- References

EVALUATE

- Perform a thorough, focused medical workup for agitation or confusion.
- General tests for most patients will include:
- Specific, targeted testing and evaluation may include:
- References

PREVENT

- Individual patient measures to prevent or manage delirium:
- Hospital and systems-based measures to prevent or manage delirium:
- References

TREAT

- Take a multi-modal approach to treatment
- Use verbal de-escalation principles:
- If needed, start with oral Medications.
- Carefully consider the use of IM or IV medications.
- Avoid benzodiazepines if possible unless in withdrawal
- Be cautious to prevent harm and minimize side effects
- References

Section V. Assessment and Evaluation

Resource V-D: Ultra-Brief Confusion Assessment Method (UB-CAM)

The Ultra-Brief Confusion Assessment Method (UB-CAM): A New Approach for Rapid Diagnosis of CAM-Defined Delirium

Posted on July 29, 2020 by NIDUS,
https://deliriumnetwork.org/the-ultra-brief-confusion-assessment-method-ub-cam/
By Edward R. Marcantonio MD SM, Donna M. Fick, RN PhD, Richard N. Jones ScD, Sharon K Inouye MD MPH

The 3D-CAM. As discussed previously on NIDUS, the Confusion Assessment Method (CAM)[1] has a 30-year track record during which it has become the standard for delirium identification in both clinical care and research. Moreover, the CAM diagnostic algorithm defines a clear phenotype for delirium. In applying the CAM over the past 3 decades, a number of questions have arisen: 1) what are the best questions for assessing each of the CAM diagnostic features?, 2) how many "positive" items (e.g. wrong answers) are needed to endorse the presence of each feature?, and 3) can we make the assessment as short as possible? To address all of these questions, we developed the 3-Minute Diagnostic Assessment for CAM-defined delirium (3D-CAM). Using a database of nearly 5000 CAM assessments with over 120 assessment items each, we used modern measurement methods to identify the best items to assess each CAM diagnostic feature.[2] We determined the number of "positives" required for the presence of each feature, which turned out to be one! And, we put the cognitive testing and CAM algorithm together in a short structured assessment that is easy to apply on the wards. We then prospectively validated the 3D-CAM in 201 general medicine patients—a purposeful "challenge" sample with average age over 80, and nearly a third with dementia. In comparison to the "gold standard" clinical evaluation for delirium, the 3D-CAM (performed blinded to the gold standard) had outstanding test characteristics, with sensitivity of 95% and specificity of 94%.[3] Moreover, it performed well in challenging groups, such as those with hypoactive delirium, and delirium superimposed on dementia, and took only 3 minutes to perform.
The 3D-CAM is now freely available along with a User's Manual, has been translated into 10 languages, and has been widely adopted in both clinical and research settings. Two methods for measuring delirium severity using the 3D-CAM are also available.[4,5]

The UB-2. Shortly after publication of the 3D-CAM, several of our colleagues challenged us to make it even shorter. We surmised that using a highly sensitive ultra-brief screener at the start of the assessment could rule out delirium quickly, and reduce the fraction of patients requiring the full 3D-CAM. Using the pool of 3D-CAM items, we identified two items—*Months of the Year Backwards*, and *What is the Day of the Week*?—as the most sensitive pair of items for the presence of delirium. Ability to answer both questions correctly is considered a negative screen; anything else (either one or both questions answered incorrectly or not at all) is considered positive. This new Ultra-Brief 2-Item Screen, the UB-2, takes 35-40 seconds to administer, and

has 93% sensitivity for delirium, but only 64% specificity.[6] Negative screens can quickly rule out delirium, while positive screens require further evaluation to determine if delirium is present. The UB-2 is very easy to complete and requires only a few minutes to train staff. It has been administered by nursing assistants at the bedside with high sensitivity. A short free training video on the UB-2 is available at www.nursing.psu.edu/readi.

The UB-CAM. Since the UB-2 items come from the 3D-CAM, it makes sense to use them together as a two-step protocol to identify CAM-defined delirium.[7] Additionally, since the presence of only one positive item triggers presence of a CAM feature in the 3D-CAM, we developed a skip pattern—as soon as one "sign" (an incorrect answer or positive patient symptom report or interview observation) is positive, the remainder of the items in that feature can be skipped—to further shorten the instrument. We call the combination of the UB-2 followed in "positives" by the 3D-CAM with skip the Ultra-Brief CAM (UB-CAM). In preliminary studies, it is highly accurate, with sensitivity of 93% and specificity of 95%, and can be completed in about 1 minute (median 40 seconds, mean 74 seconds).[8] We attach a simple paper form that leads the assessor through the UB-CAM. While the UB-CAM has 20 items, only a minority are asked in most encounters—the median number of items administered is 2, and the mean is 6. Moreover, delirium is diagnosed quickly in severely impaired patients, and ruled out quickly in intact patients. So, the most items are administered to those with intermediate levels of impairment, as is appropriate. Given the adaptive testing approach (the questions asked depend on answers to previous questions) we have developed a UB-CAM App, which makes administration even easier, and are working on refining it for release in the near future. The UB-CAM's speed, accuracy, and ability to identify CAM-defined delirium offers advantages over all other brief delirium identification tools available at this time. For questions about the UB-CAM, please reach us at 3DCAM@bidmc.harvard.edu.

References:

1. Inouye SK, Van Dyck CH, Alessi CA, Balkin S, Siegal AP, Horwitz RI. Clarifying confusion: The Confusion Assessment Method. A new method for detection of delirium. Ann Intern Med. 1990; 113: 941-948.
2. Yang FM, Jones RN, Inouye SK, Tommet D, Crane PK, Rudolph JL, Ngo LH, Marcantonio ER. Selecting optimal screening items for delirium: an application of item response theory. BMC Medical Research Methodology. 2013 Jan 22;13:8. doi: 10.1186/1471-2288-13-8.
3. Marcantonio ER, Ngo L, O'Connor MA, Jones RN, Crane PK, Metzger ED, Inouye SK. 3D-CAM: Validation of a 3-Minute Diagnostic Interview for CAM-defined Delirium. Ann Int Med. 2014;161(8):554-61.

Section V. Assessment and Evaluation

Resource V-D: Ultra-Brief Confusion Assessment Method (UB-CAM)

Full measure can be found here: https://deliriumnetwork.org/wp-content/uploads/2020/07/UB-CAM_Final-1.pdf

Ultra-Brief CAM [UB-CAM] UB-2/3D-CAM

Instructions: Administer items in order specified. Direct questions of patients are *shown in italics*.
- A positive sign for delirium is any incorrect, don't know, non-response, or non-sensical response.
- CAM features 1-4 are indicated with F1, F2, F3, F4, respectively.

		Check
	Severe lethargy or severe altered level of consciousness	
1	**Severe lethargy or severe altered level of consciousness (no or minimal response to voice/touch).** If present, terminate assessment and ratings. **Patient is considered DELIRIOUS.** If not present, proceed to UB-2 Screener.	☐
	UB-2 Screener	Check if sign positive
2	**Ask both questions**	
	Please tell me the day of the week (F3)	☐
	Please tell me months of the year backwards, say "December" as your first month (F2)	☐
	Checkpoint: **- If neither sign is positive/checked, STOP: patient is NOT DELIRIOUS** **- If at least one sign is positive/checked, proceed to next section (3) and follow as directed**	
	3D-CAM Algorithm: Part 1 - Patient Assessment	
3	**Assess Disorganized Thinking (Feature 3/F3). Stop, and go to Section 4, after the first positive sign (error) of Disorganized Thinking. Carry-forward errors from the UB2 Screener:**	Check if sign positive
	Carry forward: Was the patient unable to correctly identify the day of the week? (F3, UB2)	☐
	Please tell me the year we are in right now (F3)	☐
	Please tell me what type of place is this [hospital, rehab, home, etc.] (F3)	☐
4	**Assess Attention (Feature 2/F2). Stop, and go to Section 5, after the first positive sign (error) of Inattention. Carry-forward errors from the UB2 Screener:**	Check if sign positive
	Carry forward: Was the patient unable to correctly name the months of the year backwards (UB2)	☐
	Please tell me the days of the week backwards, say "Saturday" as your first day(F2)	☐
	Repeat these numbers in backwards order: "7-5-1" (F2)	☐
	Repeat these numbers in backwards order: "8-2-4-3" (F2)	☐
5	**Assess Acute change or Fluctuation (Feature 1/F1). Stop, and go to Section 6, after the first positive sign of Acute Change is noted:**	Check if sign positive
	Over the past day have you felt confused? (F1)	☐
	Over the past day did you think that you were not really in the hospital [or location of interview]? (F1)	☐
	Over the past day did you see things that were not really there? (F1)	☐
	3D-CAM Algorithm: Part 2 - Interviewer Ratings	
6	**Ratings for Altered Level of Consciousness (Feature 4/F4). Stop, and go to Section 7, after first sign of Altered Level of Consciousness.**	Check if sign positive
	Was the patient sleepy during the interview? (requires that they actually fall asleep) (F4)	☐
	Did the patient show hypervigilance? (F4)	☐
7	**Ratings for Disorganized Thinking (Feature 3/F3). Only rate if all of the patient assessment items for Feature 3 above were responded to correctly. Stop, and go to Section 8, after the first sign of Disorganized Thinking is noted.**	Check if sign positive
	Was the patient's flow of ideas unclear or illogical? (F3)	☐
	Was the patient's conversation rambling, inappropriately verbose, or tangential? (F3)	☐
	Was the patient's speech unusually limited or sparse? (F3)	☐
8	**Ratings for Attention (Feature 2/F2). Only rate if all of the patient assessment items for Feature 2 above were responded to correctly. Stop, and go to Section 9, after first sign of Inattention is noted.**	Check if sign positive
	Does the patient have trouble keeping track of what was said or following directions? (F2)	☐
	Does the patient seem inappropriately distracted by external stimuli? (F2)	☐
9	**Ratings for Acute Change or Fluctuation (Feature 1/F1). Only rate if all patient assessment items for Feature 1 above were negative. Stop, and go to CAM Rating Summary, after 1st positive sign of Acute Change or Fluctuation is noted.**	Check if sign positive
	Did the patient's level of consciousness, level of attention or speech/thinking fluctuate during the interview? (F1)	☐
	If no prior assessments, is there evidence an acute change in memory or thinking according to records, or informant? (F1)	☐
	If prior assessments, are there any new signs of delirium based on above questions (new errors, positive ratings)? (F1)	☐
	Checkpoint: CAM Delirium feature assessment and rating summary	Check
	- At least one sign of Acute Change and/or Fluctuation was noted (Feature 1)	☐
	- At least one sign of Inattention was noted (Feature 2)	☐
	- At least one sign of Disorganized Thinking was noted (Feature 3)	☐
	- At least one sign of Altered Level of Consciousness was noted (Feature 4)	☐
	CAM Criteria for Delirium: (Feature 1 AND Feature 2) AND (Feature 3 OR Feature 4) Is delirium present? Yes ☐ No ☐	

Section V. Assessment and Evaluation

Resource V-E: Protocol for Delirium Assessment and Evaluation

(Developed based on ADEPT tool, review of literature, and expert input)

Note: If patient presents with acute mental status change, then move to "Delirium Assessment" below.

Delirium risk assignment (essential first step in process):

- Assign to high-risk if **two or more** of the following is present:
    - Age 65 years or older
    - Cognitive impairment (past or present) and/or dementia.
    - Current hip fracture
    - Severe illness (a clinical condition that is deteriorating or is at risk of deterioration) or serious infection
    - Residing in skilled nursing facility

History:

- History of recent changes in medical condition or medications
    - Assess for medication history, including use of OTC medications, alcohol (amount, last drink), illicit drugs, recent changes in medications, high-risk medications, and medication noncompliance.
- History of patient's baseline mental status and level of functioning
    - Is the patient normally fully oriented? Any recent behavioral changes, confusion, agitation, hallucinations or delusions -- with time course of any changes
    - Previous delirium
    - Has the patient experienced functional decline? History of recent falls?

Delirium Assessment: See Toolkit section for screening and diagnosis of delirium

- Delirium Screening: 2-item screener, or Delirium Triage Screen (If an acute change in mental status cannot be established, then evaluate as delirium until a history can be obtained)
- Delirium Assessment: Examples, B-CAM; 2-item screen or Mini-Cog plus CAM short-form; 3D-CAM
    - Can include Days of the Week Backwards ___/7 or Months of the Year Backwards ___/12

Initial examination:

- Obtain full HPI (history of present illness)
- Detailed HPI & ROS (review of symptoms), including
    - Medication changes?
    - Medication non-compliance?
    - Toxins or alcohol exposure?
    - Amount/last drink
- Vital signs
- Physical examination
- Focused neuro exam: signs of stroke, intracranial hemorrhage, or occult seizures
- Skin survey (for signs of infection, occult ulcers, trauma, pain)
- Routine laboratory testing
- Fingerstick glucose
- Cognitive assessment:
    - Mini-cog test
    - Delirium assessment (see standing order recommendations below)

Section V. Assessment and Evaluation
Resource V-E: Protocol for Delirium Assessment and Evaluation, cont.

Evaluation:

- Core work up to consider:
  - CBC (complete blood count) with diff
  - CMP (complete metabolic profile)
  - [If anticoagulated only: INR (international normalized ratio), PT (prothrombin time), aPTT (activated partial thromboplastin time)]
  - EKG (electrocardiogram)
  - If urinary symptoms: Urinalysis with urine culture
  - If suspected acute coronary syndrome or suspected CHF (congestive heart failure) exacerbation: troponin, BNP (brain natriuretic peptide)
  - If infection suspected: lactate, blood cultures, urinalysis/urine culture
- Other targeted assessments to consider: bladder ultrasound for urinary retention, venous or arterial blood gas, TSH (thyroid stimulating hormone), carboxyhemoglobin, toxicology screen, core temperature for hypothermia, CXR (chest x-ray), CT (computerized tomography) abdomen/pelvis, CT head, ETOH (ethyl alcohol) level

Evaluation should consider the following areas:	
Evaluation for:	**Approach:**
"Do not miss" conditions	Prioritize evaluation for the following conditions: hypoxia/respiratory failure, hypoglycemia, stroke, acute coronary syndrome, epidural/subdural hematoma, herpes encephalitis, drug overdose or withdrawal, toxic exposures (e.g., carbon monoxide), myxedema
Infection/sepsis	Chest x-ray, blood/urine cultures, lactate, chest or abdominal CT, LP (lumbar puncture)
Drug-related	Specific drug levels (e.g., lithium, digoxin, acetaminophen, salicylate), venous blood gas (for hypercarbia)
Intoxication or withdrawal	Ethanol level, urine drug screen, CIWA (Clinical Institute Withdrawal Assessment for Alcohol) scoring
Trauma evaluation	CT head-- for any focal deficits, signs of head injury, severe headache, seizure, patient on anticoagulation, or otherwise unexplained decreased level of arousal
Cardiac disease	EKG, troponin, BNP, chest x-ray

Section V. Assessment and Evaluation

Resource V-F: Standing Order Recommendations Part I

Part I: Assessment and Evaluation of Delirium ***Think of delirium as a neurologic emergency***		
#	**Item**	**Recommendation**
1	**Delirium Risk Assignment (triage)**	• If patient presents with acute mental status change, then move to Step 4 (delirium assessment) below. • Assign to high-risk if **two or more** of the following are present: ○ Age 65 years or older ○ Cognitive impairment (past or present) and/or dementia. ○ Current hip fracture ○ Severe illness (a clinical condition that is deteriorating or is at risk of deterioration) or serious infection ○ Residing in skilled nursing facility
2	**History (primary RN or MD)** *For clues about delirium or contributing factors. Family or collateral report if possible.*	• Any recent change in mental status (requires family or external report)? → ☐Yes ☐ No ☐ Medication changes? ☐Medication non-compliance? Functional decline? → ☐Yes ☐ No if so, which category: _____ ☐ Recent falls (past week)? ☐ Yes ☐ No • Any hallucinations/delusions? → ☐Yes ☐ No • Any behavioral changes? → ☐Yes ☐ No • Toxins or alcohol exposure? → ☐Yes ☐ No → amount/last drink • Any prior history of delirium (acute confusion)? → ☐Yes ☐ No
3	**Delirium screening (triage, for high-risk)**	• 2-item screener, or Delirium Triage Screen *If an acute change in mental status cannot be established, then evaluate as delirium until a history can be obtained.*
4	**Delirium assessment (RN/MD)**	• Examples: B-CAM; 2-item screen or Mini-Cog plus CAM short-form; 3D-CAM • Can include Days of the Week Backwards → __/7 or Months of the Year backwards → _____/12
5	**Initial evaluation (RN/MD)** *Targeted initial evaluation recommended for all high-risk and screen-positive patients*	☐ Obtain full HPI ☐ Detailed HPI & ROS, including: • Medication changes? • Medication non-compliance? • Toxins or alcohol exposure? • Amount/last drink ☐ Detailed Physical exam including • Vital signs • Physical examination • Focused neuro exam • Skin survey (for signs of infection, occult ulcers, trauma, pain) ☐EKG ☐ Routine Laboratory Testing ☐ Fingerstick blood glucose ☐ CBC with diff ☐ Complete metabolic profile ☐ *If anticoagulated:* INR, PT, aPTT ☐ *If MI/CHF exacerbation suspected*: Troponin, BNP ☐ *If infection suspected*: frequent vital signs, lactate, blood cultures, urinalysis/urine culture.

6	**Additional tests that may be indicated in selected patients)**	☐Core temperature (R/O hypothermia) ☐TSH ☐VBG/ABG ☐Urine or serum toxicology screens ☐ETOH level ☐Ammonia ☐Carboxyhemoglobin	☐ CXR ☐*If urinary symptoms only*: Urinalysis with urine culture ☐CT abdomen/pelvis ☐CT head ☐Bladder ultrasound (R/O urinary retention)
	❖ ***"Do Not Miss" conditions to consider in delirium***: *hypoxia/hypercarbia/respiratory failure, hypoglycemia, stroke, acute MI, epidural/subdural hematoma, herpes encephalitis, alcohol/drug intoxication or withdrawal, toxic exposures (e.g., carbon monoxide), myxedema*		
	❖ ***Additional testing to consider as indicated*** o *Drug levels: Digoxin, lithium, acetaminophen, salicylate, carboxyhemoglobin* o *Lumbar puncture*		

These recommendations are designed to be adapted into a standing order set in your emergency department. Note: Not all of these will be appropriate or possible in every ED; they are intended to be edited and adapted for your context.

Section V. Assessment and Evaluation

Resource V-G: AGS Beers Criteria Pocket Card

(Cut out, fold, and laminate for regular clinician use)

AGS Beers Criteria for Potentially Inappropriate Medication Use in Older Adults: Delirium

Anticholinergics (see reverse) Antipsychotics Benzodiazepines Corticosteroids (oral and parenteral) H2-receptor agonists Cimetidine Famotidine Nizatidine Ranitidine Meperidine Nonbenzodiazepine, benzodiazepine receptor against hypnotics: eszopiclone, zaleplon, zolpidem	Avoid in older adults with or at high risk of delirium because of potential of inducing or worsening delirium. Avoid antipsychotics for behavioral problems or dementia and/or delirium unless non-pharm options have failed or are not possible *and* the older adult is threatening substantial harm to self or others. Antipsychotics are associated with greater risk of cerebrovascular accident (stroke) and mortality in patients with dementia.

Reference: Table 3, 2019 Updated AGS Beers Criteria for Potentially Inappropriate Medication Use in Older Adults. J Am Geriatr Soc 2019. https://www.ncbi.nlm.nih.gov/pubmed/30693946

Drugs with Strong Anticholinergic Properties

Antiarrhythmic	Carbinoxamine	**Promethazine**	Perphenazine
Disopyramide	Chlorpheniramine	Pyrilamine	Thioridazine
Antidepressants	Clemastine	Trifluoperazine	
Amitriptyline	Cyproheptadine	**Antimuscarinics**	**Antispasmodics**
Amoxapine	Dexbrompheniramine	Darifenacin	Atropine (excludes ophthalmic)
Clomipramine	Dexchlorpheniramine	Fesoterodine	Belladonna alkaloids
Desipramine	Dimenhydrinate	Flavoxate	Scopolamine (excludes ophthalmic)
Doxepin (>6 mg)	Diphenhydramine (oral)	Oxybutynin	
Imipramine	Doxylamine	Solifenacin	
Nortriptyline	Hydroxyzine	Tolterodine	
Paroxetine	Meclizine	Trospium	
Protriptyline	Clidinium-chlordiazepoxide	**Antiparkinson agents**	**Skeletal muscle relaxants**
Trimipramine	Dicyclomine	Benzotropine	
Antiemetics	Homatropine (excludes ophthalmic)	Trihexyphenidyl	Cyclobenzaprine
Prochlorperazine	Hyoscyamine	**Antipsychotics**	Orphenadrine
Promethazine	Methscopolamine	Chlorpromazine	
Antihistamines (first gen)	Propantheline	Clozapine	
Brompheniramine		Olanzapine	

Section VI. Delirium Prevention Strategies

Resource VI-A: Protocol for Delirium Prevention and Treatment*

(Developed based on ADEPT tool, review of literature, and expert input)

Prevention of delirium (Part II of Standing Order Recommendations):

- Treat any underlying conditions which may contribute to delirium (infection, electrolyte disorders, medication-related, etc.)
- Treat symptoms, such as pain, nausea, constipation, dry mouth, etc.
- Document date, time, and amount of last alcoholic drink (if applicable)
- Pain symptom relief
    - Moderate pain:
        - Acetaminophen 650mg q6 hours, standing
        - Low dose oxycodone 2.5-5mg q4 hours PRN (every four hours as needed)
        - Lidoderm patch
    - Severe pain
        - Hydromorphone 0.25-0.5mg q4 hours PRN
        - Consider nerve block by skilled professional, if appropriate
- Nausea relief:
    - Ondansetron (4-8mg PO or 2-4mg IV q8 hours PRN)
- Dry mouth/hydration/nutrition relief:
    - Ice chips, mouth swabs
    - Encourage PO (oral) intake/oral fluids (if patient not NPO [nothing by mouth])
    - PO diet order (if patient not NPO), encourage to eat
    - Aspiration precautions
    - If unable to take PO, consider maintenance normal saline
- Constipation relief:
    - Senna 8.6 one tab BID (twice daily)
    - Polyethylene glycol 17 grams daily
    - Bisacodyl 10mg suppository QD PRN; hold for >2 BM (bowel movements) per day.
- Review medications: minimize Beers criteria medications (use less harmful alternatives); minimize doses. Avoid use of high-risk medications: benzodiazepines (unless taking chronically and at risk of withdrawal), diphenhydramine, sedatives, muscle-relaxants, anticholinergics, anti-histamines, antipsychotics, ketamine. [See also Beers criteria medications].
- Restart home medications unless contraindicated. Avoid any high-risk drugs as above (e.g. diphenhydramine/antihistamines, sedatives, muscle-relaxants, antihistamines).
- Normalize daily function and implement nonpharmacologic prevention approaches:
    - Encourage family presence and involvement in orienting and calming patient. Family brochure (See Resources): includes information about delirium, orienting patients, help with mobilizing, hydration, nutrition
    - Offer activity toolbox[4]

Section VI. Delirium Prevention Strategies

Resource VI-A: Protocol for Delirium Prevention and Treatment, cont.

- Provide adequate hydration and nutrition (family members/caregivers can be engaged to ensure patients are adequately nourished and hydrated)
- Assure access to toileting and enhance mobility
- Ensure ambulation or up in chair every 2-4 hours if possible during daytime hours, prevent pressure sores, out of bed with meals
- Provide vision and hearing adaptations if impairments present. Be sure glasses and hearing aids worn if needed.
- Limit disruptions and unnecessary VS and BP (blood pressure) cuff cycling, telemetry, pulse ox (especially while patient is waiting for transition and has completed work-up)
- Provide day/night signals and maintain sleep-wake cycle as much as possible.
  - Nonpharmacologic sleep protocol (warm milk/herbal tea; relaxation music; massage; warmed blanket)
  - Melatonin 3-6mg at HS (at bedtime)
- Provide chairs, order non-skid socks
- 1:1 sitters for those who are agitated or very high risk

- Avoid tethers and immobilizing devices: Foley catheters, continuous IV infusions, BP cuffs, monitors, bed/chair alarms, restraints, continuous O_2 monitor, nasal cannula, etc.

Management of delirium (once delirium is detected) (Part III of Standing Order Recommendations):

- Treat any underlying conditions which may contribute to delirium (infection, electrolyte disorders, medication-related, etc.); causes are often multifactorial
- Treat symptoms, such as pain, nausea, constipation.
- Anticipate basic needs (hunger, hydration, toileting) and provide reassurance and comfort measures (i.e., pain relief, warm blanket)
- Provide reassurance, redirection, distraction (e.g., activity carts[3-4]) and means for self-orientation (clocks, calendars, signs).
  - Encourage family involvement for reorientation, calming communication, therapeutic activities, hydration/nutrition
- Prevent injury or other complications:
  - High falls risk—order lower beds, provide chairs, use non-skid socks. Consider sitters for patients with agitation or very high falls risk.
  - Aspiration precautions
  - Ambulate every 2-4 hours during daytime hours if possible

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[3] Sample therapeutic activities outlined in: Waszynski C, Veronneau P, Therrien K, et al. Decreasing Patient Agitation Using Individualized Therapeutic Activities. Am J Nurs 2013; 113(10):32-39.

[4] Ricker JR, Mulligan MM. Activity kits as a first line intervention to care for individuals with dementia. Geriatric Nursing 2017;38:604-605.

Section VI. Delirium Prevention Strategies

Resource VI-A: Protocol for Delirium Prevention and Treatment, cont.

  - Protect skin, prevent pressure sores
  - Provide mobility to prevent DVT (deep vein thrombosis), PE (pulmonary embolism), pressure sores, UTIs (urinary tract infections)
- Nonpharmacologic management: Follow all prevention steps listed above. Assure adequate hydration and nutrition. Restart home meds unless contraindicated.
- Sleep/wake cycle recommendations [for overnight/prolonged ED stays]:
  - Provide day/night signals and maintain sleep-wake cycle as much as possible.
  - Nonpharmacologic sleep protocol (warm milk/herbal tea; relaxation music; massage; warmed blanket)
  - Melatonin 3-6mg at HS
- Encourage family involvement for reorientation, calming communication, hydration/nutrition. Encourage family to stay during this vulnerable time until transition complete (e.g., transfer to hospital room).
- Use verbal de-escalation procedures (for agitated patients) [See Toolkit for other resources on nonpharmacologic management approaches to agitation, including Tolerate, Anticipate, Don't Agitate (TADA) approach]

VERBAL DE-ESCALATION PROCEDURES FOR AGITATION (ADEPT)
Respect personal space
Avoid negative language ("No! You Can't go there!"); use positive language ("I'd like to help you by…")
Establish verbal contact
Be concise and use simple language (e.g., single-step instructions/statements)
Identify the patient's wants and feelings
Listen closely to what the patient is saying
Debrief the patient, family, and staff

- Reduce ED length of stay: Consider preferential admission for high delirium risk. While awaiting bed, avoid boarding in hallways and prioritize for a "curtained room" in ED.

- Transitions: Communicate to inpatient MD and RN (and family/caregivers) about high risk for delirium (e.g., previous delirium, cognitive impairment), presence of delirium and/or agitation.

Pharmacologic treatment of delirium with severe agitation (Part III of Standing Order Recommendations):

- Reserve pharmacologic treatment for patients who are at risk of harming themselves or others due to severe agitation, and only after nonpharmacologic approaches have failed. Medications should be prescribed at the lowest effective dose for the shortest possible duration. Careful titration and monitoring is needed. If the patient has been prescribed an antipsychotic previously, try restarting this medication first. Caution: medications may prolong delirium and result in worse clinical outcomes. Start oral regimen first if possible.

Section VI. Delirium Prevention Strategies

Resource VI-A: Protocol for Delirium Prevention and Treatment, cont.

- ***"Start low and go slow" with dosing in elderly patients. Note that the effect is not immediate with any of these drugs. Avoid redosing too soon, allow at least 30 mins for PO meds and 15 mins for IV meds before redosing. Monitor for adverse effects. Taper and discontinue as quickly as possible.***

ORAL TREATMENTS	
Medication and Oral Dose	**Specific Contra-indications and Risks**
Haloperidol 0.25-0.5 mg *May repeat q1hr, not to exceed 3-5mg in 24h*	May cause orthostatic hypotension and somnolence; **RARE** dystonia or QT prolongation *Consider discontinuation if QTc>500; absolute contraindication in Parkinson's*
Olanzapine 2.5-5mg BID PRN *Anti-emetic effects* *Available sublingually*	May cause orthostatic hypotension and somnolence
Quetiapine 12.5-25mg BID PRN *Fewer extra-pyramidal side effects in patients with Parkinsonism. Sedating; consider for nighttime symptoms*	May cause orthostatic hypotension and somnolence
Risperidone 0.5-1mg BID PRN	Caution in frail or volume-depleted patients, may cause orthostatic hypotension

- If oral medications are not effective, consider IM or IV medications. Use lowest dose possible to maintain patient and staff safety. Medications can be re-dosed as needed. AVOID doses of ≥5mg IM haloperidol as these can have prolonged side effects and sedation.
- Consider pharmacodynamics for each individual older patient. Re-dose oral medications no sooner than 30-60 mins

IM and IV TREATMENTS	
Medication and IM or IV Dose	**Specific Contra-indications and Risks**
Haloperidol 0.5-1 mg IM Haloperidol 0.25-0.5mg IV	May repeat q1hr, not to exceed 3-5mg in 24h. Higher risk for extra-pyramidal side-effects than the atypical anti-psychotics. High risk with IV, so IM is preferred. Higher risk of orthostatic hypotension and QT prolongation/torsades with IV usage, which should be administered in a monitored setting.
Olanzapine 2.5-5mg IM BID PRN	Caution in intoxicated or volume-depleted patients.
Ziprasidone 10 IM q 2h PRN (not to exceed 40mg in 24hr)	Caution in uncontrolled heart failure or cardiac disease, intoxicated, or volume depleted/orthostatic patients.

Section VI. Delirium Prevention Strategies

Resource VII-A: Protocol for Delirium Prevention and Treatment, cont.

- Consider pharmacodynamics for older patients. Re-dose IV medication no sooner than 15 mins.
- BLACK BOX WARNING: All the above anti-psychotics have a black-box warning that they are not approved for dementia-related psychosis due to an increased mortality risk in elderly patients with dementia. It is unclear how the medications contribute to increased mortality which is typically due to infection or cardiovascular causes. They should be used for delirium-associated agitation for short-term only.
- NOTE ON BENZODIAZEPINES: If a patient is chronically on benzodiazepines, do not stop these precipitously. Consider dose reduction when given in the ED. Otherwise avoid the use of benzodiazepines if possible. They may cause prolonged sedation, paradoxical agitation, or worsening of delirium. If benzodiazepines are used, then the doses should be small, such as 0.5-1 mg lorazepam PO, IV, or IM. Note: benzodiazepines may be necessary when acute sedation is required, such as for a procedure needed for care, after discussion of risks and benefits with patient/family, and with close monitoring of vital signs and respiratory function.
- AVOID DIPHENHYDRAMINE: Do not use medications such as diphenhydramine for agitation in elderly patients. It has strong anti-cholinergic effects and produces prolonged sedation in many older patients.

*NOTE: This protocol focuses on delirium that is NOT related to alcohol withdrawal

Section VI. Delirium Prevention Strategies

Resource VI-B: Standing Order Recommendations Part II

Part II: Prevention of Delirium			
#	**Item**	**Recommendation**	
1	**Treat underlying conditions/risk factors for delirium**	Treat underlying conditions revealed in evaluation above (e.g., infections, electrolyte disorders, medications, etc.). Also treat conditions that can precipitate and/or exacerbate delirium, including pain, nausea, constipation, etc. Determine risk of alcohol withdrawal (Document date, time, and amount of last alcoholic drink).	
2	**Symptom relief*** *[*Use scheduled pain medications rather than PRN]*	**Moderate pain:** ☐ acetaminophen 650mg q6 hours, standing ☐ low dose oxycodone 2.5-5mg q4 hours PRN ☐ Lidoderm patch **Severe pain:** ☐ hydromorphone 0.25-0.5mg q4 hours PRN ☐ Consider nerve block by skilled professional, if appropriate	**Nausea:** ☐ ondansetron (4-8mg PO or 2-4mg IV q8 hours PRN) **Dry mouth/hydration/nutrition** ☐ Ice chips, mouth swabs ☐ Encourage PO intake / oral *fluids (if patient not NPO)* ☐ PO diet order *(if patient not NPO),* encourage to eat ☐ Aspiration precautions ☐ If unable to take PO, consider maintenance normal saline **Constipation:** ☐ Senna 8.6 one tab BID ☐ Polyethylene glycol 17 grams daily ☐ Bisacodyl 10mg suppository QD PRN *Hold for >2 BM per day.*
3	**Medications**	☐**Medication review:** *minimize Beers criteria medications (use less harmful alternatives); minimize doses. Avoid use of high-risk medications: benzodiazepines, diphenhydramine/antihistamines, sedatives, muscle-relaxants, anti-cholinergics, anti-histamines, antipsychotics, ketamine.*	☐Continue home medications unless contraindicated. Avoid any high-risk drugs per above *(e.g. diphenhydramine/antihistamines, sedatives, muscle-relaxants, antihistamines)*
	❖ Beers criteria medication card (See Resources)		

4	**Nonpharmacologic Prevention** *[Should be applied in all patients at risk for delirium, or screen positive]*	**Treat symptoms such as pain, nausea, constipation, and dry mouth and provide nutrition and hydration as above.** **Encourage family presence and involvement in orientation and calming patient.** **Mobility Orders:** Assure access to toileting and provide mobility assistance; prevent pressure sores ☐ Out of bed with meals ☐ Ensure ambulation or up in chair every 2-4 hours during daytime hours ☐ PT consult, as appropriate for prolonged ED stay **Sensory Deficit Orders:** ☐ Provide vision and hearing adaptations if impairments present **Limit disruptions:** ☐ Minimize frequency of vital signs measurements as clinically appropriate ☐ Discontinue unnecessary VS and BP cuff cycling, telemetry, pulse ox (especially while patient is waiting for transition and has completed work-up) ☐ Remove tethers if possible (Foley catheter, telemetry, continuous O_2 monitor, nasal cannula, etc.)	**Sleep-Wake Cycle Recommendations [for overnight or prolonged ED stays]:** ☐ Provide day/night signals and maintain sleep-wake cycle as much as possible ☐ Nonpharmacologic sleep protocol (warm milk/herbal tea; relaxation music; massage; warmed blanket) ☐ Melatonin 3-6mg at HS **Fall Risk:** ☐ Order lowered bed ☐ Provide chairs ☐ Order non-skid socks ☐ 1:1 sitters for those who are agitated or very high risk **Medical Aide-Nursing Assistant / Recommendation set options** ☐ Reorient/reassure when checking vital signs ☐ Ambulate every two hours if possible during daytime hours ☐ Offer activity toolbox† ☐ Family brochure (See Resources): Include information about delirium, orienting loved ones, help with mobilizing, hydration, nutrition

†Ricker JR, Mulligan MM. Activity kits as a first line intervention to care for individuals with dementia. Geriatric Nursing 2017;38: 604-605.

These recommendations are designed to be adapted into a standing order set in your emergency department. Note: Not all of these will be appropriate or possible in every ED; they are intended to be edited and adapted for your context.

Section VI. Delirium Prevention Strategies

Resource VI-C: Non-Pharmacological Interventions from the Hospital Elder Life Program[1]

The following are non-pharmacologic interventions for delirium prevention from the Hospital Elder Life Program, a comprehensive care program for hospitalized older adults.

Interventions	Description
Orientation/Therapeutic activities	• Orientation board with names of care team members and daily schedule; orienting communication • Cognitive stimulation activities three times daily
Sleep enhancement	• At bedtime, warm milk or herbal tea, relaxation tapes or music, and back or hand massage • Nursing care coordination to allow sleep, as appropriate (e.g., prolonged or overnight stays)
Early mobilization	• Ambulation (preferred) or active range-of-motion exercises at least three times daily • Minimizing use of all immobilizing equipment
Vision adaptations	• Visual aids (e.g., glasses or magnifying lenses) and adaptive equipment (e.g., large illuminated telephone keypads, large print books, and fluorescent tape on call bell) • Reinforcement of use of visual aids when needed
Hearing adaptations	• Portable amplifying devices and special communication techniques, with reinforcement for use.
Fluid repletion and nutrition	• Encourage fluids • Provide mealtime assistance as needed.

[1]Adapted from: Hospital Elder Life Program, www.hospitalelderlifeprogram.org

Section VI. Delirium Prevention Strategies

Resource VI-D: HELP One-Page Summary

Delirium, an acute confusional state, is an exceedingly common complication of hospitalization, occurring in up to 60 percent of older individuals requiring acute level medical care. More than two million elders will develop delirium each year, resulting in a significant decline in their function both during the hospitalization and following discharge. Persons with delirium have an increased length of stay in the hospital in addition to an increased risk of falls, and are more likely to require long term institutional care. Furthermore, not all persons with delirium recover completely. Clearly the prevention of delirium is an essential part of first class hospital care. Delirium is expensive, costing hospitals and Medicare at least $7 billion per year[1]. Additionally delirium-related medical, nursing home, and home care[2] costs reach about $118 billion annually.

The **Hospital Elder Life Program (HELP)** is a well-studied, effective and innovative model of hospital care designed to prevent both delirium and functional decline[3-8]. By means of a small interdisciplinary staff and targeted intervention protocols, the HELP program has been demonstrated to improve outcomes and lower costs – the ideal combination.

Indeed, in up to 40% of cases, delirium can be prevented by the HELP Program, designed to maintain the mental and physical functioning of older adults throughout hospitalization. Furthermore it is designed to maximize each person's independence at discharge thereby preventing the need for readmission. The Program utilizes a trained interdisciplinary team and includes such activities as daily visits, activities to increase mental stimulation, exercise and walking assistance as well as programs to ensure that each elder can hear and see to the maximum extent possible. Also the HELP Program decreases a most serious consequence of hospitalization, the risk of falling thereby lowering the risk of fractures.

HELP is currently being implemented in over 200 hospitals worldwide. When provided for appropriate patients, HELP results in average savings of $1,000 per patient served.[5] An additional cost saving of over $2,000,000 per year per institution is achieved by reducing the number of lawsuits for iatrogenic complications, such as falls. HELP has been shown to improve nursing job satisfaction and thereby retention of these essential employees as well as patient and family satisfaction.[9] In summary, the HELP Program improves quality and lowers costs while raising the morale of the staff. Perhaps most importantly, HELP is relatively simple to implement and proven to reduce the incidence of delirium in older adults in the hospital. This has a significant impact on quality outcomes, total cost of care, and the long term functional status of patients.[10,11]

1. Inouye SK, Westendorp RGJ, Saczynski J. Delirium in elderly people. Lancet. 2014; 383:911-922. [Systematic review]..; 2. Leslie DL et al. Gerontologist 2005; 45 (II): 299; 3. Inouye SK et al. New England Journal of Medicine 1999;340:669-676; 4. Inouye SK et al. Journal of the American Geriatrics Society 2000; 48: 1697-1706; 5. Rizzo JA et al. Medical Care 2001;39:740-752; 6. Rubin FH et al. Journal of the American Geriatrics Society 2006; 54: 969-74; 7. Leslie DL et al. Journal of the American Geriatrics Society 2005; 53:405-9;8. Rubin FH et al. Journal of the American Geriatrics Society 2011; 54: 969-974; 9. Inouye SK et al. Journal of the American Geriatrics Society 2006; 54:1492-99. 10. Hshieh TT et al. JAMA Intern Med 2015;175(4): 512-520. 11. Hshieh TT et al. American Journal of Geriatric Psychiatry 2018; 26(10): 1015-1033.

The Need for HELP – A Case Study

Mrs. "Smith" is a 78-year-old woman who was living independently prior to hospitalization for heart problems. Within 24 hours, she was agitated, uncooperative and hallucinating. She fell and was injured. She required constant supervision and suffered numerous complications, including pneumonia. Following a prolonged hospital stay, she was discharged to a nursing home. All this happened because she developed avoidable delirium while in the hospital.

Section VII. Transitions of Care

Resource VII-A: Transfer Checklist from ED to Inpatient Unit or to Skilled Nursing Facility

DELIRIUM TRANSFER CHECKLIST

Nurse and physician should communicate about the following areas in all patients with delirium or at high risk for delirium when transferring patient from ED to floor.

Risk Factors: Is patient at high risk? Any **two or more** of the risk factors below puts patient at high risk--

- ☐ Age 65 years or older
- ☐ Cognitive impairment (past or present) and/or dementia
- ☐ Current hip fracture
- ☐ Severe illness or serious infection
- ☐ Residing in skilled nursing facility

Delirium Assessment: Is delirium present? Yes or No_____

Describe patient's baseline mental and functional status (intact, impaired/degree of impairment, symptoms):

_____

_____

What screening test done: _____

Describe delirium symptoms present: _____

Any agitation present? Yes or No_____ If Y, describe symptoms:

_____

Evaluation/Work Up (Any potential contributors Identified, symptoms present)

Specify:_____

_____

_____

Delirium Prevention: Indicate prevention strategies implemented in ED (with details):

- ☐ Hydration/Nutrition: _____
  - ☐ Time of last meal: _____
- ☐ Reorientation techniques: _____
- ☐ Mobility (any aids needed?): _____
- ☐ Hearing aids: _____
- ☐ Visual aids, glasses: _____
- ☐ Non-pharmacological sleep protocol: _____

Section VII. Transitions of Care

Resource VII-A: Transfer Checklist from ED to Inpatient Unit or to Skilled Nursing Facility (cont.)

Delirium Management: Indicate management strategies implemented in ED:

- ☐ Medication/Pharmacist Review – avoid or minimize antipsychotic use/Beers List meds
- ☐ Minimized restraints and alarms
- ☐ Maintained orientation
- ☐ Maintained mobility
- ☐ Delirium assessment ongoing
- ☐ Agitation management? What nonpharmacologic approaches helped?
    - ☐ Avoided Foley catheter
    - ☐ Used "Tolerate, Anticipate, Don't Agitate" (TADA) approach; details: _____
    - ☐ Family involvement: _____
    - ☐ Medications required (indicate):_____
- ☐ Describe what helped most:

_____

_____

Important contact information:

Family: _____

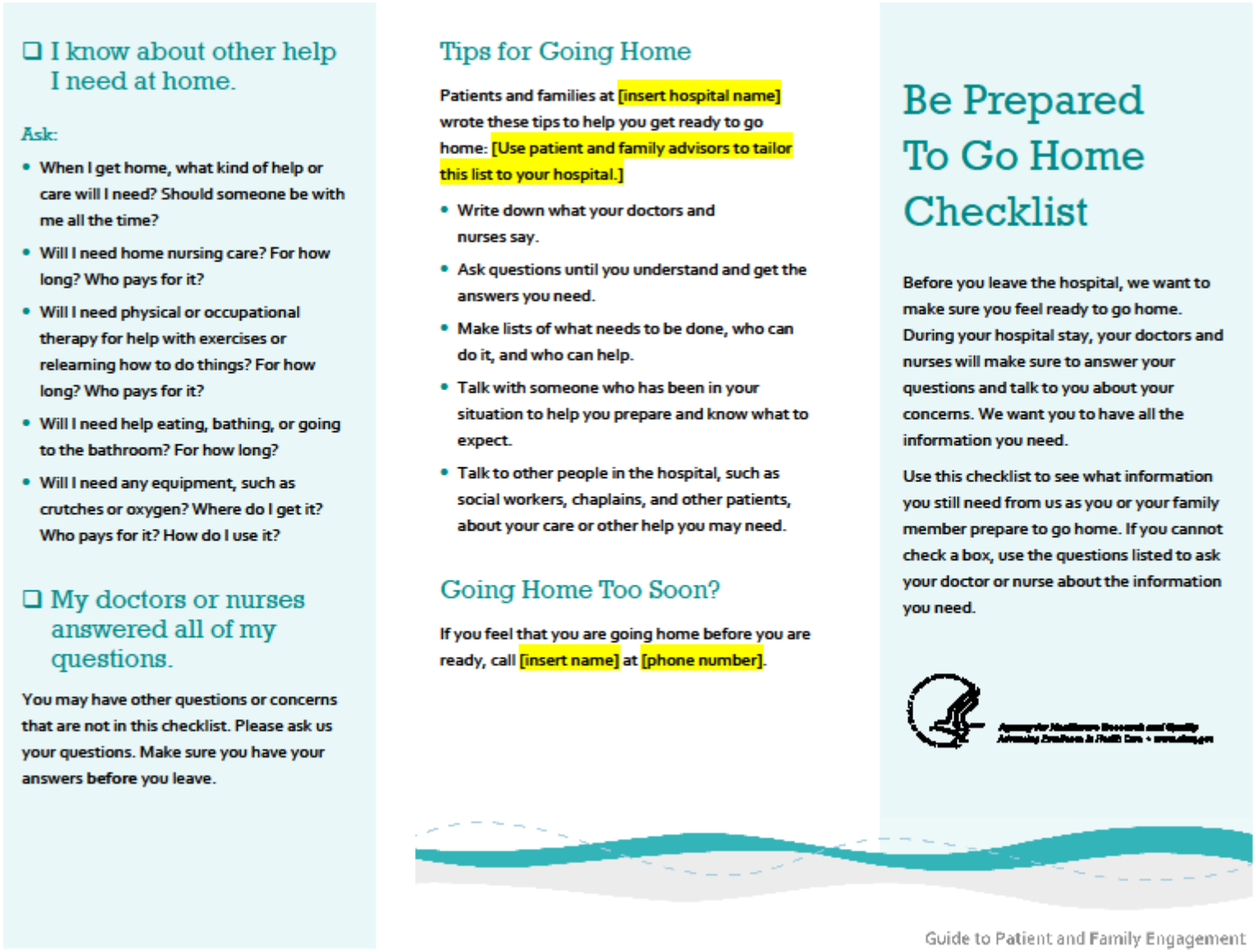
Primary Care Physician: _____

Pharmacy: _____

Section VII. Transitions of Care

Resource VII-B: Be Prepared to Go Home Checklist (For Patients)

Access full brochure here:
https://www.ahrq.gov/sites/default/files/wysiwyg/professionals/systems/hospital/engagingfamilies/strategy4/Strat4_Tool_2a_IDEAL_Checklist_508.pdf



❑ I know about other help I need at home.

Ask:

- When I get home, what kind of help or care will I need? Should someone be with me all the time?
- Will I need home nursing care? For how long? Who pays for it?
- Will I need physical or occupational therapy for help with exercises or relearning how to do things? For how long? Who pays for it?
- Will I need help eating, bathing, or going to the bathroom? For how long?
- Will I need any equipment, such as crutches or oxygen? Where do I get it? Who pays for it? How do I use it?

❑ My doctors or nurses answered all of my questions.

You may have other questions or concerns that are not in this checklist. Please ask us your questions. Make sure you have your answers before you leave.

Tips for Going Home

Patients and families at [insert hospital name] wrote these tips to help you get ready to go home: [Use patient and family advisors to tailor this list to your hospital.]

- Write down what your doctors and nurses say.
- Ask questions until you understand and get the answers you need.
- Make lists of what needs to be done, who can do it, and who can help.
- Talk with someone who has been in your situation to help you prepare and know what to expect.
- Talk to other people in the hospital, such as social workers, chaplains, and other patients, about your care or other help you may need.

Going Home Too Soon?

If you feel that you are going home before you are ready, call [insert name] at [phone number].

Be Prepared To Go Home Checklist

Before you leave the hospital, we want to make sure you feel ready to go home. During your hospital stay, your doctors and nurses will make sure to answer your questions and talk to you about your concerns. We want you to have all the information you need.

Use this checklist to see what information you still need from us as you or your family member prepare to go home. If you cannot check a box, use the questions listed to ask your doctor or nurse about the information you need.

Guide to Patient and Family Engagement

❑ I feel confident that I or someone close to me can take care of me at home.

Ask:

- How do I take care of any wounds, cuts, or incisions? Can you show me how to do this?
- What foods or drinks should I avoid? For how long?
- Are there any activities I should not do like driving, sex, heavy lifting, or climbing stairs? For how long?
- What exercises are good for me? When and how often should I do them?
- What do I need to do to make my home safer?

❑ My family or someone close to me knows I am coming home and knows the next steps in my care.

Ask:

- Will I need help when I get home? If so, who will help me? What do they need to do to get ready?
- What should I do if there is no one at home who can help me?

❑ I know what my medicines are and how to take them.

Ask:

- What medicine(s) do I need to take when I leave the hospital? Do I take the same medicines that I took before I went into the hospital?
- What is the name of this medicine? Is this the generic or brand name?
- Why do I take this medicine?
- When and how do I take this medicine?
- How much do I take?
- What does this medicine look like?
- What are potential side effects of this medicine? What problems do I need to look out for?
- Will this medicine interfere with other medicines, foods, vitamins, or other herbal supplements I take?
- Where and how do I get this medicine?
- What medicines can I take for pain? Upset stomach? Headaches? Allergies?

❑ I know what problems to look for and who to call if I have problems at home.

Ask:

- What problems do I need to watch for when I get home? If I have problems, how do I know when I should call?
- Who do I call if I have questions or problems when I get home?
- If I have questions about my care after I leave the hospital, should

call_____

at_____

❑ I know when my followup appointments are and how to get there.

Ask:

- What appointments do I need after I leave the hospital? Can the hospital help me make these appointments?
- Am I waiting on results of any tests? When should I get the results?
- Are there tests I need after I leave the hospital?

Section VII. Transitions of Care

Resource VII-C: Sample of an ED Senior Screening Transition Form

Example provided by St. Mary Mercy Hospital in Livonia, Michigan: Senior Screenings handoff form, including delirium screening and interventions given.

Physician/NP/PA: Please return yellow form to chart clipboard following documentation in MDM and/or insert in Medical Records bin

Room #

PATIENT INFORMATION LABEL

RN Name PHYSICIAN Name Date: ___

Senior Screen Hand-off Form (see back for screening questions)

DELIRIUM (Confusion Assessment Method – CAM)

A Geriatric Delirium Management order set exists; Avoid benzodiazepines!

◯ Positive (RN please select nonpharma interventions given)

☐ Low Stimulation Environment (eg.dim lights) ☐ Orient frequently ☐ Pain assessment (PAIN-AD if dementia)

☐ Date/Day Orientation on white boards' ☐ Visual aids (glasses) ☐ Hearing aids/pocket talker

☐ Mobility ☐ Music therapy (Channel 17, 18) ☐ Fluids (hydration) ☐ Nutrition (mealtime assistance)

☐ Swallow screen (r/o aspiration) ☐ Fall risk interventions ☐ Delirium brochure given to family

Physician/APP Responsibility: ☐ Admit eg. Delirium due to known medical condition or unknown. (avoid AMS) ☐ Inform Admit Team ☐ Avoid Benzo ☐ AVOID D/C

COGNITIVE IMPAIRMENT ☐ Orientation Memory Concentration Test – OMCT

◯ Positive ◯ *Lives alone?* ◯ *No caregiver available, willing, or able?*

Physician/APP Responsibility: Suggest Referral to Senior Wellness Clinic (brochures in each room) (D/C instructions automatically print in AVS)

POSSIBLE DEPRESSION (Geriatric Depression Scale – GDS)

◯ Positive ◯ *Lives alone?* ◯ *No caregiver available, willing, or able?*

SELF HARM? ◯ Positive suicide ideation ◯ Negative suicide ideation

Additional Comments from RN: ◯ Low risk ◯ Medium Risk ◯ High Risk

Physician/APP Responsibility: D/C instructions automatically print in AVS

Malnourishment Screen Tool (MST)

◯ *Positive* ◯ *Lives alone* ◯ *No caregiver available willing, or able*

◯ *Food scarcity? (box of food in SW office)*

Physician/APP Responsibility: D/C Instructions: "Nutrition: Older Adults"

MEDICAL RECORDS:PLEASE RETURN FORM TO MOCCIA (ED) R9/20)

Section VII. Transitions of Care

Resource VII-C: Sample of an ED Senior Screening Transition Form (cont.)

DELIRIUM (CAM)

FEATURE 1: Acute mental status change from baseline or fluctuating course of abnormal behavior

FEATURE 2: Difficulty focusing attention – ask 2 questions

1.Tell me tell me the months of the year backward beginning with December. (may prompt with "what is the month before", with up to 2 prompts) For one or more errors chart yes.

2. Please tell me the day of the week?

Feature 2: Positive if # of errors ≥ 1; patient has no response; or answers "I do not know".

FEATURE 3: incoherent or disorganized thinking

Feature 3 screens for incoherent/ disorganized thinking. Directions: Using *Yes/No* questions &command. Will a stone float on water? Are there fish in the sea? Does one pound weigh greater than two? Can you use a hammer to pound a nail? Ask the patient to follow command "Hold up this many fingers" (you hold up 2 fingers); "Now do the same thing with the other hand" (do not demonstrate) OR ask patient to "add one more finder" if patient unable to move both arms.

Feature 3 positive if # of errors ≥ 1

Feature 1 + 2 and either Feature 3 and/or 4 = DELIRIUM

FEATURE 4 : Rate level of consciousness:

Normal, Hyperalert, Lethargic, Stupor, Coma (if patient stuporous or coma, delirium cannot be identified)

ORIENTATION MEMORY CONCENTRATION TEST (OMCT) – COGNITIVE IMPAIRMENT SCREENING Score of ≥10 is +)

1. What is the year?
2. What month is it now?

If patient not oriented they may miss medications, not take them at the right time, may miss appointments, and be confused because they think it is a different time or month or year

Repeat this phrase: John Brown, 42 Market Street, Chicago

3. About what time is it now (within one hour)
4. Count backwards 20 to 1 (max number of errors is 2)
5. Say the months in reverse order (max number of errors is 2)

Ask patient to Repeat the phrase "John Brown ...Chicago" after question 5. Impaired memory = *inaccurate historian managing meds, finances, nutrition, hygiene, request assistance*

Attention is the foundation of memory. Impaired attention may impact reading & understanding direction or instructions; complete personal hygiene, dress; leave oven on, get lost while driving

GERIATRIC DEPRESSION SCREENING (GDS) (Score of ≥ 2 is positive)

1. **Are you basically satisfied with your life?**
2. **Do you often get bored?**
3. **Do you often feel helpless**
4. **Do you prefer to stay at home, rather than going out and doing new things?**
5. **Do you feel pretty worthless the way you are now?**

If positive, a self- harm screening is performed to identify suicide ideations.

Pain Assessment Tool Guidelines for use: PAINAD

Indicator	Score = 0	Score = 1	Score = 2	Total Score
Breathing:	Normal breathing	Occasional labored breathing. Short period of hyperventilation	Noisy labored breathing. Long period of hyperventilation. Cheyne-Stokes respiration	
Negative vocalizations:	None	Occasional moan/groan. Low level, speech with a negative or disapproving quality	Repeated troubled calling out. Loud moaning or groaning. Crying.	
Facial Expression	Smiling or inexpressive	Sad, frightened, frown	Facial grimace	
Body Language	Relaxed	Tense, distressed, pacing, fidgeting.	Rigid, fists clenched. Knees pulled up. Striking out. Pulling or pushing away.	
Consolability:	No need to console	Distracted by voice or touch.	Unable to console, distract or reassure.	
			TOTAL:	

Section VIII. Management of Delirium

Resource VIII-A: Agitation in the ED
TADA: Tolerate, Anticipate, Don't Agitate

(This resource for clinicians provides methods to manage agitation in the ED. Adapted from video, Dr. Nina Tumosa, Gateway Geriatric Education: https://www.youtube.com/watch?v=GrJypBgHUxk)

TOLERATE: Tolerating non-normal behaviors in the hospital can help clinicians and patients to maintain calm. Tolerating these behaviors can provide a way to observe and find clues to what is causing agitated delirium.

- Patients may want be active and moving around a lot in bed
    - Consider a patient's request to walk, if possible
    - Distract the patient with gentle conversation and simple language
    - You can comfort the patient by reaching for their hand from underneath and gently holding or massaging it
- Avoid using antipsychotics or other medications with older patients as much as possible and only as a last resort if patient is going to harm self or others. Use the Beers list criteria as a guide. If you must use medications use small doses and observe the patient carefully as many medications can worsen cognition or contribute to a delirious episode

ANTICIPATE: While a patient's behavior may not be normal, some agitated behaviors are predictable.

- Anticipate and address patient's basic needs (e.g., hunger, hydration, toileting, pain)
- Patients may try to remove IVs – keep them "out of sight, out of mind"
    - Don't get frustrated at the patient who has pulled out IV
    - Evaluate whether the patient actually needs an IV or saline block
    - Hide the IV by wrapping it and taping a 'decoy' IV to the other arm
        - This can direct the patient to pulling out the decoy IV instead of their real one
    - Put the IV line behind the patient's pillow

DON'T AGITATE: To the patient with delirium and agitation, their perception is their reality. Remember they may be fearful and not able to fully comprehend the situation. Keeping calm and consistent can help manage non-normal behaviors.

- Clinicians need to conduct a full workup for causes of pain and delirium
    - Use observation to see where pain or discomfort may be coming from
    - Move slowly and gently
    - State intentions clearly before lifting or palpating the patient
    - Do not ask too many questions too quickly
- Additional interventions may be helpful while the patient is waiting to be evaluated
    - Ask what typically helps a patient during times of stress
    - Make sure the patient has glasses and hearing aids if appropriate
    - Try to create a calm environment by lowering the lights or having the patient listen to soft music if possible
    - Orient the patient to their location and reason for being there
    - Use calming and reassuring communication, validate the patient's feelings or frustrations

Section VIII. Management of Delirium

Resource VIII-B: Standing Order Recommendations Part III

Part III: Management of Delirium

#	Item	Recommendation	
1	**Delirium management**	**Treat underlying conditions contributing to delirium. Recognize that causes are often multifactorial.** **Anticipate basic needs (**e.g., hunger, hydration, toileting) and provide reassurance and comfort measures (e.g., pain relief, warm blanket**)** **See "symptom relief" in Standing Order Recommendations Part II.** **See "Verbal de-escalation procedures" below** ☐Provide reassurance, redirection, distraction (e.g., activity carts) and means for self-orientation (clocks, calendars, signs). ☐Prevent injury and complications: Minimize falls risk (lower beds, provide chairs, use non-skid socks. Consider sitters for patients with agitation or very high falls risk); aspiration precautions; ambulate every 2-4 hours during daytime hours to prevent DVT, PE, pressure sores, UTIs; protect skin, prevent pressure sores ☐Encourage family involvement for reorientation, calming communication, hydration/nutrition. Encourage family to stay for transitions of care (transfer to hospital room). ☐Consider preferential admission for high delirium risk. While awaiting bed, avoid boarding in hallways. ☐Transitions: Communicate to inpatient MD and RN (and family/caregivers) about high risk for delirium (identify risk factors, e.g., dementia, SNF, history of delirium, etc.), presence of delirium and/or agitation.	
2	**Non-pharmacologic management**	**Treat symptoms such as pain, nausea, constipation, and dry mouth and provide nutrition and hydration as above.** **Encourage family presence and involvement in orientation and calming patient.** **Mobility Orders:** Assure access to toileting and provide mobility assistance; prevent pressure sores ☐ Out of bed with meals ☐ Ambulate patient every 2-4 hours during daytime hours	**Sleep-Wake Cycle Recommendations [for overnight or prolonged ED stays]:** ☐ Provide day/night signals and maintain sleep-wake cycle as much as possible ☐ Nonpharmacologic sleep protocol (warm milk/herbal tea; relaxation music; massage; warmed blanket) ☐ Melatonin 3-6mg at HS **Fall Risk:** ☐ Order lowered bed ☐ Provide chairs ☐ Order non-skid socks ☐ 1:1 sitters for those who are agitated or very high risk

		☐ PT consult, as appropriate for prolonged ED stays **Sensory Deficit Orders:** ☐ Provide vision and hearing adaptations if impairments present **Limit disruptions:** ☐ Minimize frequency of vital signs measurements as clinically appropriate ☐ Discontinue unnecessary VS and BP cuff cycling, telemetry, pulse ox (especially while patient is waiting for transition and has completed work-up) ☐ Remove tethers if possible (Foley catheter, telemetry, continuous O_2 monitor, nasal cannula, etc.)	**Medical Aide-Nursing Assistant recommendation set options** ☐ Reorient/reassure when checking vital signs ☐ Ambulate every two hours if possible during daytime hours ☐ Offer activity toolbox* ☐ Family brochure (See Resources): Include information about delirium, orienting loved ones, help with mobilizing, hydration, nutrition
3	**Verbal de-escalation procedures for agitation (from ADEPT† Tool)** *[See also "Tolerate, Anticipate, Don't Agitate" (TADA) approach in Toolkit]*	☐Respect personal space ☐Avoid negative language ("No! You Can't go there!"); use positive language ("I'd like to help you by…") ☐Establish verbal contact ☐Be concise and use simple language (e.g., single-step instructions/statements) ☐Identify the patient's wants and feelings ☐Listen closely to what the patient is saying ☐Debrief the patient, family, and staff	
4	**Pharmacologic management for severe agitation**	*Reserve pharmacologic treatment for patients who are at risk of harming themselves or others due to severe agitation, and only after nonpharmacologic approaches have failed.* ***Medications should be prescribed at the lowest effective dose for the shortest possible duration. Careful titration and monitoring is needed. Caution: Medications may prolong delirium and result in worse clinical outcomes.*** *If the patient has been prescribed an antipsychotic previously, try restarting this medication first. Start oral regimen first if possible.* *If oral medications are not effective, consider IM or IV medications. Use lowest dose possible to maintain patient and staff safety. Medications can be re-dosed as needed. AVOID doses of ≥5mg IM haloperidol as these can have prolonged side effects and sedation.* ***"Start low and go slow" with dosing in elderly patients. Note that the effect is not immediate with any of these drugs. Avoid redosing too soon, allow at least 30 mins for PO meds and 15 mins for IV meds before redosing. Monitor for adverse effects. Taper and discontinue as quickly as possible.***	
	Oral treatments (select one) ☐Haloperidol 0.25-0.5 mg *May repeat q1hr, not to exceed 3-5mg in 24h*	**IV/IM treatments (choose one; use only if unable to utilize PO)** ☐ Haloperidol 0.5-1 mg IM, OR Haloperidol 0.25-0.5mg IV	

	May cause orthostatic hypotension and somnolence; rare dystonia or QT prolongation *Consider discontinuation if QTc>500; absolute contraindication in Parkinson's* ☐Olanzapine 2.5-5mg BID PRN *May cause orthostatic hypotension and somnolence; anti-emetic effects* *Available sublingually* ☐Quetiapine 12.5-25mg BID PRN or QHS PRN *May cause orthostatic hypotension and somnolence; fewer extra-pyramidal side effects in patients with Parkinsonism.* *Sedating; consider for nighttime symptoms* ☐Risperidone 0.5-1mg BID PRN *Caution in frail or volume-depleted patients, may cause orthostatic hypotension*	*May repeat q1hr, not to exceed 3-5mg in 24h. Higher risk for extra-pyramidal side-effects than the atypical anti-psychotics. High risk with IV, so IM is preferred. Higher risk of orthostatic hypotension and QT prolongation/torsades with IV. Use in monitored setting.* ☐Olanzapine 2.5-5mg IM BID PRN *Caution in intoxicated or volume-depleted patients.* ☐Ziprasidone 10 IM q 2h PRN (not to exceed 40mg in 24hr) *Caution in uncontrolled heart failure or cardiac disease, intoxicated, or volume depleted/orthostatic patients.*
	❖ *BLACK BOX WARNING: All the above anti-psychotics have a black-box warning that they are not approved for dementia-related psychosis due to an increased mortality risk in elderly patients with dementia. It is unclear how the medications contribute to increased mortality which is typically due to infection or cardiovascular causes. They should be used for delirium-associated agitation for short-term only.* ❖ *NOTE ON BENZODIAZEPINES: If a patient is chronically on benzodiazepines, do not stop these precipitously. Consider slow taper and try to reduce doses administered in the ED. Otherwise avoid the use of benzodiazepines if possible. They may cause prolonged sedation, paradoxical agitation, or worsening of delirium. If benzodiazepines are used, then the dose should be small, such as 0.5-1mg lorazepam PO, IV, or IM. Note: benzodiazepines may be necessary when acute sedation is required, such as for a procedure needed for care, after discussion of risks and benefits with patient/family, and with close monitoring of vital signs and respiratory function.* ❖ *AVOID DIPHENHYDRAMINE: Do not use medications such as diphenhydramine for agitation in elderly patients. It can cause anti-cholinergic side effects and prolonged sedation. Exceptions: anaphylaxis or chemotherapy premedication.*	

*Ricker JR, Mulligan MM. Activity kits as a first line intervention to care for individuals with dementia. Geriatric Nursing 2017;38:604-605.

† ADEPT Tool = Assess-Diagnose-Evaluate-Prevent-Treat Tool from American College of Emergency Physicians https://www.acep.org/patient-care/adept/ also available on pg. 62

These recommendations are designed to be adapted into a standing order set in your emergency department. Note: Not all of these will be appropriate or possible in every ED; they are intended to be edited and adapted for your context.

Section VIII. Management of Delirium

Resource VIII-C: Role of the Clinical Pharmacist in the ED for Prevention and Management of Delirium

As you set up your program for prevention and management of delirium in the ED, please remember that the clinical pharmacist can play a valuable role to assist you. We recommend that you consult with the clinical pharmacist for patients at-risk for delirium or with active delirium present.

All patients age 65 and older, regardless of complaint, should have a medication listing reviewed by a nurse, physician, or pharmacist. Any patient with any of the following conditions should have a pharmacist consultation in the ED: active delirium; taking 5+ medications; potential adverse drug reaction suspected; and critically ill patients.

Specific benefits that the pharmacist can provide, include:

- Medication review in high risk patients for delirium
- Assessing for medication affordability as this plays a role in medication adherence
- Recognition of potentially deliriogenic medications (or drug-drug, drug-disease interactions)
- Education of staff about high risk medications for delirium
- Education of staff about pharmacodynamics of medications, and avoiding early re-dosing
- Discharge education of patients/families about their medications
- Medication reconciliation, particularly around transitions in care

Please reach out to your local pharmacist about collaboration in the ED for delirium. To learn more about medications and delirium, please refer to the Toolkit Bibliography.

Section IX. Complete Recommendation Set

Part I: Assessment and Evaluation of Delirium

Think of delirium as a neurologic emergency

#	Item	Recommendation
1	**Delirium Risk Assignment (triage)**	• If patient presents with acute mental status change, then move to Step 4 (delirium assessment) below. • Assign to high-risk if **two or more** of the following are present: ○ Age 65 years or older ○ Cognitive impairment (past or present) and/or dementia. ○ Current hip fracture ○ Severe illness (a clinical condition that is deteriorating or is at risk of deterioration) or serious infection ○ Residing in skilled nursing facility
2	**History (primary RN or MD)** *For clues about delirium or contributing factors. Family or collateral report if possible.*	• Any recent change in mental status (requires family or external report)? → ☐Yes ☐ No ☐ Medication changes? ☐Medication non-compliance? Functional decline? → ☐Yes ☐ No if so, which category: _____ ☐ Recent falls (past week)? ☐ Yes ☐ No • Any hallucinations/delusions? → ☐Yes ☐ No • Any behavioral changes? → ☐Yes ☐ No • Toxins or alcohol exposure? → ☐Yes ☐ No → amount/last drink • Any prior history of delirium (acute confusion)? → ☐Yes ☐ No
3	**Delirium screening (triage, for high-risk)**	• 2-item screener, or Delirium Triage Screen *If an acute change in mental status cannot be established, then evaluate as delirium until a history can be obtained.*
4	**Delirium assessment (RN/MD)**	• Examples: B-CAM; 2-item screen or Mini-Cog plus CAM short-form; 3D-CAM • Can include Days of the Week Backwards → __/7 or Months of the Year backwards → _____/12
5	**Initial evaluation (RN/MD)** *Targeted initial evaluation recommended for all high-risk and screen-positive patients*	☐ Obtain full HPI ☐ Detailed HPI & ROS, including: • Medication changes? • Medication non-compliance? • Toxins or alcohol exposure? • amount/last drink ☐ Detailed Physical exam including • Vital signs • Physical examination • Focused neuro exam • Skin survey (for signs of infection, occult ulcers, trauma, pain) ☐EKG ☐ Routine Laboratory Testing ☐ Fingerstick blood glucose ☐ CBC with diff ☐ Complete metabolic profile ☐ *If anticoagulated:* INR, PT, aPTT ☐ *If MI/CHF exacerbation suspected*: Troponin, BNP ☐ *If infection suspected*: frequent vital signs, lactate, blood cultures, urinalysis/urine culture.

6	**Additional tests that may be indicated in selected patients)**	☐Core temperature (R/O hypothermia) ☐TSH ☐VBG/ABG ☐Urine or serum toxicology screens ☐ETOH level ☐Ammonia ☐Carboxyhemoglobin	☐ CXR ☐*If urinary symptoms only*: Urinalysis with urine culture ☐CT abdomen/pelvis ☐CT head ☐Bladder ultrasound (R/O urinary retention)
	❖ ***"Do Not Miss" conditions to consider in delirium***: *hypoxia/hypercarbia/respiratory failure, hypoglycemia, stroke, acute MI, epidural/subdural hematoma, herpes encephalitis, alcohol/drug intoxication or withdrawal, toxic exposures (e.g., carbon monoxide), myxedema*		
	❖ ***Additional testing to consider as indicated*** o *Drug levels: Digoxin, lithium, acetaminophen, salicylate, carboxyhemoglobin* o *Lumbar puncture*		

Part II: Prevention of Delirium

#	Item	Recommendation	
1	**Treat underlying conditions/risk factors for delirium**	Treat underlying conditions revealed in evaluation above (e.g., infections, electrolyte disorders, medications, etc.). Also treat conditions that can precipitate and/or exacerbate delirium, including pain, nausea, constipation, etc. Determine risk of alcohol withdrawal (Document date, time, and amount of last alcoholic drink).	
2	**Symptom relief*** *[*Use scheduled pain medications rather than PRN]*	**Moderate pain:** ☐ acetaminophen 650mg q6 hours, standing ☐ low dose oxycodone 2.5-5mg q4 hours PRN ☐ Lidoderm patch **Severe pain:** ☐ hydromorphone 0.25-0.5mg q4 hours PRN ☐ Consider nerve block by skilled professional, if appropriate	**Nausea:** ☐ ondansetron (4-8mg PO or 2-4mg IV q8 hours PRN) **Dry mouth/hydration/nutrition** ☐ Ice chips, mouth swabs ☐ Encourage PO intake / oral *fluids (if patient not NPO)* ☐ PO diet order *(if patient not NPO),* encourage to eat ☐ Aspiration precautions ☐ If unable to take PO, consider maintenance normal saline **Constipation:** ☐ Senna 8.6 one tab BID ☐ Polyethylene glycol 17 grams daily ☐ Bisacodyl 10mg suppository QD PRN *Hold for >2 BM per day.*
3	**Medications**	☐**Medication review:** *minimize Beers criteria medications (use less harmful alternatives); minimize doses. Avoid use of high-risk medications: benzodiazepines, diphenhydramine/antihistamines, sedatives, muscle-relaxants, anti-cholinergics, anti-histamines, antipsychotics, ketamine.*	☐Continue home medications unless contraindicated. Avoid any high-risk drugs per above *(e.g. diphenhydramine/antihistamines, sedatives, muscle-relaxants, antihistamines)*
	❖ Beers criteria medication card (See Resources)		

4	**Nonpharmacologic Prevention** *[Should be applied in all patients at risk for delirium, or screen positive]*	**Treat symptoms such as pain, nausea, constipation, and dry mouth and provide nutrition and hydration as above.** **Encourage family presence and involvement in orientation and calming patient.** **Mobility Orders:** Assure access to toileting and provide mobility assistance; prevent pressure sores ☐ Out of bed with meals ☐ Ambulate patient every 2-4 hours during daytime hours ☐ PT consult, as appropriate for prolonged ED stay **Sensory Deficit Orders:** ☐ Provide vision and hearing adaptations if impairments present **Limit disruptions:** ☐ Minimize frequency of vital signs measurements as clinically appropriate ☐ Discontinue unnecessary VS and BP cuff cycling, telemetry, pulse ox (especially while patient is waiting for transition and has completed work-up) ☐ Remove tethers if possible (Foley catheter, telemetry, continuous O_2 monitor, nasal cannula, etc.)	**Sleep-Wake Cycle Recommendations [for overnight or prolonged ED stays]:** ☐ Provide day/night signals and maintain sleep-wake cycle as much as possible ☐ Nonpharmacologic sleep protocol (warm milk/herbal tea; relaxation music; massage; warmed blanket) ☐ Melatonin 3-6mg at HS **Fall Risk:** ☐ Order lowered bed ☐ Provide chairs ☐ Order non-skid socks ☐ 1:1 sitters for those who are agitated or very high risk **Medical Aide-Nursing Assistant / Recommendation set options** ☐ Reorient/reassure when checking vital signs ☐ Ambulate every two hours if possible during daytime hours ☐ Offer activity toolbox† ☐ Family brochure (See Resources): Include information about delirium, orienting loved ones, help with mobilizing, hydration, nutrition

<table>
<tr><th colspan="4">Part III: Management of Delirium</th></tr>
<tr><th>#</th><th>Item</th><th colspan="2">Recommendation</th></tr>
<tr><td>1</td><td>Delirium management</td><td colspan="2">Treat underlying conditions contributing to delirium. Recognize that causes are often multifactorial.

Anticipate basic needs (e.g., hunger, hydration, toileting) and provide reassurance and comfort measures (e.g., pain relief, warm blanket)

See “symptom relief” in Standing Order Recommendations Part II.

See “Verbal de-escalation procedures” below

☐Provide reassurance, redirection, distraction (e.g., activity carts) and means for self-orientation (clocks, calendars, signs).

☐Prevent injury and complications: Minimize falls risk (lower beds, provide chairs, use non-skid socks. Consider sitters for patients with agitation or very high falls risk); aspiration precautions; ambulate every 2-4 hours during daytime hours to prevent DVT, PE, pressure sores, UTIs; protect skin, prevent pressure sores
☐Encourage family involvement for reorientation, calming communication, hydration/nutrition. Encourage family to stay for transitions of care (transfer to hospital room).

☐Consider preferential admission for high delirium risk. While awaiting bed, avoid boarding in hallways.

☐Transitions: Communicate to inpatient MD and RN about high risk for delirium (identify risk factors, e.g., dementia, SNF, history of delirium, etc.), presence of delirium and/or agitation.</td></tr>
<tr><td>2</td><td>Non-pharmacologic management</td><td>Treat symptoms such as pain, nausea, constipation, and dry mouth and provide nutrition and hydration as above.
Encourage family presence and involvement in orientation and calming patient.

Mobility Orders: Assure access to toileting and provide mobility assistance; prevent pressure sores
☐ Out of bed with meals
☐ Ambulate patient every 2-4 hours during daytime hours
☐ PT consult, as appropriate for prolonged ED stays

Sensory Deficit Orders:
☐ Provide vision and hearing adaptations if impairments present</td><td>Sleep-Wake Cycle Recommendations [for overnight or prolonged ED stays]:
☐ Provide day/night signals and maintain sleep-wake cycle as much as possible
☐ Nonpharmacologic sleep protocol (warm milk/herbal tea; relaxation music; massage; warmed blanket)
☐ Melatonin 3-6mg at HS

Fall Risk:
☐ Order lowered bed
☐ Provide chairs
☐ Order non-skid socks
☐ 1:1 sitters for those who are agitated or very high risk
Medical Aide/CNA recommendations
☐ Reorient/reassure with vital sign checks
☐ Ambulate every two hours if possible during daytime hours
☐ Offer activity toolbox*
☐ Family brochure (See Resources): Include information about delirium, orienting loved ones, help with mobilizing, hydration, nutrition</td></tr>
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<tr><td></td><td></td><td>Limit disruptions:
☐ Minimize frequency of vital signs measurements as clinically appropriate
☐ Discontinue unnecessary VS and BP cuff cycling, telemetry, pulse ox (especially while patient is waiting for transition and has completed work-up)
☐ Remove tethers if possible (Foley catheter, telemetry, continuous O_2 monitor, nasal cannula, etc.)</td><td></td></tr>
<tr><td>3</td><td>Verbal de-escalation procedures for agitation (from ADEPT† Tool)
[See also “Tolerate, Anticipate, Don't Agitate” (TADA) approach in Toolkit]</td><td colspan="2">☐Respect personal space
☐Avoid negative language (“No! You Can’t go there!”); use positive language (“I’d like to help you by…”)
☐Establish verbal contact
☐Be concise and use simple language (e.g., single-step instructions/statements)
☐Identify the patient’s wants and feelings
☐Listen closely to what the patient is saying
☐Debrief the patient, family, and staff</td></tr>
<tr><td>4</td><td>Pharmacologic management for severe agitation</td><td colspan="2">Reserve pharmacologic treatment for patients who are at risk of harming themselves or others due to severe agitation, and only after nonpharmacologic approaches have failed. Medications should be prescribed at the lowest effective dose for the shortest possible duration. Careful titration and monitoring is needed. Caution: Medications may prolong delirium and result in worse clinical outcomes. If the patient has been prescribed an antipsychotic previously, try restarting this medication first. Start oral regimen first if possible.

If oral medications are not effective, consider IM or IV medications. Use lowest dose possible to maintain patient and staff safety. Medications can be re-dosed as needed. AVOID doses of 5-10mg IM haloperidol as these can have prolonged side effects and sedation.

<u>“Start low and go slow” with dosing in elderly patients. Note that the effect is not immediate with any of these drugs. Avoid redosing too soon, allow at least 30 mins for PO meds and 15 mins for IV meds before redosing. Monitor for adverse effects. Taper and discontinue as quickly as possible.</u></td></tr>
<tr><td></td><td colspan="2">Oral treatments (select one)
☐Haloperidol 0.25-0.5 mg
May repeat q1hr, not to exceed 3-5mg in 24h
May cause orthostatic hypotension and somnolence; rare dystonia or QT prolongation
Consider discontinuation if QTc>500; absolute contraindication in Parkinson’s
☐Olanzapine 2.5-5mg BID PRN
May cause orthostatic hypotension and somnolence; anti-emetic effects
Available sublingually</td><td>IV/IM treatments (choose one; use only if unable to utilize PO)
☐ Haloperidol 0.5-1 mg IM, OR Haloperidol 0.25-0.5mg IV
May repeat q1hr, not to exceed 3-5mg in 24h. Higher risk for extra-pyramidal side-effects than the atypical anti-psychotics. High risk with IV, so IM is preferred. Higher risk of orthostatic hypotension and QT prolongation/torsades with IV. Use in monitored setting.
☐Olanzapine 2.5-5mg IM BID PRN
Caution in intoxicated or volume-depleted patients.</td></tr>
</table>

	☐Quetiapine 12.5-25mg BID PRN or QHS PRN *May cause orthostatic hypotension and somnolence; fewer extra-pyramidal side effects in patients with Parkinsonism. Sedating; consider for nighttime symptoms* ☐Risperidone 0.5-1mg BID PRN *Caution in frail or volume-depleted patients, may cause orthostatic hypotension*	☐Ziprasidone 10 IM q 2h PRN (not to exceed 40mg in 24hr) *Caution in uncontrolled heart failure or cardiac disease, intoxicated, or volume depleted/orthostatic patients.*
	❖ *BLACK BOX WARNING: All the above anti-psychotics have a black-box warning that they are not approved for dementia-related psychosis due to an increased mortality risk in elderly patients with dementia. It is unclear how the medications contribute to increased mortality which is typically due to infection or cardiovascular causes. They should be used for delirium-associated agitation for short-term only.* ❖ *NOTE ON BENZODIAZEPINES: If a patient is chronically on benzodiazepines, do not stop these precipitously. Consider slow taper and try to reduce doses administered in the ED. Otherwise avoid the use of benzodiazepines if possible. They may cause prolonged sedation, paradoxical agitation, or worsening of delirium. If benzodiazepines are used, then the dose should be small, such as 0.5-1mg lorazepam PO, IV, or IM. Note: benzodiazepines may be necessary when acute sedation is required, such as for a procedure needed for care, after discussion of risks and benefits with patient/family, and with close monitoring of vital signs and respiratory function.* ❖ *AVOID DIPHENHYDRAMINE: Do not use medications such as diphenhydramine for agitation in elderly patients. It can cause anti-cholinergic side effects and prolonged sedation. Exceptions: anaphylaxis or chemotherapy premedication.*	

*Ricker JR, Mulligan MM. Activity kits as a first line intervention to care for individuals with dementia. Geriatric Nursing 2017;38:604-605.

† ADEPT Tool = Assess-Diagnose-Evaluate-Prevent-Treat Tool from American College of Emergency Physicians https://www.acep.org/patient-care/adept/ also available on pg. 62

These recommendations are designed to be adapted into a standing order set in your emergency department. Note: Not all of these will be appropriate or possible in every ED; they are intended to be edited and adapted for your context.

Section X: Participant Spotlight- Qualitative Interviews

Expert Workgroup Members: John Devlin, PharmD, BCCCP, FCCM, FCCP, Maya Genovesi, LCSW, MPH, Ula Hwang, MD, MPH, FACEP, Maura Kennedy, MD, MPH, Jennifer Leaman, Pamela Martin, FNP-BC, APRN GS-C, Don Melady, MSc(Ed), MD, Michelle Moccia, DNP, ANP-BC, CCRN, GS-C, Heidi Wierman, MD, FACP

Pilot Site Members: Robert Anderson, MD, Rhonda Babine, MS, APRN, ACNS-BC, Pamela Jordan, BSN, RN, Lucio Barreto, RN, BSN, CCRN, MICN, Maya Genovesi, LCSW, MPH, Martine Sanon, MD, Stacey Bruursema, LMSW-C, Michelle Moccia, DNP, ANP-BC, GS-C, Hope Ring, MD, Kathleen Davenport, MD, David Manyura, BSN, RN, Julie Reitz, BSN, CMSRN

What does the future of delirium management look like?	**Integration of program in EHR** • Some sites explained that having a screen that is built into a senior assessment can ensure that the right questions are being asked, with a patient who is over a certain age. From this assessment, there is a report that can be reviewed every day, which includes notes and what specific staff member attended to the patient. This allows for communication with the specific staff who screened the patient. Then, if the patient is positive for Delirium, inpatient will know who exactly diagnosed them. • Building/ integrating the Delirium screen into EPIC will create routine for the screening. The staff will see it and remember to complete. Having the screen built into EPIC can also help other sites not have to "recreate the wheel" because it will be available across the board. **Presence of a Delirium Champion** • Having a strong Champion or Geriatric presence is very important for successful Delirium management. Having this team or person allows for consistency in practice around Geri medicine and implementation of the toolkit. **Education of Families** • Informing families about Delirium and providing them with information helps for better treatment and more understanding of their loved one. Some sites discussed posting a QR code in the patients' room for families, along with the patient to learn more about Delirium and how to properly treat it. **Communication during Transitions of Care** • Having communication with inpatient about what is happening in the ED is super important because when Delirium is identified in a patient, the care and next steps for this patient need to consistent. **Renovation for senior-friendly ED environment** • The future of Delirium management might require sites to renovate their ED. Having a renovated ED allows for quieter and more personal visits for seniors. They also can become more senior friendly by upgrading to non- slip floors, using better lighting, and more appealing artwork.

What is important to sustain a program? If program not likely to sustain, indicate why? What could help?	**Staff Education and Training: Making everyone aware** • Education plays a major role in sustainability. There should be a constant focus on nursing competencies. And whenever any new staff is hired, the Champion should work with and complete initial screening when training. • While in the ED, constant communication and education over Delirium can help sustain the efforts to screen and diagnosis. This way, the staff is always thinking of the screening tool that can be used upon arrival in the ED. • While education on screening is important for sustainability, it is just as important to educate on what to do when a patient is diagnosed with Delirium. The champion should train one on one with staff when determining the next steps after diagnosis to ensure that the treatment is handled appropriately. • One on one teaching and engagement with staff can go a long way for sustainability. • Making everyone involved in emergency care aware of Delirium can help lead the way for sustainability. Having all staff aware, along with good leadership, and training will even lower the rate of turnover. **Staff Incentives and Recognition** • Affirmation plays a very big part in sustainability. Giving recognition to staff confirms they are doing a good job and that what they are doing is important. Someone needs to be the "guardian" of the recognition/ feedback and be available to notice it and pass it out. It needs to be monitored. **Documenting and Sharing Outcomes** • Feedback loop-sharing/ circulating the outcome when the patient gets admitted/ diagnosed and sharing the benefit from what the staff does in the ED can motivate others for sustainability. **Supportive Leadership** • Having a supportive staff and leadership board is very important in being successful and sustainable. Having staff that is supportive and supports the mission, allows for success.
Which interventions do you plan to continue, discontinue, or might add in the future?	**Staff Education and Training** • Ensuring that all new staff, among all lines, are trained on screening tools upon hire is an intervention to continue to be successful in the consistently of identifying Delirium. **Staff Incentives and Feedback** • An important intervention to continue is constant feedback. Sharing feedback excites staff and creates more awareness around identifying Delirium in the ED. Feedback and other constant communication helped to keep screening for Delirium in the minds of the staff. • Sites have noticed that presenting their staff with different incentives for screening and then actually identifying Delirium in the ED keeps their staff engaged and always thinking of the possibility of a delirious patient. **Delirium Champions**

	• Having a champion on each level of staffing is an important intervention to continue. This allows for education of staff and ensures the continuity of screening for Delirium. **Other Specific Interventions** • A smart intervention to add in the future might be to create *additional toolkits* to raise awareness about screening for Delirium around the whole system. • *Identifying the Four M's* while using and implementing the toolkit would be helpful. • Having multiple purpose *therapeutic activity carts* that can be used by anybody in the ED is an intervention sites are likely to continue as another helpful tool. **Internal and External Supports** • Scheduling "*office hours" with Champions and other sites* using the toolkit and implementing the screening in their ED could be a helpful intervention to share wins and losses and learn about different methods to succeed. • Having a *one- time consultant* would be a helpful intervention to add in the future. This consultant can assist the site when they are starting the toolkit and discuss what is best for your specific site. It would also be helpful to have this consultant available by email or phone once the site has started implementing the toolkit to help with questions or feedback. Having a support network or consultant service would be helpful.

What was the greatest challenge you faced and how did you address it?	**Where to Implement screening** • One major challenge some sites experience is where to implement the screening outside of triage. Being that the screening is a bit longer than most, it could potentially be more beneficial if done at the bedside. **Lack of education and training about Delirium** • One of the greatest challenges was lack of education. It is important to remember to educate all lines of staff in the ED on Delirium- this includes techs. Some sites noticed absence of education among their techs and other. aids because the focus for education was on the nursing staff. This can cause miscommunication. • It is important to ensure that things are in best practice and trainings are accessible, so when a roadblock does occur (COVID) the programs and screenings for Delirium do not get forgotten when patients come to the ED. **Lack of staffing and time** • There was a challenge of not having multiple persons that can help the program "survive". There needs to be a strong system of staff that can help run the show and not just rely on one person having all the answers. • There is always a need for extra help. Some sites explained that it may be helpful to have a non- clinical position within the team that could oversee the data and be able to make follow up with the team about staying on track to reach certain goals. This could include creating a data position and implementing a data collection tool for screens.

	Competing priorities • There are challenges with competing priorities and demand for staff. It is important to have someone or a team to communicate their priorities for screening and identifying Delirium in the ED.
What are some of your Delirium in the ED program highlights?	**DEL-ED Toolkit** • A major highlight the sites experienced is how comprehensive the toolkit is. The toolkit allows each site to pick their own starting point and analyze how it fits into each individual site. **Sharing Successes** • Sharing testimonials and stories of successes in the ED around identifying Delirium can be helpful and motivating to show that what the staff is doing can make a change and difference in the way the patient is cared for moving forward. Also, sharing data to make the case of why the screens are important to conduct. • Being able to highlight some "good catches" made by the team, helps keep them motivated and interested in the work they are doing. **Documenting Outcomes** • Documenting outcomes was a major win/ highlight for sites. It allowed sites to present data from the toolkit and talk to why it is so important to be implementing it and why they are doing what they are doing and the outcomes along with it. Having this information to present to physicians and prove the benefits of it was helpful for recognition.