

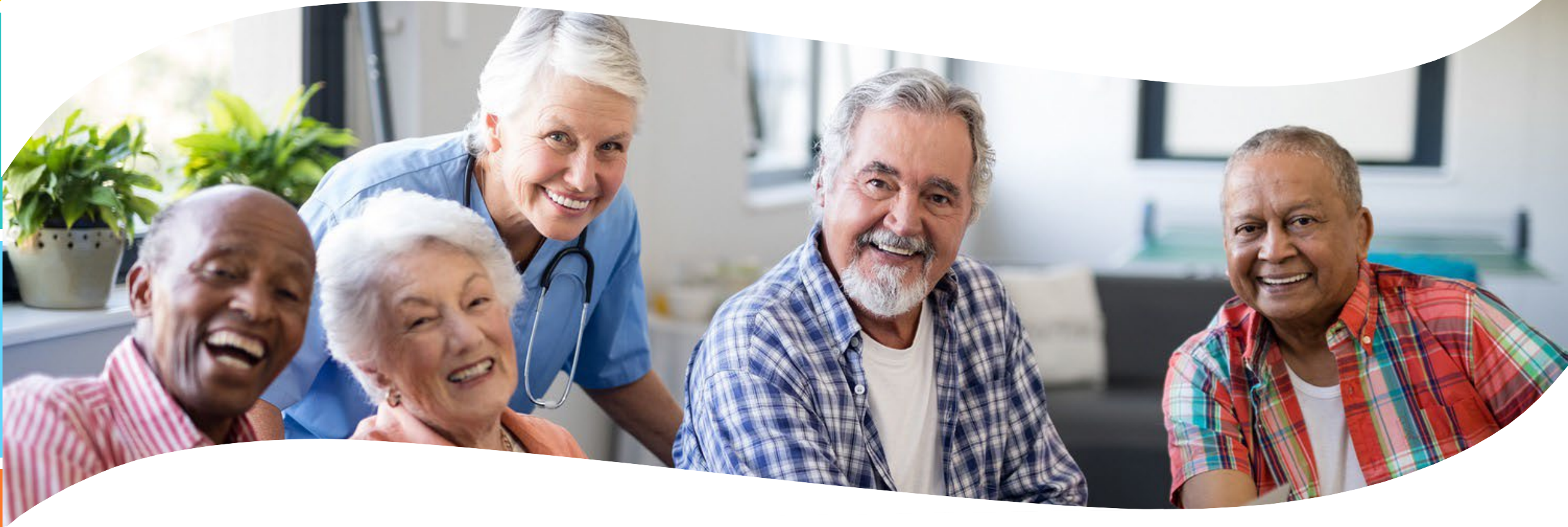
Applying Evidenced-based Best Practices to Prevent, Mitigate and Manage Delirium Across Care Settings: Part 1

Welcome!

- All lines are muted, so please ask your questions in Q&A.
- For technical issues, initiate chat with the Technical Support panelist.
- Please actively participate in polling questions that will appear on the lower right-hand side of your screen.

We will get started shortly!

Applying Evidenced-based Best Practices to Prevent, Mitigate and Manage Delirium Across Care Settings: Part 1



Event Hosts:

Carolyn Kazdan, MHSA, LNHA

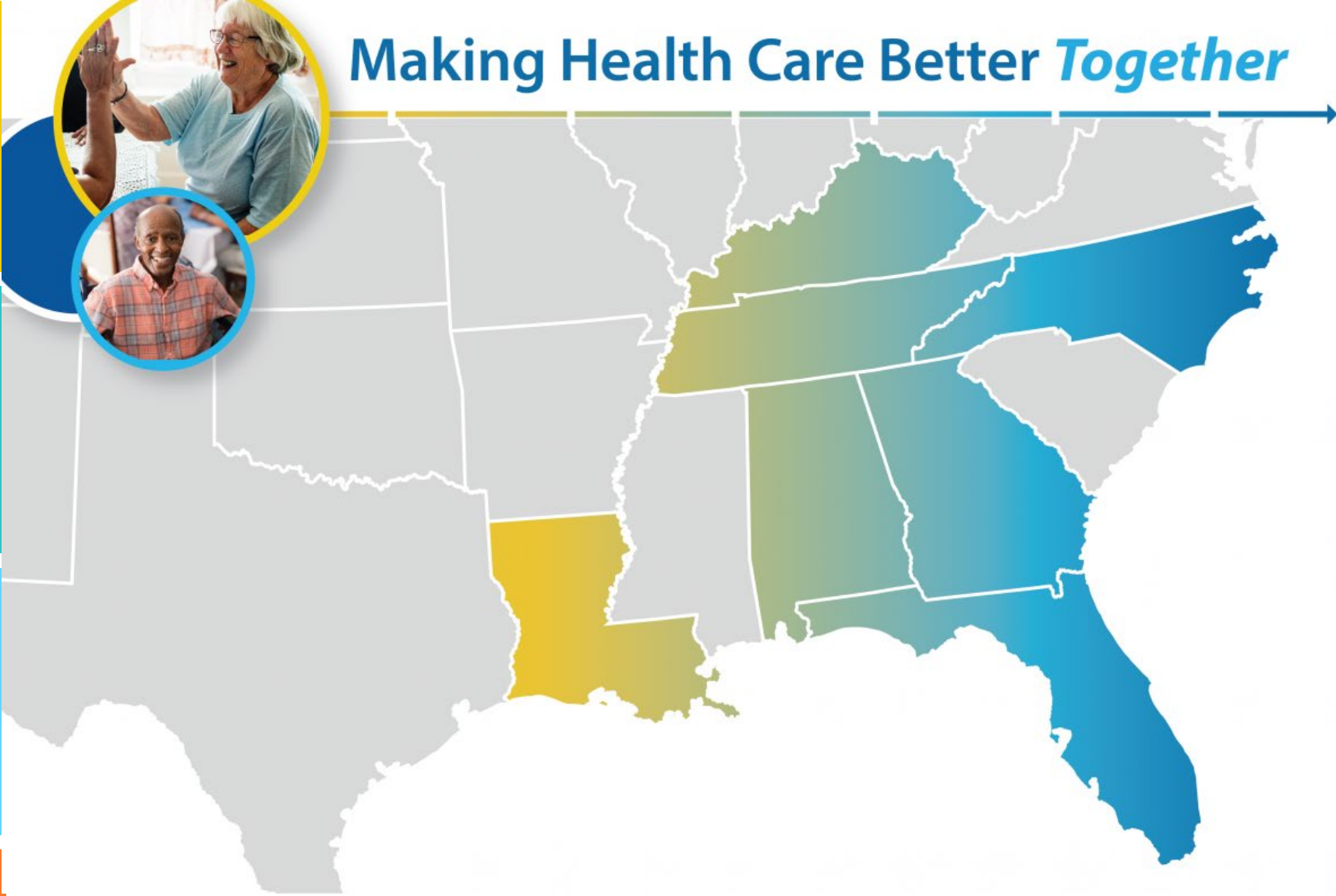
Christine Waszynski, DNP, APRN, GNP-BCFAAN

January 27, 2022

 **ALLIANT**
HEALTH SOLUTIONS

QIN-QIO
Quality Innovation Network -
Quality Improvement Organizations
CENTER FOR MEDICARE & MEDICAID SERVICES
QUALITY IMPROVEMENT & INNOVATION GROUP

Making Health Care Better *Together*



Carolyn Kazdan, MHSA, NHA

SENIOR DIRECTOR, CARE COORDINATION AND NURSING HOME

Ms. Kazdan currently holds the position of Senior Director, Health Care Quality Improvement for IPRO, the Medicare Quality Improvement Organization for New York State. Ms. Kazdan leads IPRO's work with Project ECHO® and serves as the Care Transitions Lead for Alliant Quality. Ms. Kazdan previously led the IPRO's work with the NYS Partnership for Patients and the Centers for Medicare & Medicaid Services (CMS) Special Innovation Project on Transforming End of Life Care in the Nassau and Suffolk County region of New York State. Prior to joining IPRO, Ms. Kazdan served as a Licensed Nursing Home Administrator and Interim Regional Director of Operations in skilled nursing facilities and Continuing Care Retirement Communities in New York, Pennsylvania, Ohio and Maryland. Ms. Kazdan has served as a senior examiner for the American Healthcare Association's National Quality Award Program, and currently serves on the MOLST Statewide Implementation team and Executive Committee. Ms. Kazdan was awarded a Master's Degree in Health Services Administration by The George Washington University.

Carolyn enjoys visiting her grandchildren, photography, crocheting, needlepoint, reading and being at the beach!

"I don't have to chase extraordinary moments to find happiness - it's right in front of me if I'm paying attention and practicing gratitude"

– Brene Brown

Contact: ckazdan@ipro.org



Christine Waszynski, DNP, APRN, GNP-BCFAAN

COORDINATOR OF INPATIENT GERIATRIC SERVICES HARTFORD HOSPITAL HARTFORD CT

Christine is currently the coordinator of Inpatient Geriatric Services, ADAPT (Actions for Delirium Assessment, Prevention and Treatment), Age Friendly Health Systems inpatient project, the Hartford HealthCare Systemwide Fall Prevention Committee, and NICHE(Nurses Improving Care for Health system Elders)Programs at Hartford Hospital in Hartford Connecticut where she functions in the role of geriatric nurse practitioner and clinical nurse specialist. She has received several awards for her innovative work in gerontological nursing and has published a book and numerous articles. She is the principal investigator or co-investigator of several research studies focusing on interventions to improve the care of hospitalized older adults. She is a sought after presenter at the local, regional, national and international level on topics involving geriatric nursing, delirium and fall prevention. She is the immediate Past President of the American Delirium Society and serves on their Governance Committee and Board of Directors.



Contact: Christine.Waszynski@hhchealth.org

Objectives

Learn Today:

- Identify the adverse short and long term outcomes related to delirium
- Recognize missed steps taken by health care professionals that can contribute to the onset or prolongation of delirium

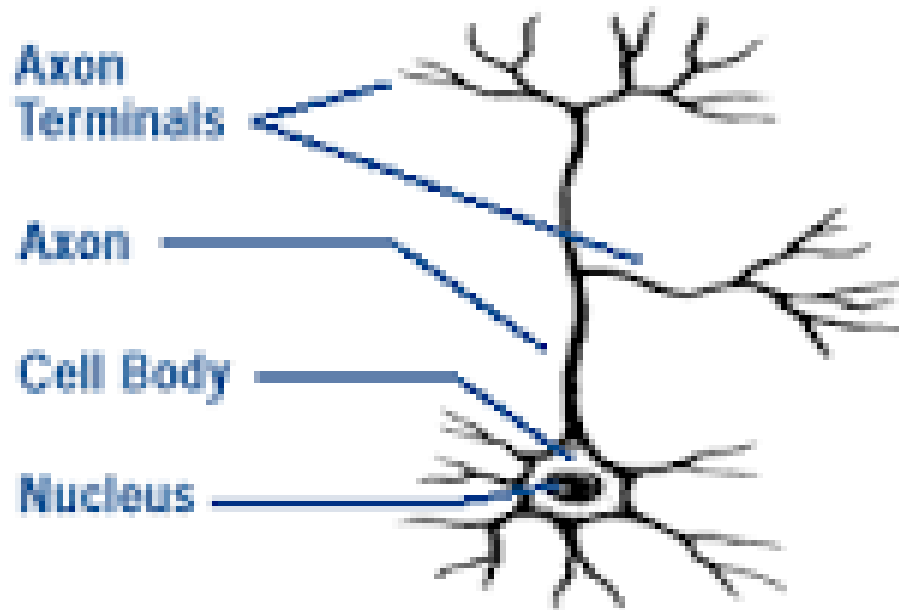
- **Use Tomorrow:**

Raise awareness in your healthcare setting of the negative impact of delirium upon patients, families, staff and society and the potential for staff to prevent delirium and/or mitigate the consequences.

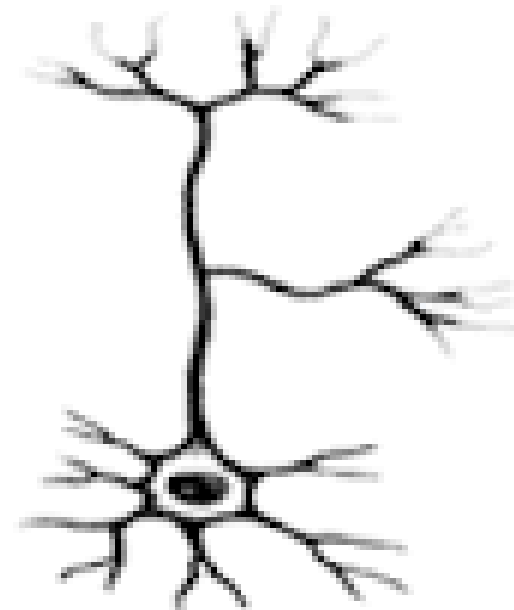
Delirium = Acute Brain Failure

Delirium is an indicator that brain cells are dying

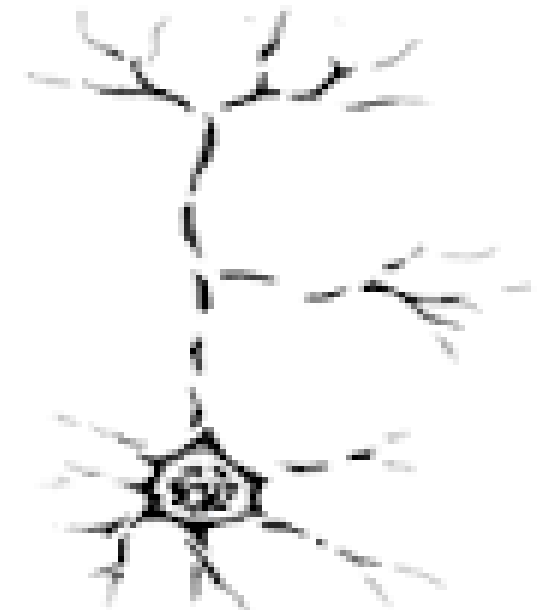
Similar to death of cardiac cells during an MI



Normal Nerve Cell



Nerve Cell With
Damaged Terminals



Cell Death

Delirium is Common

20% of hospitalized patients experience delirium

Surgical:

Up to 28% of patients undergoing **elective orthopedic surgery**

Up to 38% of **pre op hip fracture** patients

Up to 53% of **post op hip fracture** patients

Up to 57% **post op cardiac surgery**

Medical:

Up to 71% of patients with **sepsis**

Up to 80% of patients in **ICUs**

Up to 85% in **advanced cancer**

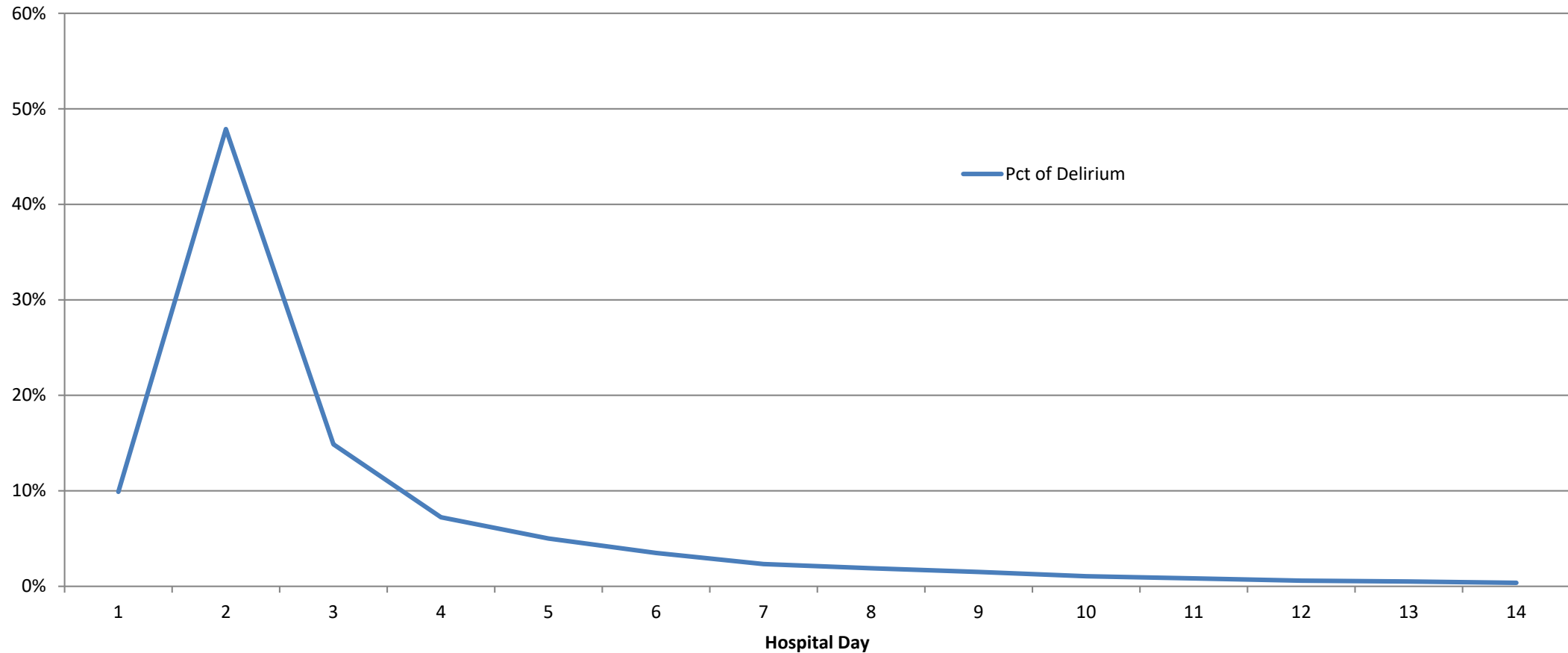
Polling Question:

When is the most common time for delirium to appear during a hospitalization?

- a. Present upon admission
- b. Hospital day 2
- c. Hospital day 3
- d. Upon discharge

Delirium Begins Early in a Hospital Stay

ADAPT DATA



Delirium in Other Settings

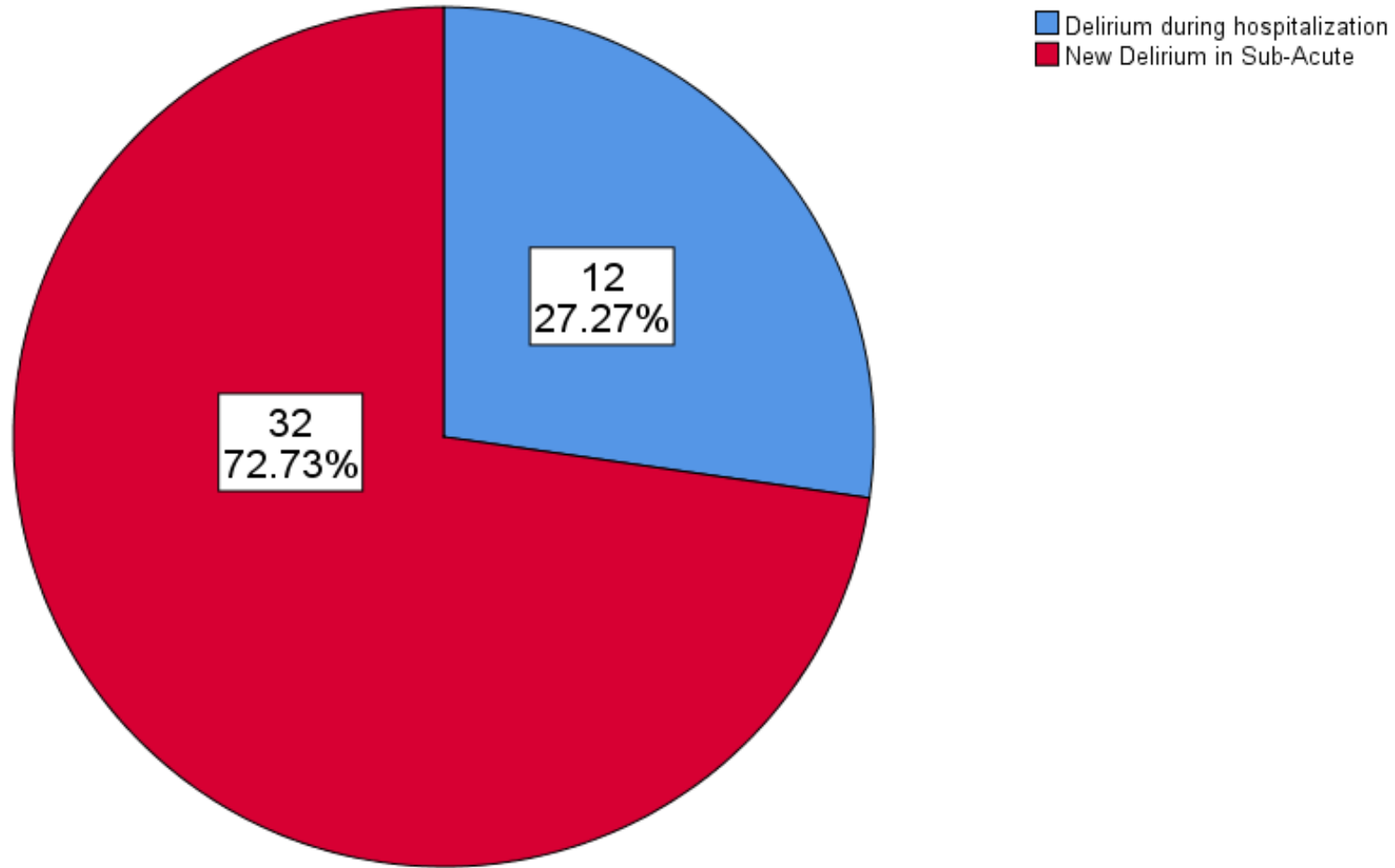
Up to 45% of hospitalized patients remain delirious after transition to rehabilitation or home *Cole et al, 2017, Age & Aging*

Up to 23% of patients in post-acute care experience delirium
Jones et al, 2010, J Am Med Dir Assoc

Delirium occurs in 18% of LTC patients during acute illness.
Forsberg, 2017, J Am Osteo Assoc

Prior Delirium in Hospital vs New Onset Delirium in Post – Acute Setting

ADAPT DATA



What Does Delirium Look Like?

Delirium/Encephalopathy/Acute Confusional State

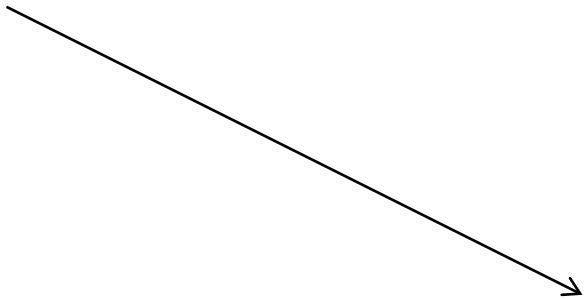
- Acute change in mental status – new or worsening confusion
- Impaired concentration and attention
- Altered/fluctuating level of consciousness
- Hyperactive and/or hypoactive behaviors

Delirium develops over a **short period** of time, typically hours to days. It **fluctuates** throughout the day.

Onset and Course

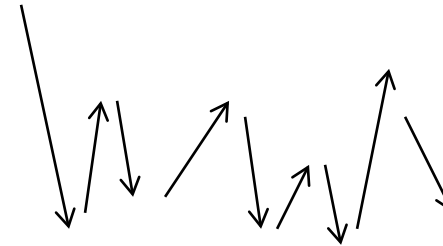
Dementia

Insidious/gradual
Progressive over years



Delirium

Acute/sudden
Fluctuating; waxing and waning
minutes to hours



Attention and Level of Alertness

Dementia

Attentive- can focus and pay attention
Alert



Delirium

Inattentive- can not focus or concentrate
Sleepy or agitated



Delirium vs Dementia: Shared Features

Memory Impairment

- Short term
- Long term
- Immediate

Executive Function Impairment

- Complex tasks
- Planning

Disorientation

Hallucinations

Delusions

Misperceptions

Visual spatial disturbance

Sleep disruption

Varying levels of cooperation

Delirium Subtypes

Polling Question: Which delirium subtype is the most common and associated with the worst outcomes?



a. Hyperactive



b. Hypoactive



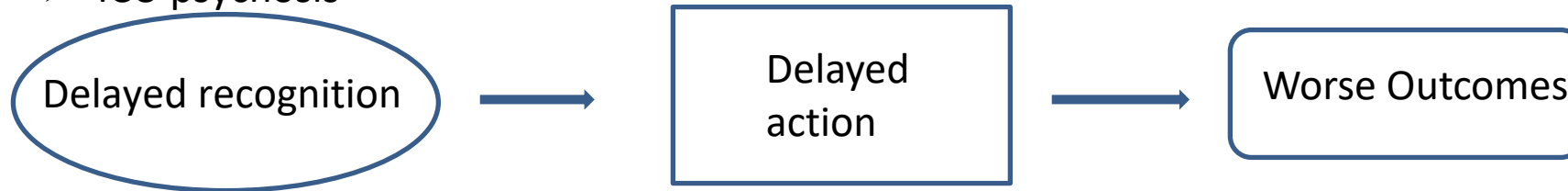
c. Mixed



Issue: Clinician Failure to Recognize

More than 60% of delirious patients are not identified as delirious by clinicians (providers and nurses)

- Tired
- Sick
- Old
- Medicated
- Demented
- ICU psychosis



- Caused by illness, injury, toxicity and/or stress – usually multifactorial
- Virtually always associated with complications

Adverse Outcomes Associated With Delirium

Patient/ Family

- Increased Mortality (up to 2 yrs. later)
- Prolonged course of delirium post-hospital D/C
- Permanent brain damage
- Increase rate of future dementia
- PTSD and depression
- Falls
- Restraints
- Hospital acquired Pressure Ulcers

Health System/ Society

- Increased length of hospitalization (2-3 x)
- Increased rate of discharge to SNF (2-3X) and LOS
- Increased readmission rates
- Increase costs of care (more days of care at a high cost per day)
- Increased use of home care

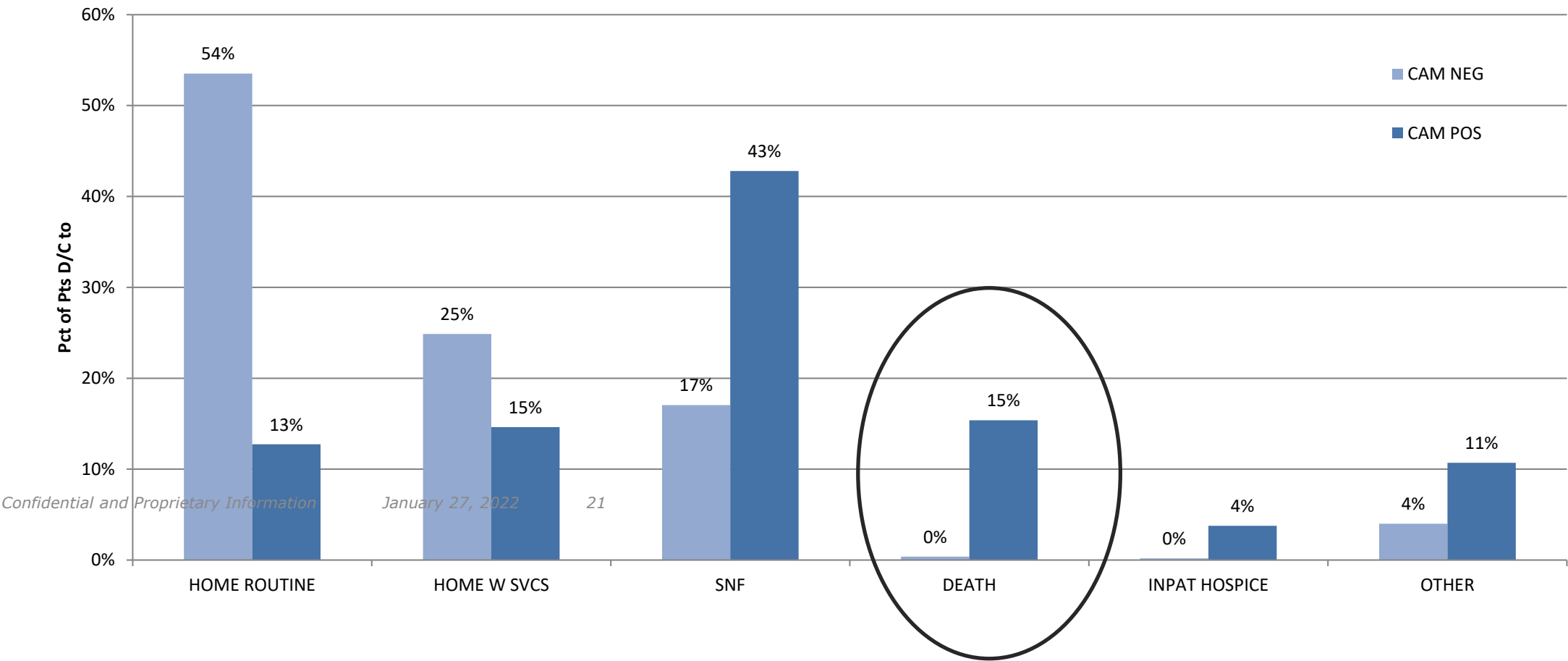
Delirium has Serious Consequences

ADAPT DATA

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

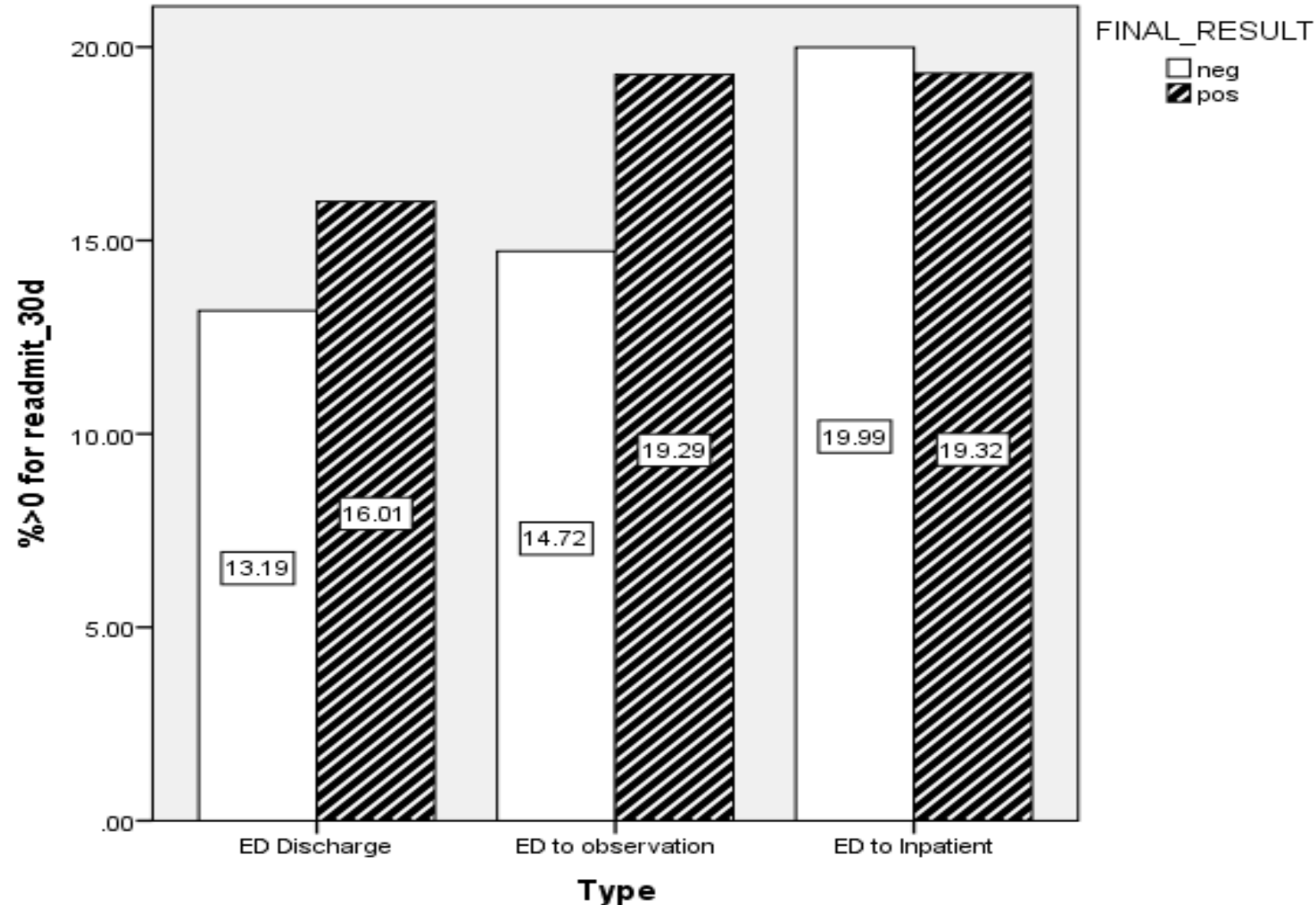
Delirium Patients Have Poorer Outcomes at Care Transition

ADAPT DATA



One Year Mortality Delirium vs. Not Delirious

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 : 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.

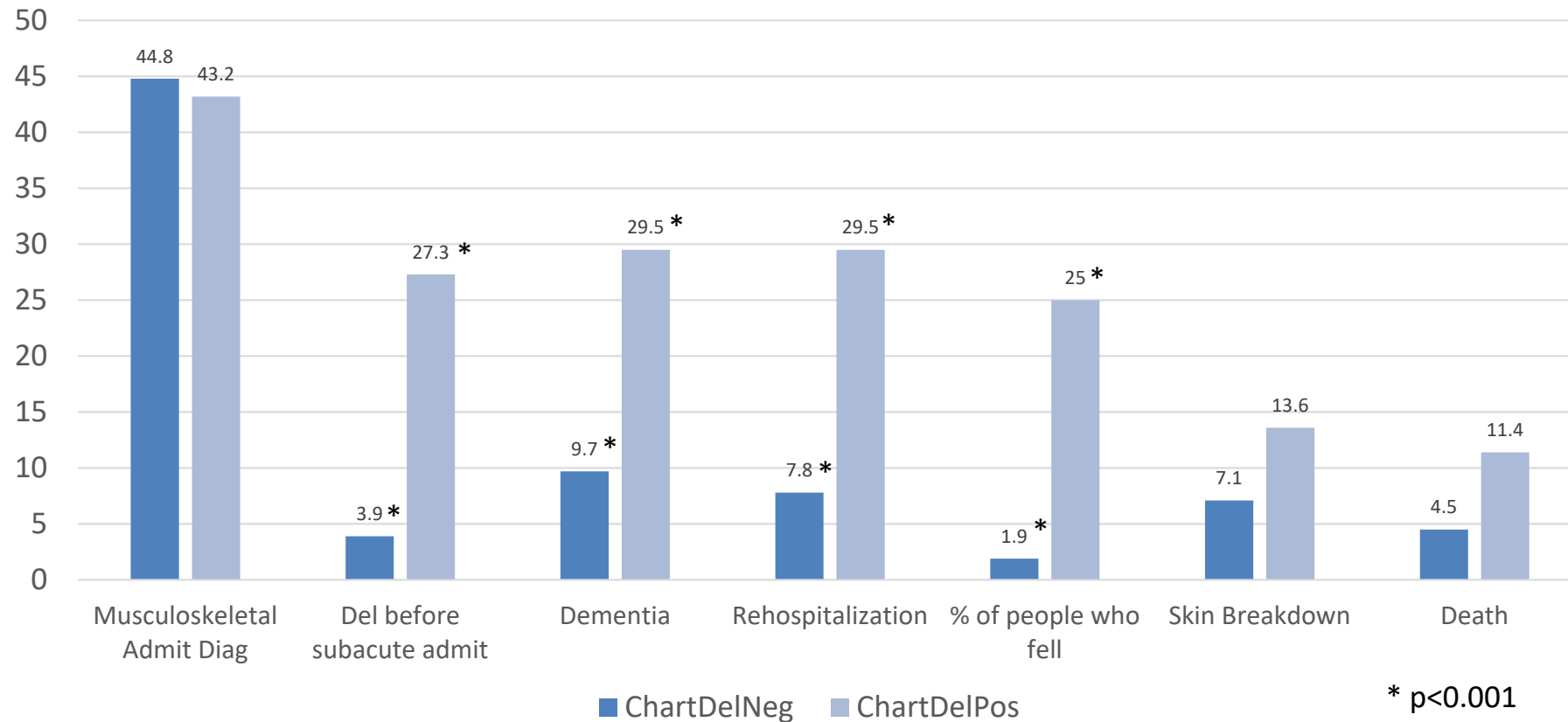
Delirium is Associated with Higher Costs for Colon Surgery

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

Post Acute Care: Complications Associated with Delirium

ADAPT DATA

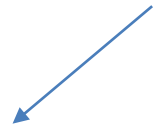



Predisposing vs Precipitating Risk Factors for Delirium



Vulnerability

- Frailty
- Age
- Severity of Illness
- Pre-existing dementia
- History of Delirium
- Substance dependence



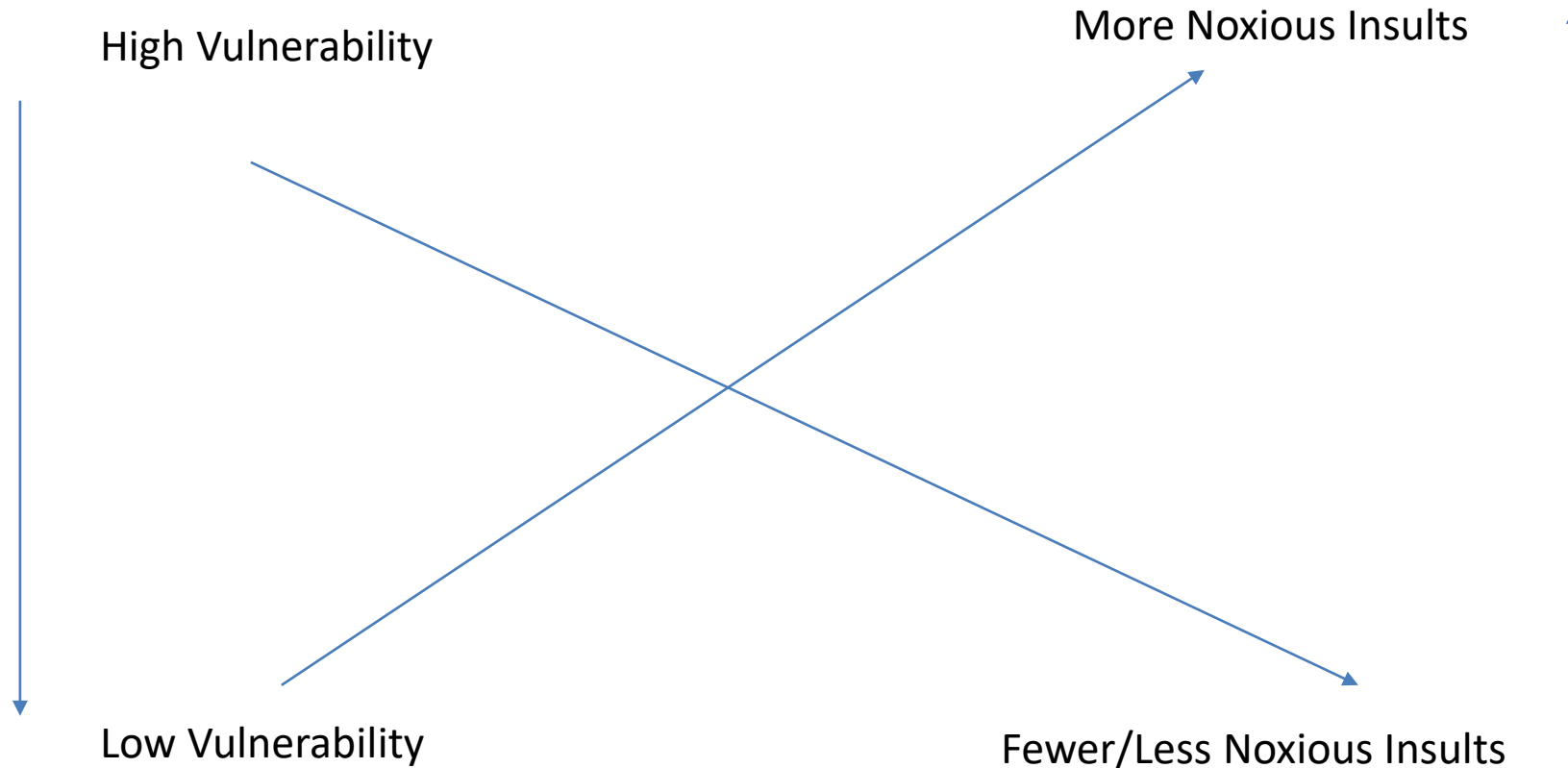
Insults

Potentially Modifiable

- Polypharmacy/deliriogenic meds
- Restraints
- Urinary catheter
- Untreated pain
- Malnutrition
- Dehydration
- Sensory impairment
- Excessive or under stimulation
- Lack of sleep
- Immobility

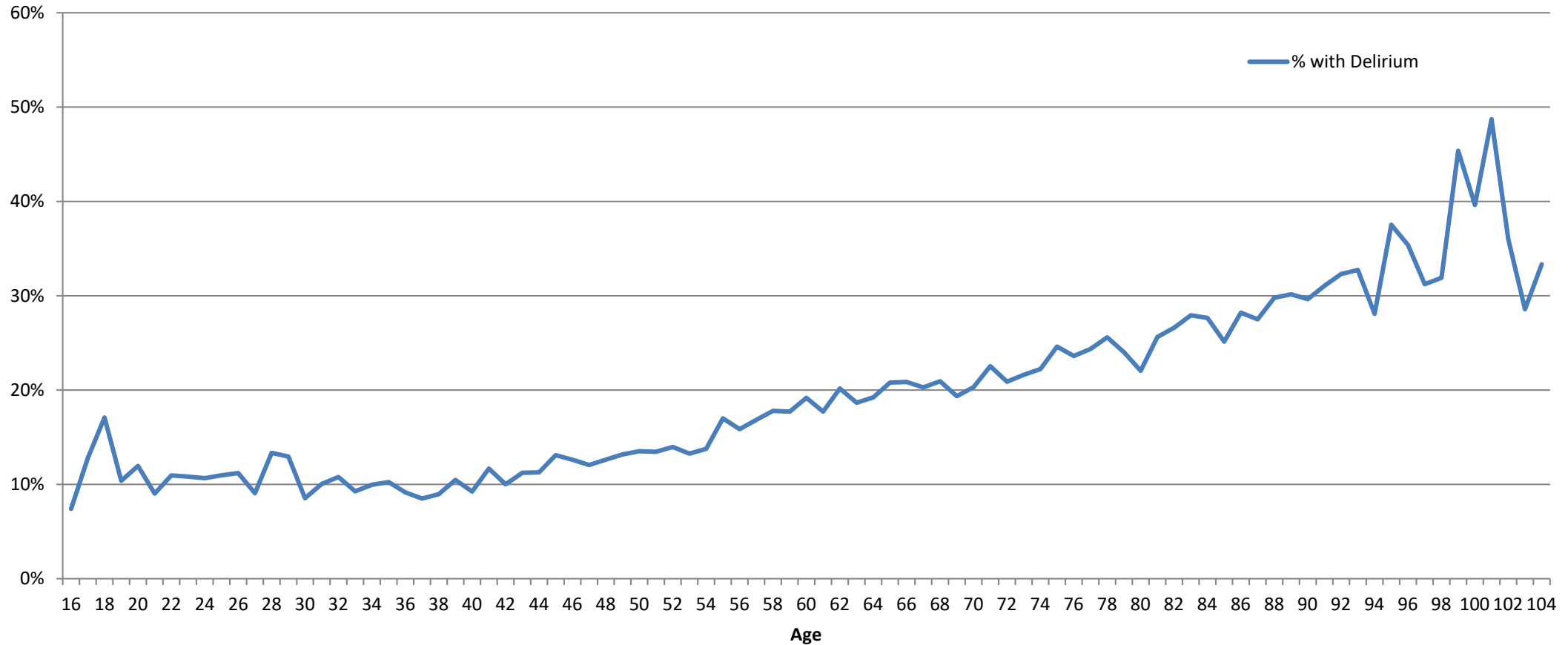
Marcantonio et al, 2011, Annals of Internal Medicine

Quantifiable Risk *Inouye & Charpentier, 1996, JAMA*



Delirium Risk Increases with Age

ADAPT DATA



Polling Question

What percent of delirium is potentially preventable?

a. 0%

b. 5%

c. 15%

d. 30%

What To Do?

Prevent delirium when possible (30-40% in acute care) Siddiqi et al, 2006,
Age Ageing

Early recognition and treatment of **underlying causes**

Decrease the severity and duration of delirium through **evidence-based practice**

Putting It All Together - Delirium/Acute Encephalopathy Care Pathway

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

Element 1

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

AND

Element 2

Inattention

AND

Element 3

Altered level of consciousness
Rass ≠ 0

OR

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

P R O V I D E R

P A T I E N T

N U R S E S

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?

- 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

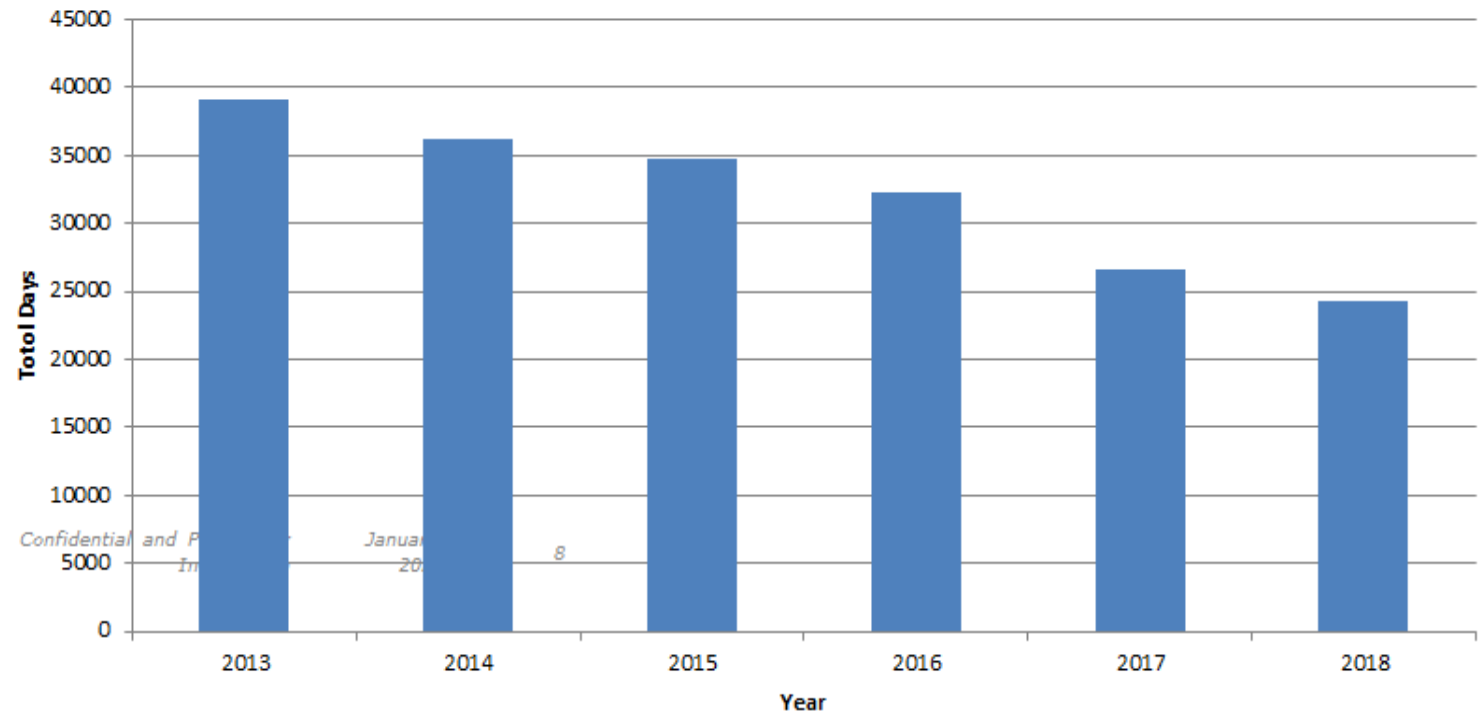
ADAPT at Hartford Hospital

- Screening
- Preventative Measures
- Quick response
- Evidence Based Interventions

Estimated annual cost savings = \$5 million

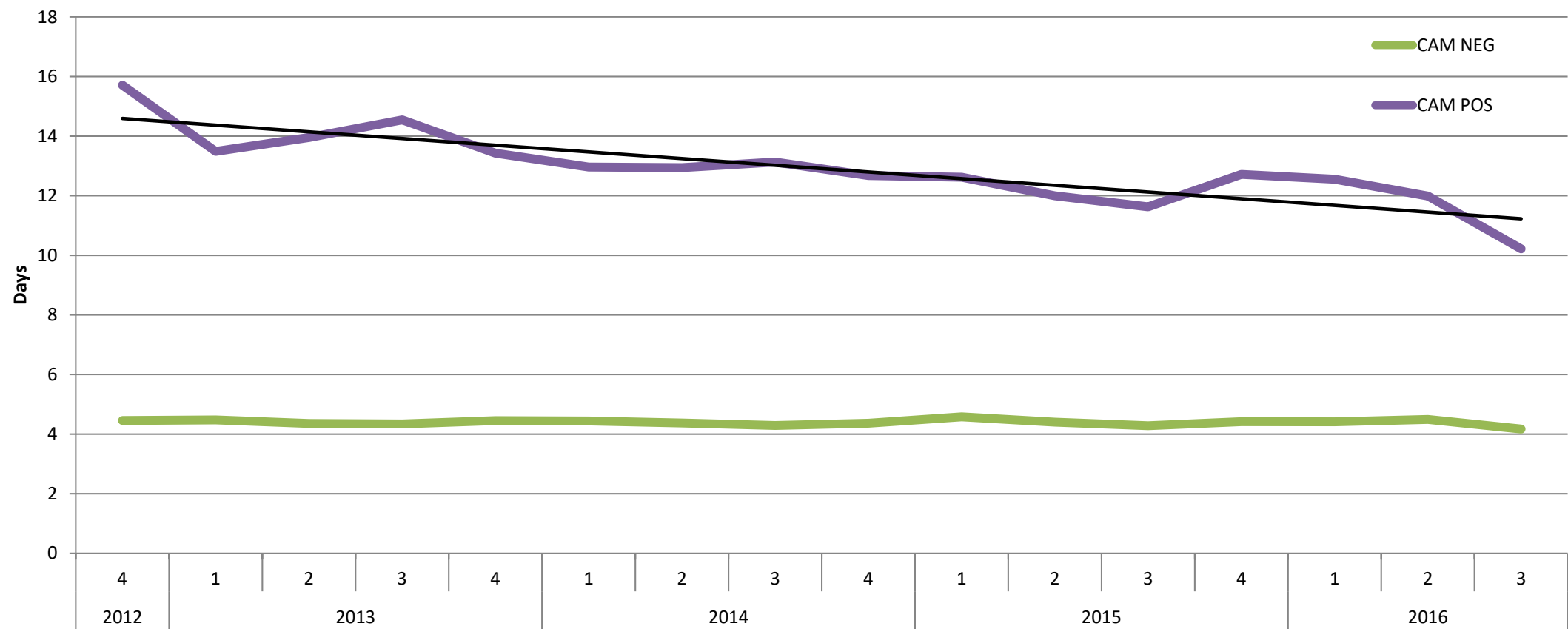
Delirium Attributable Days

ADAPT Data



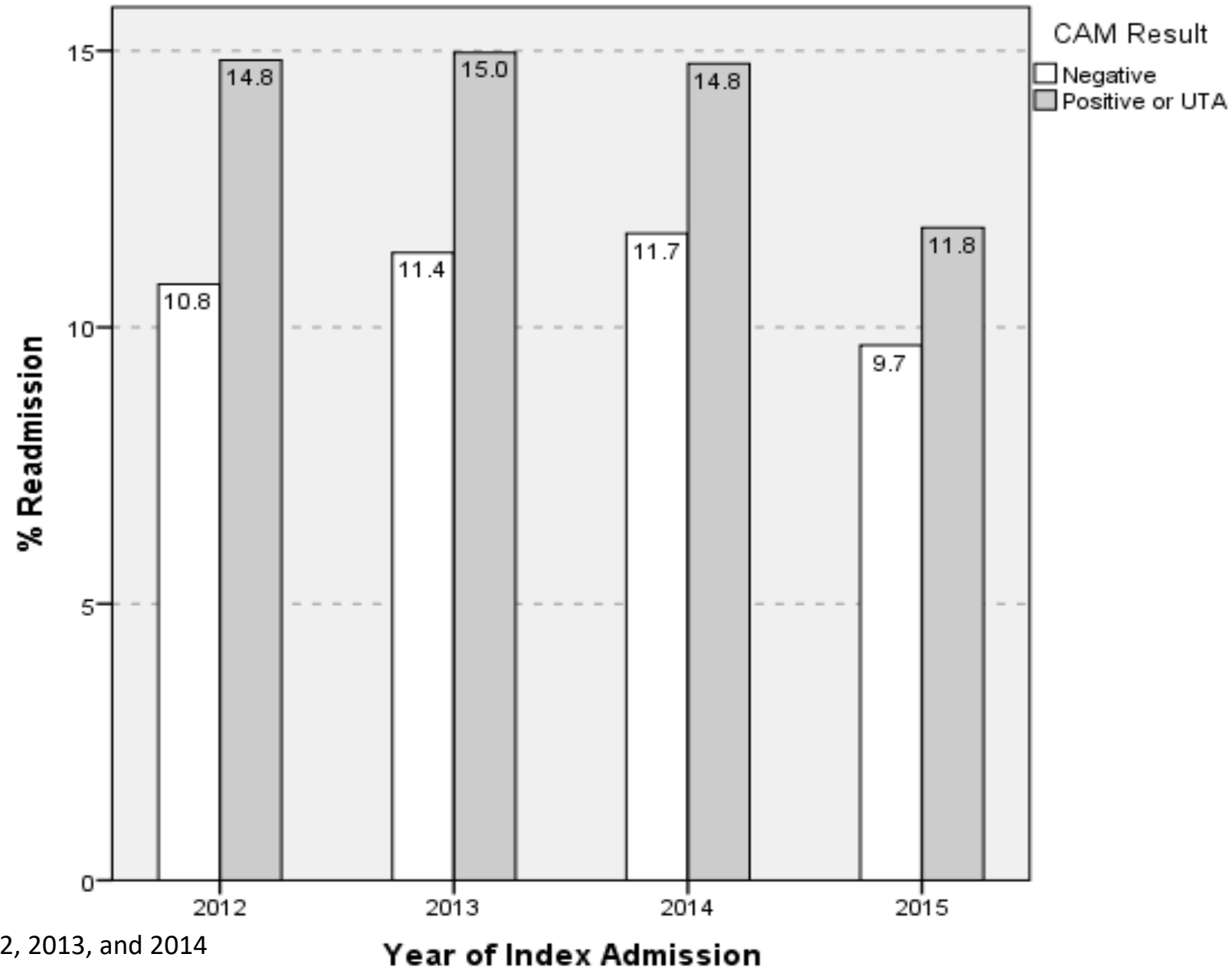
Decreased Length of Stay In Patients with Delirium Over Time

ADAPT DATA



Decrease in 30 Day Hospital Readmission Rate in Delirious Pts Over Time

ADAPT DATA



*All Cause Readmissions

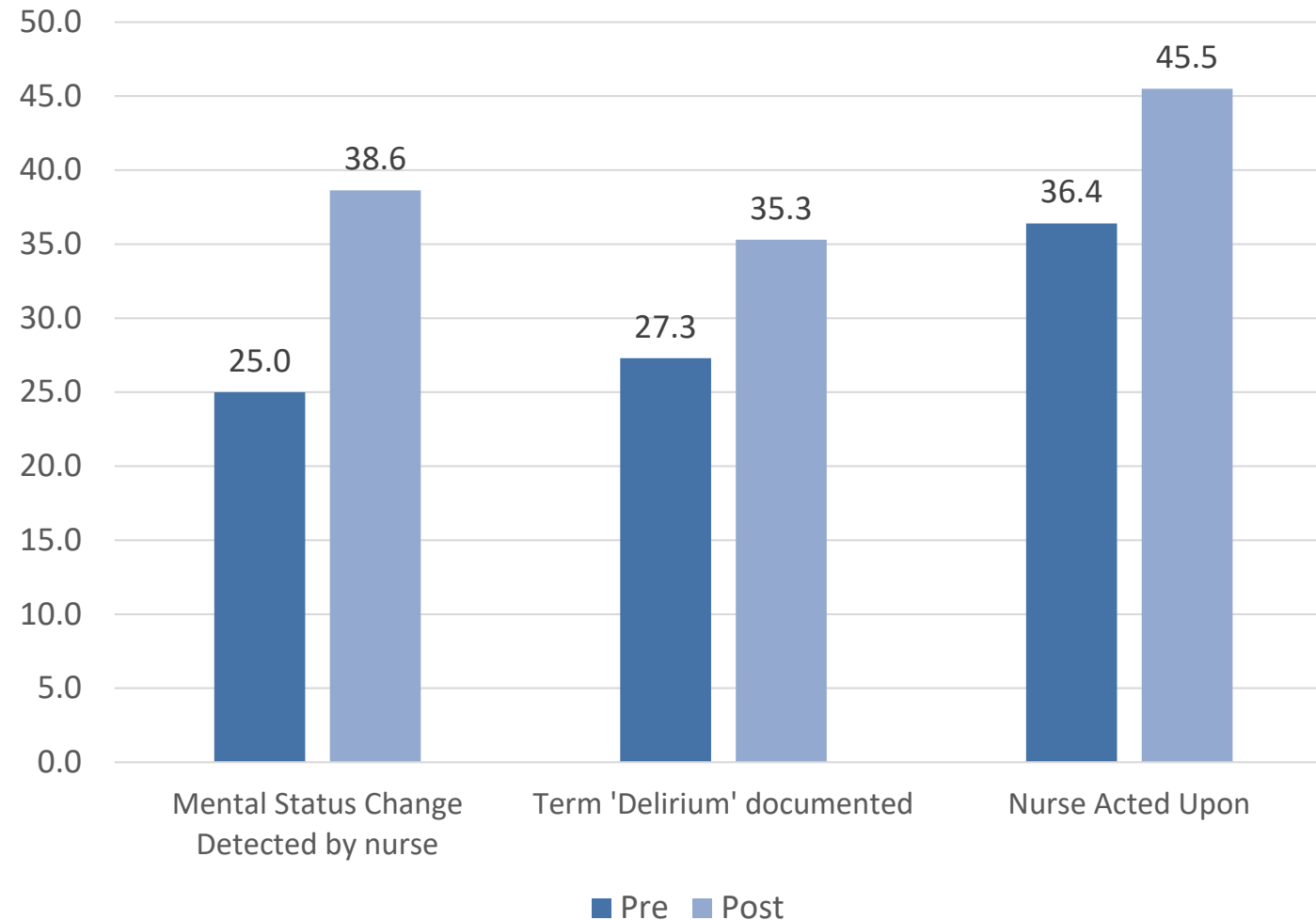
P < 0.001 when comparing CAM results for years 2012, 2013, and 2014

P = 0.02 for year 2015.

Additional Positive Outcomes of ADAPT

- Hospital quality measures:
 - Injurious falls 10-25% NDNQI (.01-.03/1000 pt days)
 - Restraint reduction in ICU
 - Decreased costs of continuous observers
 - Increase in mobilization
- Follow up in community:
 - Increased referrals to specialty care and network programs (home care; fitness/wellness)
- Demonstration Project :
 - Post-acute Cognitive Rehab Unit gained the attention of DPH and the Attorney General as a feasible and effective model to improve outcomes for patients discharged from the hospital with delirium

Post Acute Care: Trends Before and After Intervention



Summary

- Delirium is common
- Delirium is under recognized
- Delirium is different from dementia
- Delirium is harmful in the short and long term
- Up to 40% of delirium is caused by mis steps taken by the health care team (actions or lack of action)
- Some risk factors for delirium are modifiable
- Use of evidence-based strategies can improve outcomes

References

INTERACT change in mental status tool

https://pathway-interact.com/wp-content/uploads/2021/08/25-INTERACT-Care-Path_Symptoms-of-Acute-Mental-Status-Change-2021.pdf

Acute delirium or encephalopathy- acute care

<https://americandeliriumsociety.org/assets/documents/Delirium-and-acute-encephalopathy-care-pathway.pdf>

POST-acute care pathway

<https://americandeliriumsociety.org/assets/documents/post-acute-delirium-and-acute-encephalopathy.pdf>

Contact Information:

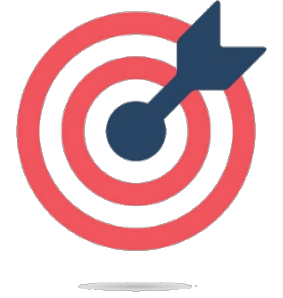
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Objectives Check In!



- **Learn Today:** Identify the adverse short and long term outcomes related to delirium
- Recognize missed steps taken by health care professionals that can contribute to the onset or prolongation of delirium

Use Tomorrow:

Raise awareness in your healthcare setting of the negative impact of delirium upon patients, families, staff and society and the potential for staff to prevent delirium and/or mitigate the consequences.

How will this change what you do?

Please tell us in the poll.

Closing Survey

Help Us Help You!

- Please turn your attention to the poll that has appeared in the lower right-hand side of your screen.
- Completion of this survey will help us ensure our topics cater to your needs.



CMS 12th SOW Goals



Behavioral Health Outcomes & Opioid Misuse

- ✓ Promote opioid best practices
- ✓ Decrease high dose opioid prescribing and opioid adverse events in all settings
- ✓ Increase access to behavioral health services



Patient Safety

- ✓ Reduce risky medication combinations
- ✓ Reduce adverse drug events
- ✓ Reduce C. diff in all settings



Chronic Disease Self-Management

- ✓ Increase performance on ABCS clinical quality measures (i.e., aspirin use, blood pressure control, cholesterol management, cardiac rehab)
- ✓ Identify patients at high-risk for developing kidney disease & improve outcomes
- ✓ Identify patients at high risk for diabetes-related complications & improve outcomes



Quality of Care Transitions

- ✓ Convene community coalitions
- ✓ Identify and promote optimal care for super utilizers
- ✓ Reduce community-based adverse drug events



Nursing Home Quality

- ✓ Improve the mean total quality score
- ✓ Develop national baselines for health care related infections in nursing homes
- ✓ Reduce emergency department visits and readmissions of short stay residents

Making Health Care Better *Together*



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Upcoming Events



Learning and Action Webinars

February 24, 2022: Combined Community Coalition & Nursing Home LAN: Applying evidenced-based best practices to prevent, mitigate and manage delirium across care settings: Part 2

March 15, 2022: Combined Community Coalition & Nursing Home LAN: Applying evidenced-based best practices to prevent, mitigate and manage delirium across care settings: Part 3

April 19, 2022: Combined Community Coalition & Nursing Home LAN: Applying evidenced-based best practices to prevent, mitigate and manage delirium across care settings:
Part 4

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Publication No. 12SOW-AHSQIN-QIO TO1 - NH TO1 - CC--1397-01/25/22



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