

Bringing Evidence to Practice: Implementing Delirium Care in the Era of the Age-Friendly Health System

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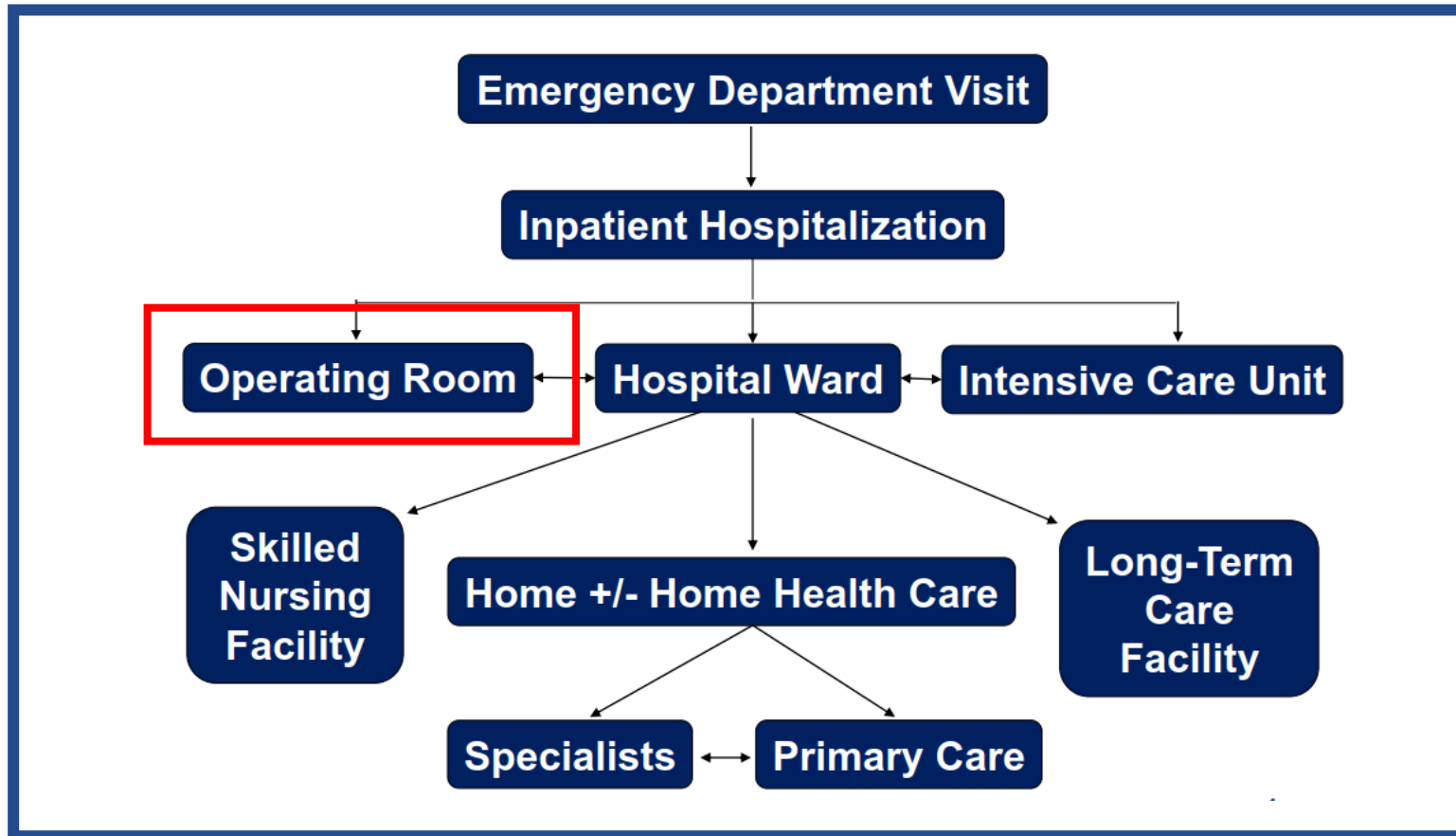
Johns Hopkins University School of Medicine

Immediate Past President, the American Delirium Society

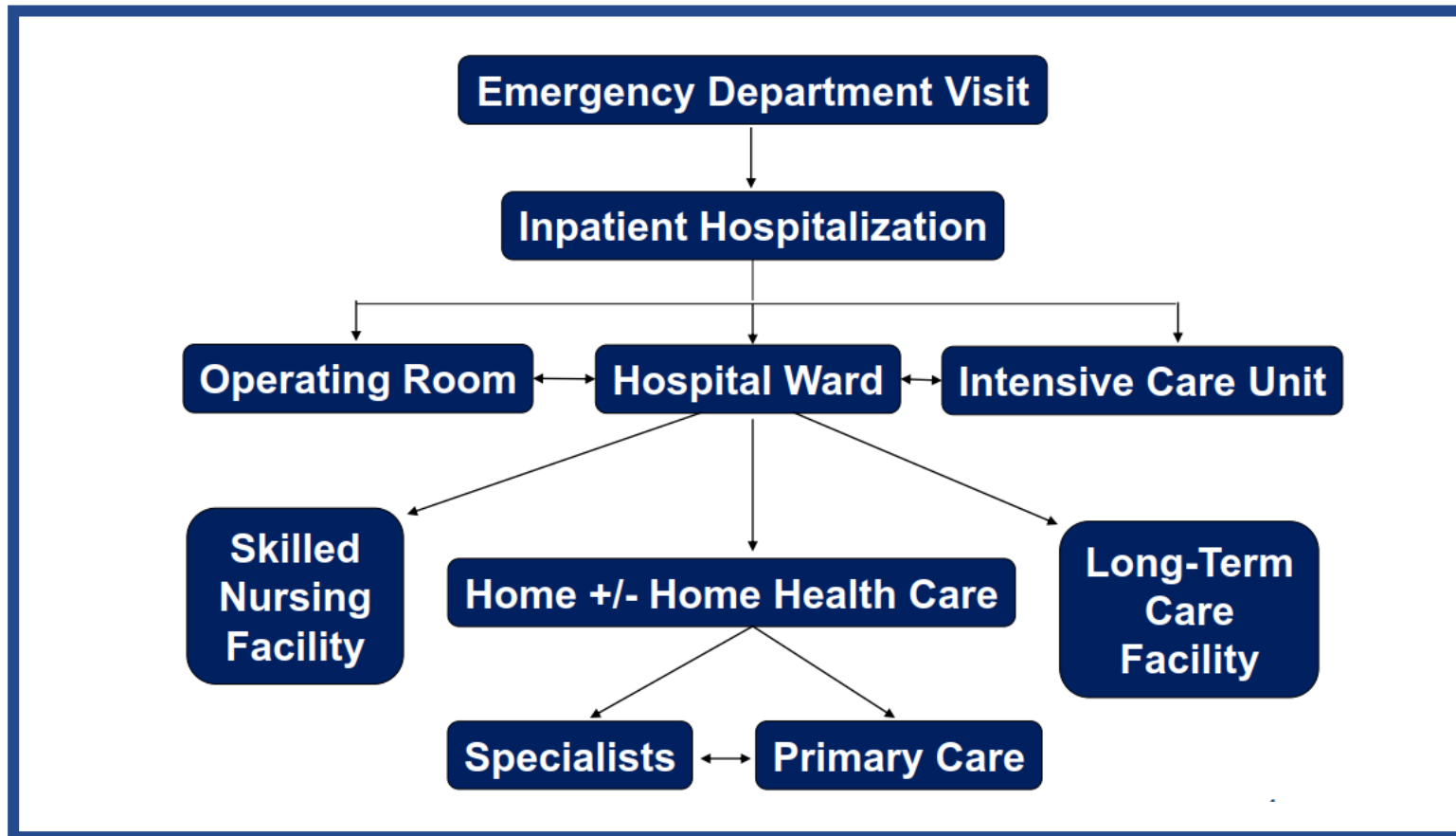
Disclosures

- NIA/NIH

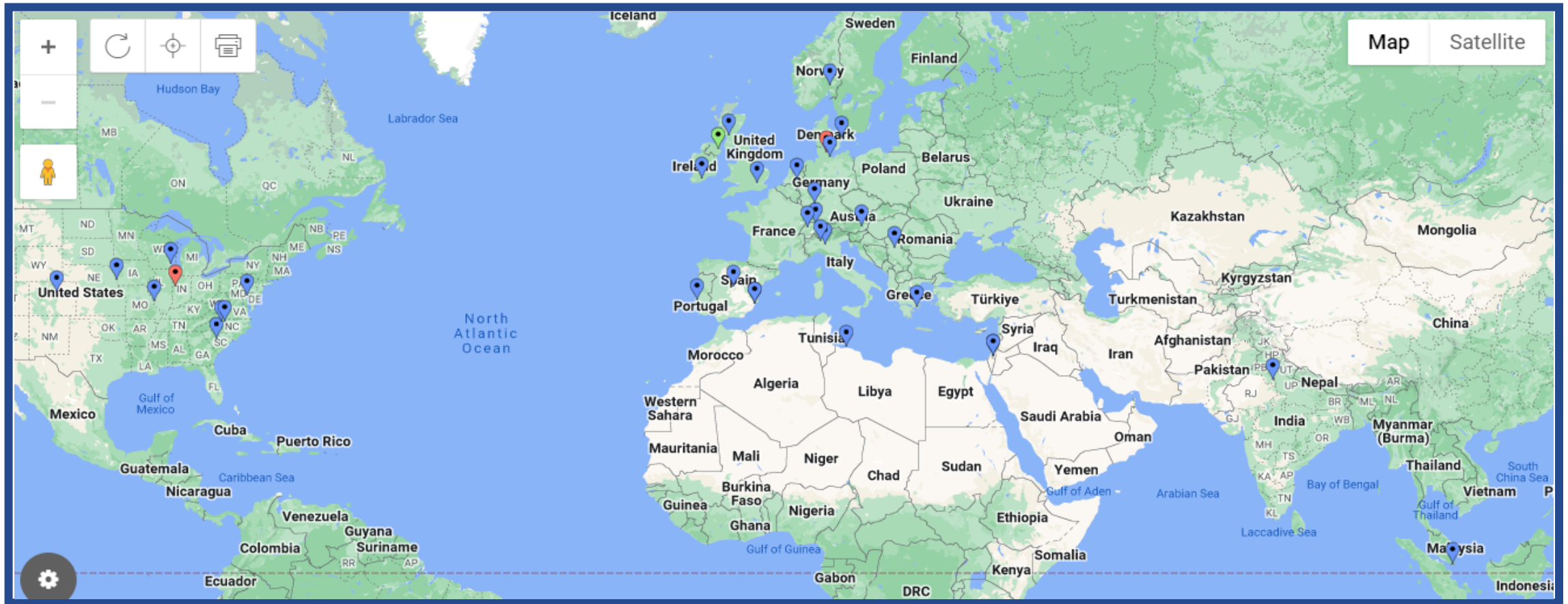
Siloed Approach to Addressing Delirium in a Complex Web of Medical System



Interrelationship of Delirium Across Care Settings



World Delirium Awareness Day (WDAD)



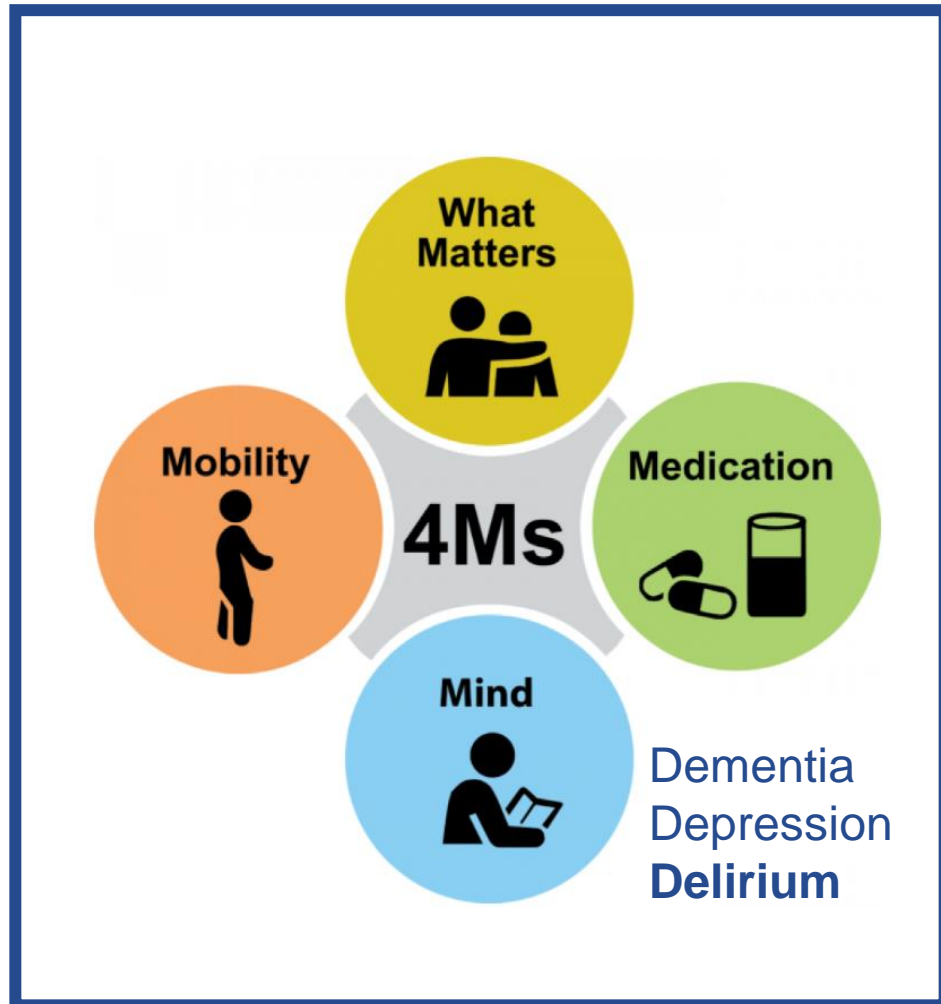
World Delirium Awareness Day (WDAD) delirium prevalence study
World-wide >44 countries; > 36,000 delirium screening

Lindroth et al., manuscript in preparation

The Scale of Problem

- 34 million hospitalizations in 2021
 - 13.2 million in older adults ≥ 65
- Upwards of 2.4 million adults ≥ 65 experience delirium
- One older adult develops delirium every 5 minutes

Harnessing the Momentum of a Social Movement Age-Friendly Health System (AFHS)



John A. Hartford Foundation and
Institute for Healthcare Improvement

An essential set of evidence-based
practices which causes no harm and
aligns with What Matters to the older
adults (4Ms)

Two key drivers of AFHS –
Assess and Act On

<https://www.johnahartford.org/grants-strategy/current-strategies/age-friendly/age-friendly-health-systems-initiative#:~:text=Rapid%20Growth,Excellence%20as%20of%20October%202023.>

Opportunities and Synergism



American Hospital Associations (AHA)
Hospital Statistics 2023

Total number of all US hospitals
- 6,129


Institute for Healthcare Improvement
(IHI) has recognized 3,400 hospitals as
Age-Friendly Health Systems as of
October 2023

<https://www.johnahartford.org/grants-strategy/current-strategies/age-friendly/age-friendly-health-systems-initiative#:~:text=Rapid%20Growth,Excellence%20as%20of%20October%202023.>


Delirium as Part of the Age-Friendly Health Systems

**OPTIMAL DELIRIUM MANAGEMENT
AGE-FRIENDLY HEALTH SYSTEM 4 M'S**


MENTATION
Routine delirium screening across care settings




MEDICATION
Avoid inappropriate, deliriogenic medications



MOBILITY
Encourage out of bed with assist
Minimize restraints and catheters



WHAT MATTERS
Aligning care strategy with the patient's goals
Engage family and friends in delirium care



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Journal of the
American Geriatrics Society

SPECIAL ARTICLE

Optimizing delirium care in the era of Age-Friendly Health System

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Kwak et al., JAGS 2023



Integration of Age-Friendly Concepts into the ADAPT Program

Actions to enhance Delirium Assessment Prevention
and Treatment

Christine M Waszynski DNP, APRN, GNP-BC, FAAN
Hartford Hospital; Hartford, CT

ADAPT- Making Delirium Awareness a Priority

- Began in 2011
- Supported by hospital administration
- Inter-professional Team (representation across departments and disciplines n=42)
- Plan for structure (delirium care pathway)
 - Build supports in EHR to guide documentation and gather data
 - Education (classroom/CESI/bedside)
 - Adjunct Support (volunteer programs; therapeutic activities)
 - Quality / research/ feedback

Building Blocks For A Delirium Program



Strategies for Buy-in For Age-Friendly Delirium Care

Define how the 4 Ms framework of delirium care:

- Aligns with organization's mission/vision and values
- Fits into the balanced score card and quality measures
- Promote optimal wellness/recovery and eliminate patient harm
- Provide optimal patient/family experience
- Support the staff

Strategies for Buy-In for Age-Friendly Delirium Care

- Seek executive sponsors from various disciplines
- Identify existing resources
 - Geriatric and psych liaison services
 - Active volunteer department
 - Available data and research expertise
- Identify opportunities
 - Philanthropy
 - Use own data to demonstrate issue and impact over time
 - Involve front line staff in identifying the issues and solutions

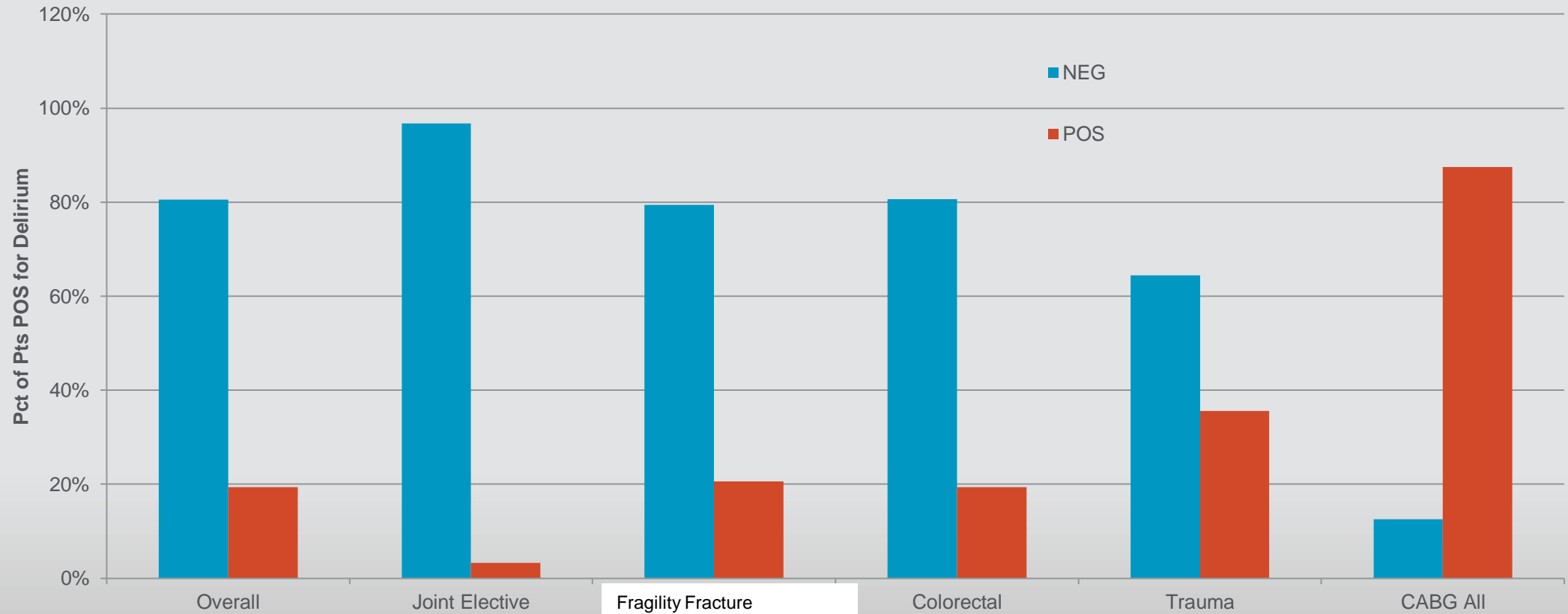
Screening for Delirium is the Key to Prevention

- **Screening starts in the Emergency Department** where all persons 65 and older are assessed and triaged with SQID question and attentional test.
- **All patients** admitted to Hartford Hospital are **screened by their nurse each shift** (3 or more times daily utilizing the CAM* or CAM-ICU) for the duration of their stay and have **prevention strategies** employed for those at high risk of delirium.
- Once an abnormal screen is identified, **protocols** guide evaluation and management.
- This process has allowed us to create a **registry** of patients based upon their screening results.
- Since the start of this project 12 years ago, we have screened over 450,000 patients, with over 7 million assessments completed.

* CAM' = Confusion Assessment Method (Inouye), CAM-ICU (Ely), considered the 'gold standard' screening tool for the detection of delirium.

Delirium Rates Vary by Service

ADAPT Data



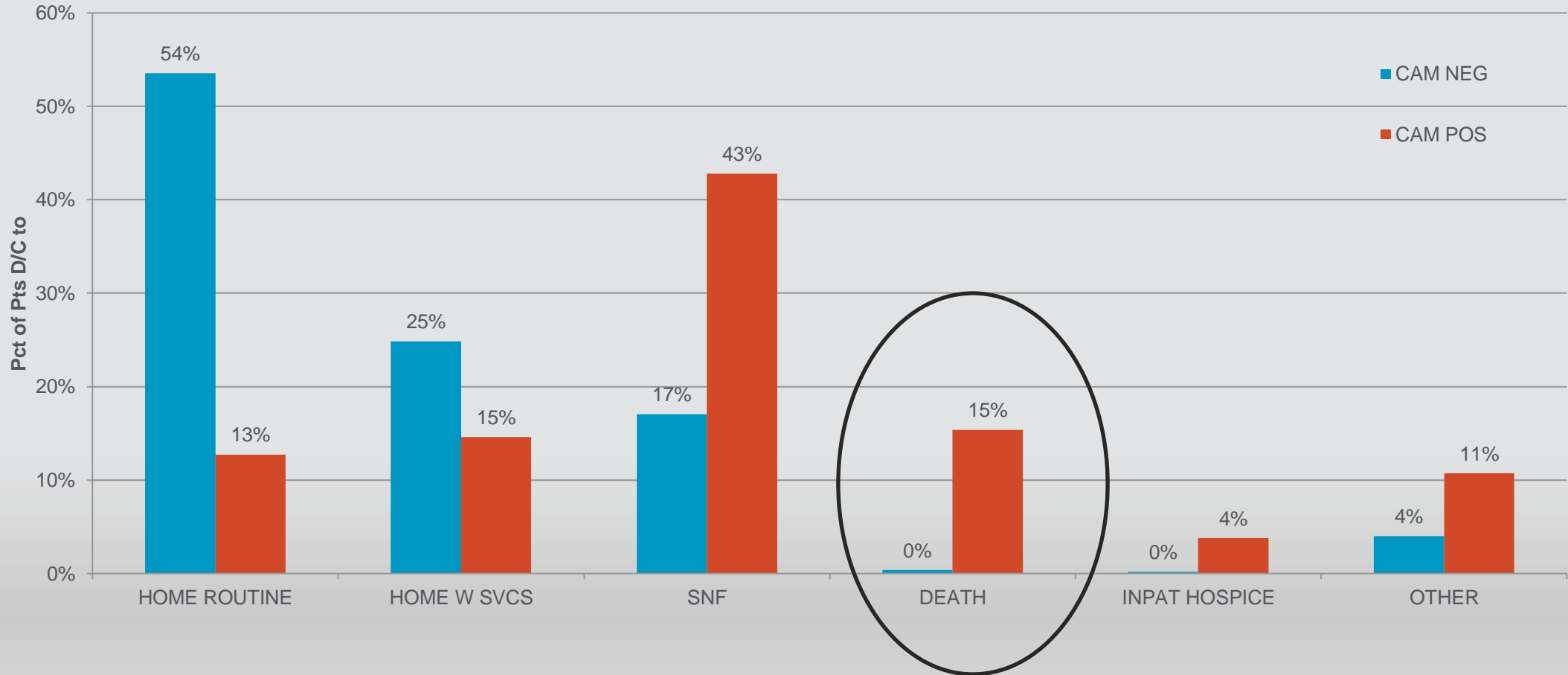
Delirium has Serious Consequences

ADAPT DATA

	Without Delirium	With Delirium
Hospital Length of Stay (Average)	4 Days	12 Days
Discharge Back to Home	70%	30%
Mortality	<1%	10%

Delirium Patients Have Poorer Outcomes at Care Transition

ADAPT DATA



Delirium Increases Healthcare Costs

- Nationally
 - Hospital cost > \$8 billion annually
 - Post-hospital costs ~ \$100 billion; direct and indirect (SNF & Home care)
- At Hartford Hospital ([ADAPT DATA](#)): Attributable cost July 2015- June 2016
 - 35,700 delirium attributable hospital days.
 - Total attributable cost estimate \$96 million
 - 2000 patients D/C to SNF were attributable to delirium.

Delirium is Associated with Higher Costs for Colon Surgery

ADAPT DATA

Avg daily cost NO Delirium	\$2,224.73
Avg daily cost ANY Delirium	\$2,797.79
Avg Daily Attributable Cost - Delirium	\$573.06

Application of Universal Evidence-Based Best Practice Strategies

- Information in **Patient Handbook** –patient and family to report S/S of delirium promptly. **Family** encouraged to participate in care
- Delirium assessment integrated into **rounds and handoffs**
- **Early mobilization/noise reduction/ sleep enhancement** efforts
- Personalized care “**Hartford HealthCare Cares About Me**” poster
- Creation of a **sensory modulation room** for patients and families
- **Volunteer programs** that focus efforts towards patient experiencing or at high risk for delirium
 - Keeping in Touch Volunteer Visiting Program; Meal Mates; Activity Cart; Safety Volunteers; Mobility Volunteers
- Activated **EHR alerts** on medications that may cause delirium
- Standardized **provider order sets**
- **Nurse experts/consultants** to coach frontline staff at the bedside
- **Provide data driven feedback** to change practice

1 Deter

- No harmful drugs*
- Avoid abrupt discontinuation* (Drugs, ETOH, nicotine)
- Avoid/limit Devices (catheters, lines, leads)

2 Detection

- Review CAM/CAM-ICU & RASS/mRASS Scores
- Daily cognitive assessment
- Determine baseline mental status

3 Diagnosis / Do

- Physical exam
- Med review
- Determine potential causes*
- Differential diagnosis
- Document acute encephalopathy
- Activate Delirium order set in EPIC
 - Diagnostics
 - Drugs for hyperactive pts (RASS/mRASS \geq +2)
 - Haldol IV or Seroquel PO per delirium order set
 - If contraindicated consult pharmacist
 - Scheduled acetaminophen

5 Daily Visit

- Cognitive assessment
- F/U Diagnostics
- Review meds-adjust prn

7 Discharge

- Document course and cause of Delirium if known
- Degree of resolution
- Discontinue unnecessary psychotropics
- Follow up for Delirium if not resolved
- Document on W10/After Visit Summary

Risk Factors

- Age > 65
- Dementia
- Substance Dependency
- Hx Delirium
- ICU/SD
- Impaired vision/hearing

- ED screen of pts age >65
- Attention screen
- SQID?

CAM or CAM-ICU Positive

4 Discuss

- Provider + Nursing
 - +/- Pharmacist
- Huddle
- Make Plan

6 Daily Dialogue

- Provider + Nursing
 - +/- Family
- Progression Rounds
- Is Patient Improving?

YES

NO

YES

- Age > 65:
 - Geriatric medicine consult
- Age < 65 or major psychiatric Dx:
 - Psychiatric consult
 - Family meeting

1 Deter

- Mobilize to maximum
- Uninterrupted night-time rest (noise, bundle care, eye shields, earplugs)
- Eyeglasses/hearing aids
- Whiteboard up to date
- Daily goals of care
- Calendar/clock/familiar items
- Assist with food/fluids
- Comfort
- "HHC Cares About Me" poster
- Family as partners
- Volunteers for social interaction

2 Detection

- CAM every 8 hours and prn
- Determine baseline mental status
- Notify provider immediately of first positive CAM or CAM-ICU and activate "Acute Confusion" CPG

3 Do

- Fall prevention
- Discontinue/ Disguise devices
- Family teaching - brochure
- Provide Distractors (music, flashball, animal)
- T-A-D-A (Tolerate, Anticipate, Don't Agitate)¹
- Reassurance
- Individualize plan of care in EPIC
- Nurse - Nurse handoff
- Nurse - PCA handoff

5 Daily Care

- CAM or CAM-ICU every 8 hours + prn
- Comfort/calm/consistent
- Toileting
- Feed/hydrate
- Mobilize to maximum
- Maintain normal sleep/wake cycle
- Touch/backrub
- Assess response to medications
- Family & volunteer involvement
- Alternative therapies (Reiki, Pet, Art, Music)
- Document progress

7 Discharge

- Document successful strategies
- Discuss ongoing needs
- Discharge with one time use Distractors (doll, animal)
- Discuss follow-up with family
- Document individualized care needs on W10/After Visit Summary

*see back of brochure for more information

¹ Flaherty, 2011

Confusion Assessment Method (CAM® or CAM-ICU®)

Element 1

Acute onset of mental status change from baseline or fluctuating mental status

Element 2

Inattention

Element 3

Altered level of consciousness
Rass ≠ 0

Element 4

Disorganized thinking

⊕ Positive = 1 + 2 + 3 OR 4

Unable to assess = RASS or mRASS
-4 or -5

Confusion Assessment Method. Copyright 2003, Hospital Elder Life Program, LLC. Not to be reproduced without permission. No responsibility is assumed by the Hospital Elder Life Program, LLC for any injury and/or damage to persons or property arising out of the application of any of the content at hospitalelderlifeprogram.org.

CAM-ICU. Copyright © 2013, E. Wesley Ely, MD, MPH and Vanderbilt University, all rights reserved.

Modified Richmond Agitation Sedation Scale (mRASS)

+4	Combative	No attention, overly combative, violent, immediate danger to staff
+3	Very Agitated	Pulls tube(s) or catheter(s); fights environment/not people, difficult to get patient to pay or sustain attention
+2	Agitated	Frequent non-purposeful movement, uncooperative, loses attention rapidly
+1	Restless	Anxious but movements not aggressive or vigorous, cooperative, pays attention most of the time
0	Alert and Calm	Pays attention, makes eye contact, responds immediately
-1	Wakens Easily	Not fully alert, but has sustained awakening > 10 sec. Slightly drowsy
-2	Wakens Slowly	Briefly awakens with eye contact to voice < 10 sec. Very drowsy
-3	Difficult to Awaken	Movement or eye opening to voice but no eye contact
-4	Can't Stay Awake	No response to voice but displays movement or eye opening to physical stimulation. Arousable but no attention
-5	Unarousable	No response to voice or physical stimulation

(Chester, Harrington & Rudolph, 2012)

Potential Etiologies of Delirium

Drugs

Eyes, ears, environment, emotions
Liver failure, low PO₂ (MI, PE, anemia, CVA)
Infection, immobility
Restraints, respiratory
Injury, ictal state
Unfamiliar surroundings, under hydration
Metabolic

Deliriogenic Drugs to Limit/Avoid

Diphenhydramine (Benadryl)	Alternative for allergic Rx is Claritin (Loratadine)
Lorazepam (Ativan)	Use only in patients dependent upon benzodiazepines or with potential ETOH withdrawal or terminal delirium
Zolpidem (Ambien)	Use 2.5 mg at bedtime if nonpharmacological measures fail
Metaclopramide Promethazine Prochlorperazine (Reglan, Phenergan, Compazine)	Alternative is Ondansetron (Zofran)
Famotidine (Pepcid)	Alternative is PPI except with Plavix, or Pantoprazole (Protonix)
Fentanyl	Alternative is Hydromorphone (Dilaudid), Acetaminophen (Tylenol), or Tramadol (Ultram)

Medications to Not Stop Abruptly

- Acetylcholinesterase inhibitors
- Antiepileptics
- Benzodiazepines
- Opioids/narcotics
- Sedatives/hypnotics
- SSRIs
- Steroids

Delirium and Acute Encephalopathy are associated with Death, Disability, Deterioration and Discharge Difficulties

Delirium & Acute Encephalopathy Care Pathway

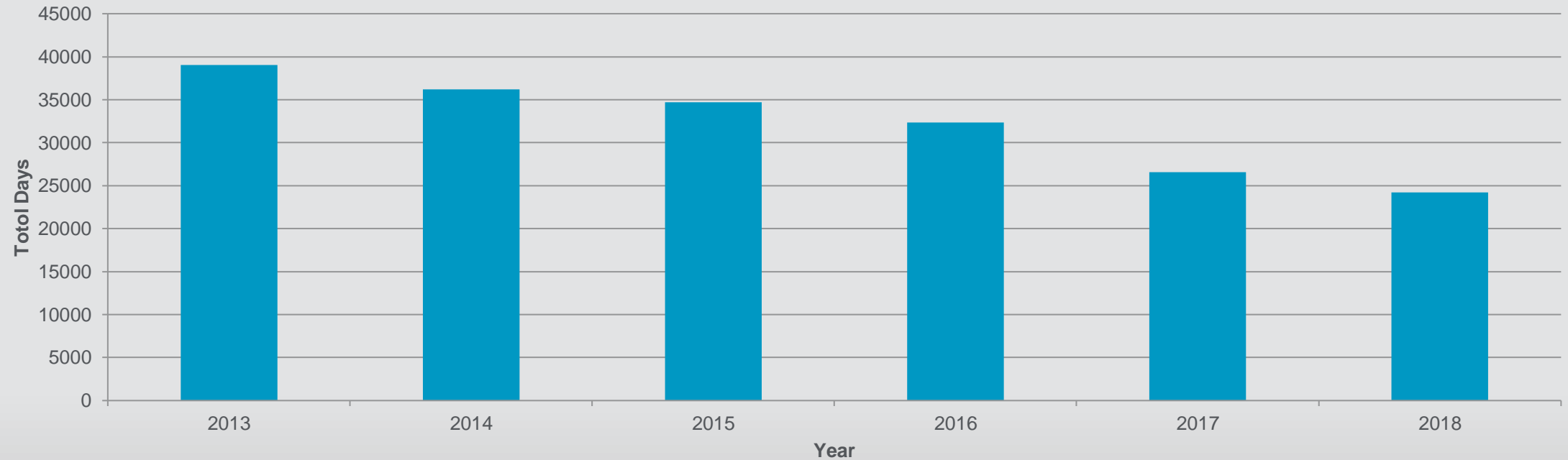


Save a Brain

Sponsored by ADAPT
Actions for Delirium Assessment
Prevention & Treatment

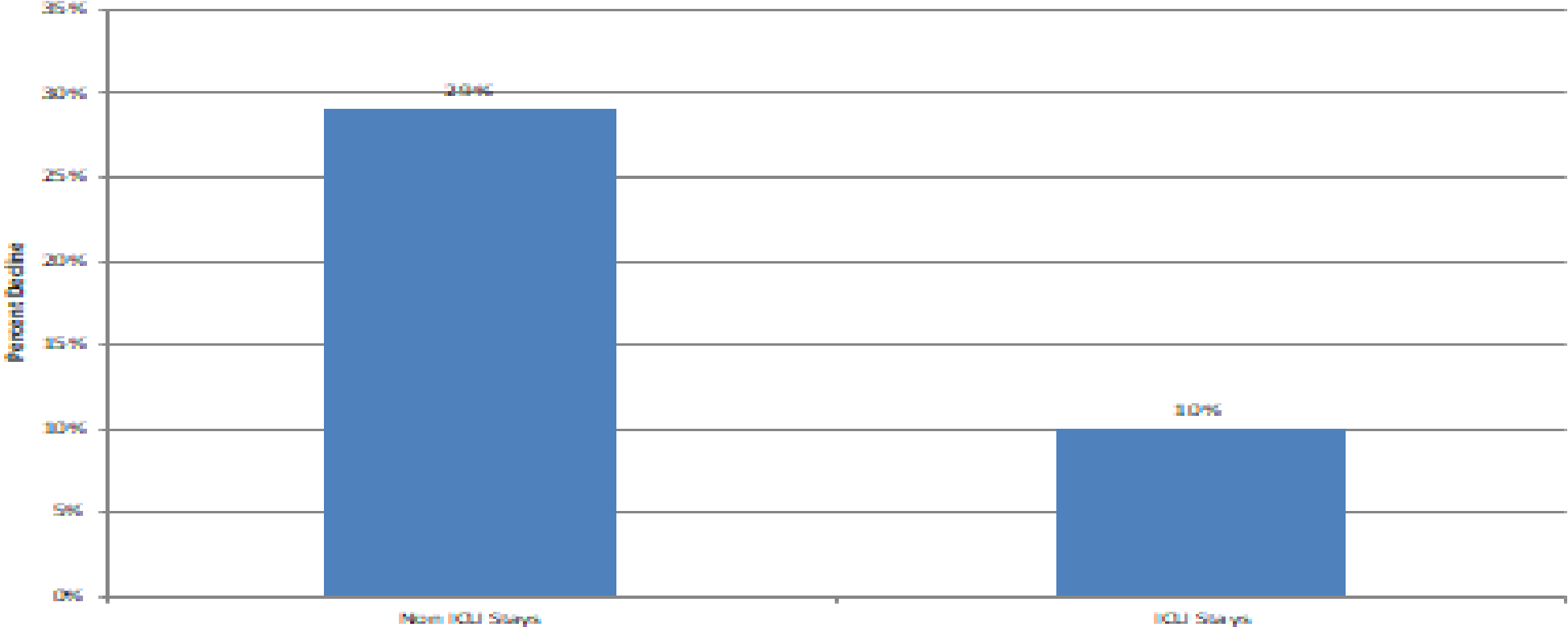
Hartford
Hospital
A Hartford HealthCare Partner

Delirium Attributable Days



Integration of 4M Age-friendly Health System Framework

CAM Positive Days (for all pts adm from ED) Difference from 2018 to 2019



ROI Calculator Applied to ADAPT

1 2 3 4 5 Scenarios

Scenario Name: No PAC

Find Levels (Target ROI)

1. Start Acute Care for Elderly

2. Population & 4M Period	
Number of annual admissions	31,000
Amortization period (Years)	5

3. 4M Costs		Per Year
Launch - one time only expenses	\$10,000	\$2,000
Fixed expenses		\$0
Variable cost per admission	\$20	\$620,000
Total annual cost of program		#####

5. Case cost from coding & payment for HAC	
Revenue per case detected (code modification)	\$3,050
Detection & coding effectiveness (% cases)	50.0%
Case cost revenue offset (by detection %)	\$1,525

Results	Total Cost Avoided	#####
	4M Costs	\$622,000
	Net Benefit	#####
	ROI	934.1%
	Years Given Back	12.23

Levels	
Target ROI	300%
Delirium Effectiveness	20.4%
Delirium Incidence (%)	10.1%
Total Program Cost	\$686,249

Simulation Results (ROI)	
Max	388.5%
Min	578.2%
Average	491.5%
% Below Target	0.0%

4. Estimates/Values		Delirium	HAPU'S	Other Condition
Key Metrics	Incidence (%)	12.0%	0.0%	0.0%
	Total cases	3720	0	0
	4M program effectiveness	15.0%	0.0%	0.0%
	Cases avoided	558	0	0

HA Condition	Type of stay	Length of stay	Cost per day	Length of stay	Cost per day	Length of stay	Cost per day
	Normal	5.0	\$2,000	5.0	\$2,000	5.0	\$2,000
	Extended due to condition	5.2	\$260	0.0	\$0	0.0	\$0
ded hospital case cost			\$13,052		\$0		\$0

- hospital and PAC combined	\$13,052	\$0	\$0
Cost adjusted for revenue offset	\$11,527	\$0	\$0
Costs avoided	\$6,432,066.00	\$0	\$0

Additional Quality Measures To Track

Process Measures

- Mobility (ambulation)
- Accuracy of delirium screening
- Avoidance of deliriogenic medications
- Use of one-to-one sitters
- Opportunities for family caregivers
- Use of non-pharmacological interventions

Outcome Measures

- Preventable Falls with Injury
- Delirium rates
- Restraint use
- Length of Stay
- Mortality Rates
- Discharge Disposition (home vs facility)
- Unintentional Weight Loss
- Patient & Family satisfaction

Barrier

- Failure to appreciate delirium as prevalent and costly
- Failure to make delirium prevention, detection and action a priority
- Time and resource constraints to implement non-pharmacological interventions

Approach

- Implement universal delirium screening and analyze facility data
- Implement a delirium care pathway with coaching and accountability
- Recruit volunteers; philanthropic funds to purchase items; supply chain integration; bedside experts to coach staff

Summary

- Link 4M based Delirium Care to organizational goals
- Involve executive sponsors to demonstrate organizational commitment
- Use your data to identify the impact of delirium
- Use your data to demonstrate improvement in quality measures
- Support your staff with resources required for excellent delirium care
- Celebrate successes!



Implementing the 4Ms

Specialized Care to Sustainable Systems

January 17, 2024

Emily Carter, MD
Medical Director, Hospital Elder Life Program (HELP)
Associate Director of Inpatient Programs
Division of Geriatrics, Maine Medical Partners



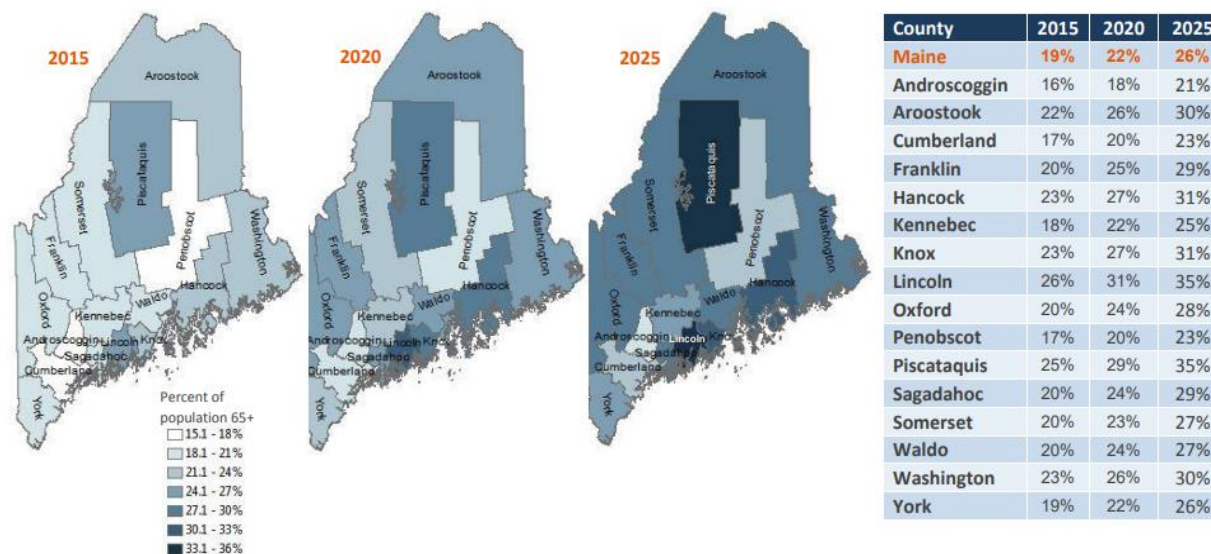
Disclosures

- None



Background

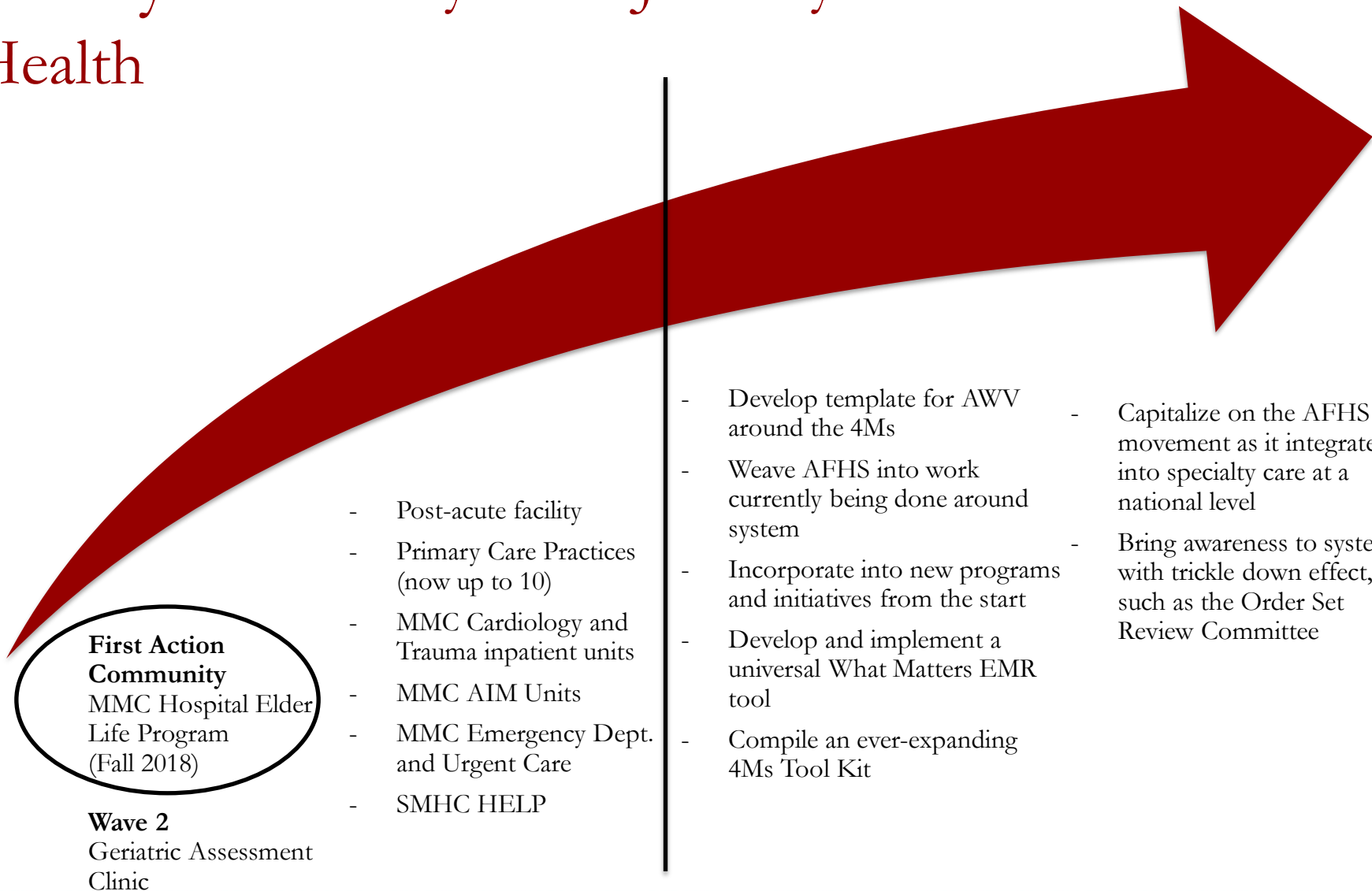
- Maine is the oldest state in the nation according to the U.S. Census Bureau, with 22.5% of the population over 65 years of age (2022).



<http://muskie.usm.maine.edu/Publications/DA/Long-Term-Services-Supports-Use-Trends-Chartbook-SFY2014.pdf>

- In FY19, MMC saw just under 13,000 patients age 65 and older, a 2% increase from FY18.
- We need a way to provide consistent, best practice care to all older adults who enter our health system.

Age-Friendly Health Systems Journey at MaineHealth





The AGS CoCare Hospital Elder Life Program (HELP) is an innovative model of hospital care designed to **prevent** delirium and functional decline in hospitalized older adults. HELP uses interdisciplinary staff and targeted intervention protocols to improve patients' outcomes and provide cost-effective care.

The primary goals of the program are:

- Maintaining cognitive and physical functioning of high-risk older adults throughout hospitalization.
- Maximizing independence at discharge.
- Assisting with the transition from hospital to home.
- Preventing unplanned hospital readmissions.

<https://www.deliriumcentral.org/agshelp/>

HELP at MaineHealth

Maine Medical Center

- 627-bed teaching hospital in Portland, ME
- HELP established in 2002, Center of Excellence in 2010



Southern Maine Healthcare

- 150-bed community hospital in Biddeford, ME
- HELP established in July 2021



Assess: What are we already doing?

Table 1. Crosswalk of HELP Protocols with 4Ms

HELP Protocols*	Age-Friendly Health Systems 4Ms†			
	What Matters	Medication	Mentation	Mobility
HELP Core Interventions				
Standardized Patient Screening	✓	✓	✓	✓
Patient Enrollment Procedures	✓	✓	✓	✓
Daily Visitor Program	✓	✓	✓	✓
Orientation Protocol	✓	✓	✓	✓
Therapeutic Activities Protocol	✓	✓	✓	✓
Sleep Enhancement Protocol	✓	✓	✓	✓
Early Mobilization Protocol	✓	✓	✓	✓
Vision Protocol			✓	✓
Blindness Protocol			✓	✓
Hearing Protocol			✓	
Feeding Assistance Protocol			✓	
Fluid Repletion Protocol			✓	
Chaplaincy Protocol	✓		✓	
Delirium Protocol	✓	✓	✓	✓
Dementia Protocol	✓	✓	✓	✓
Psychoactive Medications Protocol	✓	✓	✓	✓
Discharge Planning Protocol	✓	✓	✓	✓
Optimizing Length of Stay Protocol	✓	✓	✓	✓
Discharge Protocol	✓	✓	✓	✓
Post Discharge Assistance and Telephone Follow-Up	✓	✓	✓	✓
HELP Interdisciplinary Interventions				
Interdisciplinary Team (IDT) Rounds	✓	✓	✓	✓
Geriatrics Consultation	✓	✓	✓	✓
Community Linkages	✓	✓	✓	✓
NICE‡ to HELP Nursing Interventions				
Pain Management Protocol	✓	✓	✓	✓
Aspiration Prevention Protocol		✓	✓	
Prevention of Catheter Associated UTI Protocol			✓	
Constipation Protocol		✓	✓	✓
Hypoxia Protocol			✓	✓

*AGS CoCare®: HELP Program January 2023: <https://help.agscocare.org>

Act On: What Matters

10/15/2021 visit with Test, Test_Mh_Ambpm_Physician, MD for Office Visit

Health Care Agents Patient Capacity ACP History Code Status Surprise Question Surprise Question History ACP Documents ACP Notes

What Matters

What Matters

Time taken: 10/15/2021 1317 Responsible Create Note Show Row Info Show Last Filled Value Show Details

Please ask at least one of the following to identify, understand and document your patient's health outcome goals and care preferences.

What Matters most to you for this visit? What outcome are you most hoping for?

What concerns you most when you think about your health today?

What concerns do you have about your health as you think about the future?

What is something important for us to know about you? What would make tomorrow a good day?

Create Note

Restore Close Cancel Previous Next

Next Steps

- Assess: Geriatrics Scorecard
- Act On: Partnership development (Trauma, Cardiology, Emergency Medicine, Adult Medicine); Interdisciplinary Engagement (providers, pharmacy, nursing, therapy, SW, care

Maine Medical Center
MaineHealth

Becoming an Age-Friendly Health System: Delirium Detection

What is Delirium?
Delirium is an acute change in mental status from baseline characterized by fluctuating symptoms including inattention, disturbances of consciousness, or disorganized thinking.

Types of Delirium

HYPERACTIVE

- More easily recognized
- ↑ Psychomotor activity, ↑ agitation, calling out, and disrupting therapies/care

HYPOACTIVE

- ↓ Psychomotor activity and ↓ alertness
- Somnolent or quiet, "pleasantly confused"
- Harder to recognize, but more common

MIXED

- Features of both hypo and hyperactive

How to Diagnose Delirium? Use the CAM!
(Confusion Assessment Method)
On admission, transfer, and every 24 hours or with any cognitive change

CAM Section One	
Acute Onset (different from prior to admit)	1
Fluctuating	1
Inattention	1
Section One Total	3
CAM Section Two	
Disorganized Thinking	1
How would you rate Patient's Level of Consciousness?	Alert/normal
Is There an Altered Level of Consciousness?	1
Section Two Total	1
Evaluate CAM Score	4
CAM Score Evaluation	Negative

Age-Friendly Health Systems

Mobility
Encourage all older adults to ambulate every day. Encourage older adults to get up from their room at least once each day.

What Matters
Encourage all older adults to ambulate every day. Encourage older adults to get up from their room at least once each day.

Medication
If a medication is necessary, use Age-Friendly medications that have not been shown to be harmful to the older adult. Monitor for medication side effects and drug-drug interactions.

Mentation
Monitor, identify, and manage delirium, depression, and dementia as separate entities.

Delirium is Common

- Up to 30% of hospitalized medical patients
- Up to 50% of Postoperative patients
- Up to 80% of ICU patients

Tips to Treat and Prevent Delirium

- Assess for sensory impairment; provide devices
- Remove unnecessary letters (foley, IV, telemetry)
- Avoid sleeping medications; utilize sleep enhancement guidelines
- Encourage mobility (out of bed for meals; ambulate 3x/day)
- Minimize daytime napping
- Monitor closely for pain, constipation, and urinary retention
- Monitor vital signs including oxygen saturation
- Orient frequently

Risk Factors for Delirium

- Acute infection
- Age >65
- Cognitive impairment
- "Dementia"
- Depression
- ETOH use
- Fractures or trauma
- Male gender
- Medications
- Metabolic derangements
- Past history of delirium
- Poor mobility
- Poor oral intake
- Severe illness or multiple comorbidities
- Sensory impairment
- Terminal illness

Delirium is Deadly

- 2 to 4x increased risk of death
- 1.5x increased risk of death in the year after hospitalization
- 20% increased risk of death in the 6 months after an ED visit
- 5x increased risk of death at 6 months on admission to SNH

Delirium is NOT Dementia

- Dementia is the leading risk factor for delirium
- Patients without dementia who develop delirium are at increased risk of dementia over the next 1.5 years

Delirium is NOT Dementia

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Delirium is NOT Dementia

- Dementia is the leading risk factor for delirium
- Patients without dementia who develop delirium are at increased risk of dementia over the next 1.5 years

Delirium Tips & Tricks

Treatment of delirium is correction of the underlying contributing factors (usually more than one)

- Review medications for delirigenic potential (anticholinergics, sedatives, narcotics, and Beers list)
- Review medications for potential withdrawal from home medications.
- Review labs for recent changes in renal or liver function, infection, etc.
- Assess the patient (pain, tetters, urinary retention, constipation, vitals, neuro changes); address findings as indicated.
- Perform the Confusion Assessment Method [CAM] (acute change in mental status, fluctuating, and inattentive PLUS disorganized thinking or altered level of consciousness).
- Assess the environment (lights, stimulation, noise, and tetters).
- Encourage use of hearing aids or glasses, provide devices if needed.
- Consider family support or visitation.

Resources for Inpatient Care of Older Adults (Geriatrics)

- **EBP Consult** for Delirium Prevention (Age 70+, hospitalized >48 hours, and not delirious)
- **Geriatric Consult**: Delirium, Dementia, Polypharmacy, Falls. Do patients or other care needs in older adults?
- **Geriatric Nursing Consult**: Bedside support for care related to Delirium management, Falls, and complex care for older adults.
- **Pharmacy Consult for Delirium or Medication Reconciliation**
- **Geriatric Adult Delirium Risk-PCI Order Set**: Designed to facilitate evaluation and management of delirium.
- **Old People (Delirium)** by Dr. Easley Carter with different levels and management considerations for delirium.
- **Geriatric Medicine Cases Page**: <https://maine.medrxiv.com/collections/461> Articles, teaching modules, and other resources related to care of older adults.

Managing Specific Contributors to Delirium

Inmobility

- Limit tetters:
- Encourage mobility throughout the day.
- Minimum goal of up out of bed 3 times per day
- Bedchair exercises encouraged ad lib.
- Eventual / maintenance goal of at least 4-6 laps around the unit per day to prevent the loss of mobility.

Sleep

- See **HMC Sleep Protocol** for management suggestions (ask nursing for assistance).
- Contact patient experience for eye masks, ear plugs, and white noise machines; other options under the Concierge Menu at 662-8775.
- Schedule melatonin 3 mg 2 hours before bed or ramelteon 8 mg 30 minutes before bed.
- Avoid Z-drugs and benzodiazepines unless these are home medications.
- Counsel patients regarding risks associated with sedating agents (ie, delirium and falls).

Pain

- Scheduled acetaminophen 375 mg TID is generally well tolerated (check LFTs). NSAIDs may be appropriate in select cases but have more risk (check renal, GI).
- Trial topical agents (ly-ly, Lidocaine patch).
- Consider OACR consult, heating pad, repositioning.
- Low dose opioid (consider if usual starting dose) may be appropriate.
- Ensure a bowel regimen is in place (Miralax 17 gram PO daily premed, add from there).

Constipation/Urinary Retention

- Encourage mobility, hydration, and fiber intake during the day.
- Assess for contributory medications (ie, anticholinergics, opioids, iron).
- Miralax is preferred over docusate (generally ineffective); senna is beneficial but can contribute to cramping; scheduled premed over PRN unless contraindicated.
- Consider PRR consult, heating pad, repositioning.
- Monitor PRR as retention can be masked by overflow incontinence. Initiate Acute Retention Protocol for PRN straight cath.
- Consider further assessment as medically indicated.

Behavioral medications (i.e., antipsychotics) do NOT treat delirium. They should be used sparingly and only when a patient is a danger to self or others. Choice of agent is nuanced but low-dose with option for repeat administration if needed is best.

Developed by Emily Carver, MD, Ronald Roberts, APRN, Nikki Gonzalez, RN/MSW, Kara Swanson, MD, with assistance from PC21, SNH Clinical Transformation Project

Tips to Prevent and Treat Delirium

- Encourage mobility (out of bed for meals; ambulate three times/day)
- Encourage hydration
- Assess for sensory impairment; provide devices
- Orient frequently
- Minimize daytime napping
- Avoid sleeping medications; utilize sleep enhancement guidelines
- Assess need for tetters (foley, IV, telemetry)
- Monitor vital signs including oxygen saturation
- Monitor closely for pain, constipation, and urinary retention

Questions? Contact the Hospital Elder Life Program (HELP) at 662-6353

Age-Friendly Health Systems

Mobility
Encourage all older adults to ambulate every day. Encourage older adults to get up from their room at least once each day.

What Matters
Encourage all older adults to ambulate every day. Encourage older adults to get up from their room at least once each day.

Medication
If a medication is necessary, use Age-Friendly medications that have not been shown to be harmful to the older adult. Monitor for medication side effects and drug-drug interactions.

Mentation
Monitor, identify, and manage delirium, depression, and dementia as separate entities.

DELIRIUM

Your Role in Delirium Detection and Treatment: An Interdisciplinary Approach

DETECTION, COMMUNICATION, AND DOCUMENTATION

Maine Medical Center
MaineHealth

Maine Medical Center
MaineHealth

Risks Associated with the Use of Multiple CNS Active Medications

Nicolette Centanni PharmD, BCPS, BCGP

Maine Medical Center
MaineHealth

Sleep On It: Therapeutic Considerations for Sleep in the Elderly

Resident Lecture Series

September 20th 2019
Bethany Carrington, PharmD (additions by Nicolette Centanni, PharmD, BCPS, BCGP)

Tool Kit



Age-Friendly Health Systems

MaineHealth Age-Friendly Care

Interventions, tools, tips, and tricks



What Matters Tools

Tool	Format	Purpose	Implemented
<u>.traumaacp</u>	Epic Dotphrase	Dotphrase for Trauma APPs to integrate asking What Matters into the Trauma Tertiary Survey done for each encounter	<ul style="list-style-type: none"> MMC Trauma patients 65 and older on R6
What Matters Flowsheet	Epic Flowsheet	Flowsheet that is integrated into Care Management and Social Worker navigators to guide the asking of What Matters through four different, targeted questions.	<ul style="list-style-type: none"> MMC Emergency Department MMC Inpatient units
MH Nursing Home <u>Smartblock</u>	Epic <u>Smartblock</u>	Tool used in the post-acute setting to track the discharge disposition of patients and support the data capture of patients discharged home vs other facilities	<ul style="list-style-type: none"> St. Joseph's Rehab and Residence
What Matters documentation	KPI	KPI used to track the documentation of an answered What Matters question by Care Management in the ED	<ul style="list-style-type: none"> MMC ED

Mobility Tools

Tool	Format	Purpose	Where Implemented
<u>Daily BMAT Assessment Measurement</u>	KPI	Monitor and develop interventions to improve unit compliance with patients having a daily BMAT assessment performed	<ul style="list-style-type: none"> P3CD, R2, R6, R7
<u>3x/Day Ambulation</u>	KPI	Monitor and develop interventions to improve unit achievement to ambulate patients at least 3 times a day	<ul style="list-style-type: none"> P3CD, R2, R6
Mobilized in the last 4 hours indicator	Epic PAF Column	Patient List Column to visually indicate if a patient had been mobilized in the last 4 hours	<ul style="list-style-type: none"> R6
<u>Sara Stedy</u> Platform Step	Equipment	Equipment procured by and training provided by Safe Patient Handling to safely move patients Platform step purchased to allow for rehabilitation therapy to simulate stairs	<ul style="list-style-type: none"> R6, R7 ED
Mobility Checklist in Hourly Rounding <u>Smartblock</u>	Epic <u>Smartblock</u>	Incorporate mobilization in ED hourly rounding process	<ul style="list-style-type: none"> ED
Nursing Real Time Quality Dashboard	Epic RADAR Dashboard	Allows unit managers/leadership to review CAM/BMAT data on their units.	<ul style="list-style-type: none"> P3CD, R2, R6, R7

Medications Tools

Tool	Format	Purpose	Where Implemented
Age-Friendly Patient List Template	Epic PAF Columns	Easy integration of Age-Friendly into daily patient care	<ul style="list-style-type: none"> • Adult Medicine
<u>.opiateassessment</u>	Epic Smartphrase	For Providers to evaluate concomitant benzo and opiate use	<ul style="list-style-type: none"> • SJR
<u>Sleep in the Elderly</u>	LMS Video Module	Video education training for all staff	<ul style="list-style-type: none"> • R6 • R7
<u>CNS Active Medications</u>	LMS Video Module	Video education training for all staff	<ul style="list-style-type: none"> • R6 • R7
<u>Pharmacologic Management of Delirium</u>	LMS Video Module	Video education training for all staff	<ul style="list-style-type: none"> • Adult Medicine

Mentation Tools

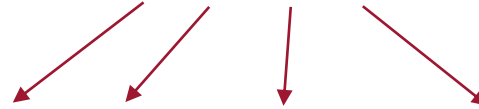
Tool	Format	Purpose	Implemented
Daily CAM Assessment	KPI	Monitor and develop interventions to improve unit compliance with patients having a daily BMAT assessment performed	<ul style="list-style-type: none"> MMC P3CD, R2, R6, R7 MMC ED
CAM Assessment	Epic Flowsheet	** Intervention	<ul style="list-style-type: none"> MMC ED, UCP
SNF CAM Assessment	PointClickCare	Documenting the CAM assessment in the post-acute EMR.	<ul style="list-style-type: none"> St. Joseph's Rehab and Residence
.CAM	Epic Smartphrase	For provider use to document CAM negative or CAM positive when evaluating patients for altered mental status and confusion	<ul style="list-style-type: none"> St. Joseph's Rehab and Residence
CAM Chart Audits	Manual Audit	Random audits of Bedside RN CAM assessment results	<ul style="list-style-type: none"> MMC P3CD, R2, R6, R7
Delirium Badge Buddies	Badge Buddy	For care team members to quickly reference how to prevent delirium, what to do if delirium is suspected, and how to treat it	<ul style="list-style-type: none"> MMC P3CD, R2, R6, R7 MMC ED
Delirium Poster	24"x36" Poster	Reference poster for charting rooms	<ul style="list-style-type: none"> MMC P3CD, R2, R6, R7 MMC ED
Delirium Brochure	Trifold Brochure	Reference brochure for units	<ul style="list-style-type: none"> MMC P3CD, R2, R6, R7
Delirium Tips and Tricks	11" x 17" Tablet Poster	Reference poster for charting rooms	<ul style="list-style-type: none"> MMC P3CD, R2
Your Role in Delirium Detection and Treatment	LMS Video Module	Video education training assigned to Nursing staff for all new hires and re-training.	<ul style="list-style-type: none"> MMC R6, R7
Positive Approach to Care: Strategies to Improve the Care of Patients Living with Dementia	Live or virtual class (contact [REDACTED])	This workshop helps learners understand and recognize the differences in "normal" and "not normal" aging and focuses on improving care for patients living with dementia using Positive Approach to Care "care partnering" techniques, including Positive Physical Approach™ (PPA) and Hand Under Hand™ (HUH). The learner will develop better observational skills to recognize and intervene effectively when behavioral challenges occur. Learners will also develop new skills related to approach, cueing, and ability to connect with people affected by dementia.	<ul style="list-style-type: none"> RN Resources

Sustainable Systems

Mentation



Medications



Mobility



Room/Bed	Admission Date	Problem	Code Status	CAM Score	CrCl	Anticholinergic Score	Sedative Medications (Targeted)	Beers Medications (2012)	Diet Orders and Comments with Display Name	Last Bowel Movement	Foley Order	BMAT Mobility Level	Fall Risk Level	Mobility Check Four Times 24Hrs.
		Sepsis (CMS-HCC)	○	Negative	92.6 mL/min	0	—	—	Diet cardiac sodium 2 gm	07/15/21	—	Level 4	Low Fall Risk	4
		Left displaced femoral neck fracture (CMS-HCC)	⊗	Negative	39.2 mL/min	0	—	—	Diet regular	07/15/21	●	Level 3	High Fall Risk	4
		Chronic atrial fibrillation	⊗	Positive	12.2 mL/min (A)	4	haloperidol Intravenous/Intramuscular 2 mg ...	—	Diet diabetic limit to 75 gm CHO/meal	07/15/21	●	Level 3	High Fall Risk	4
		Closed left hip fracture (CMS-HCC)	○	Negative	91.7 mL/min	3	ALPRAZolam tablet 0.5 mg	—	Diet regular	07/16/21	—	Level 3	High Fall Risk	—
		Spinal stenosis, lumbosacral region	—	Negative	43.6 mL/min (A)	0	—	amiodarone tablet 200 mg	Diet regular: Nurse may advance diet...	07/13/21	●	Level 3	High Fall Risk	4
		Acute on chronic respiratory failure with hypoxia...	○	Negative	111.1 mL/min (A)	0	LORazepam tablet 0.5 mg	—	Diet regular 1000 ml	07/15/21	—	Level 3	Moderate Fall Risk	—
		Closed fracture of right hip (CMS-HCC)	○	Negative	28.8 mL/min (A)	0	—	amiodarone tablet 100 mg	Diet regular	-- (PTA)	—	Level 1	High Fall Risk	—
		Closed fracture of neck of left (CMS-HCC)	○	Negative	85.2 mL/min	3	—	metoclopramide injection 5 mg	Diet NPO Except for: Sips with	07/11/21	—	Level 1	High Fall Risk	4

What Matters



Age Friendly Order Sets

Practical Applications of Age Friendly Care for the Surgical Patient

Consider implementation of [iPACE](#) rounding with a 4Ms focus

Create an order set or add age adjustors to known order sets (I)

- Dose adjusted narcotics
- Pre-checked [Miralax](#) 17 grams PO daily vs Adult Medicine Bowel Regimen decision tree
- HELP consult (pre-checked)
- Geriatrics consult (not pre-checked)
- Option for WHILE AWAKE vitals or a time-linked option (build in the options for both)
- ?pre-check Delirium Precautions and Fall Precautions

Already in existence:

- Age Friendly Toolkit
- CAM BID (already standard of care) [\(IIIa\)](#)
- Pre-check HELP order on admission [\(IIIb.c.h, V\)](#)
- MMC Sleep Protocol—publicize this better? [\(IV\)](#)
- Mobility protocols—ERAS [\(IV, Vb\)](#)
- OOB for all meals—ERAS [\(VI\)](#)
- CM/SW if no Advance Directive on file
- Strict adherence to TIPS tool and daily discussions with team around mobility goals/barriers

Providers to add EPIC columns to their patient lists: Beers, Sedatives, Anticholinergic score and be mindful of agents in these columns. [\(IIa,b\)](#)

Providers to perform complete and accurate med recs on admission and be considerate of home agents | with withdrawal risk. [\(IIa\)](#)

Providers to prescribe thoughtfully based on risk factors

- Pre-select lower range for narcotics (oxycodone 2.5-5/hydromorphone 1-2/0.2-0.5) [\(III.d,e\)](#)
- Adult Medicine Bowel Regimen decision tree (or just pre-select scheduled [Miralax](#)) [\(III.f\)](#)
- Pre-select Tylenol 1,000 mg TID (0700, 1300, 2000) [\(III.d.g, IV.a\)](#)

Providers to consider Vitals Q4hrs WHILE AWAKE—maybe build a time linked order for 3 days of Q4 vitals and then WHILE AWAKE? [\(IV.a\)](#)

Providers to add What Matters link to note template

Geriatrics consult or use of the Non-ICU Delirium order set for assistance when delirium develops [\(VII\)](#)

Take Aways

- Age Friendly care IS delirium prevention; Delirium prevention IS Age Friendly care
- Start where you are, take your easy wins, gain momentum
- Assess and Act On the needs of you clinical partners
- Build systems to support sustainability (make it easy)
- Resources for support:
 - Institute for Healthcare Improvement (IHI) (including Action Communities)
 - John A. Hartford Foundation
 - American Geriatrics Society, including Age Friendly Resource Library
 - American Delirium Society