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!
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
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

- Prior Delirium in Hospital: 32 (72.73%)
- New Onset Delirium in Sub-Acute: 12 (27.27%)

Legend:
- Blue: Delirium during hospitalization
- Red: New Delirium in Sub-Acute
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?

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

Delayed recognition ➔ Delayed action ➔ Worse Outcomes

- 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**

<table>
<thead>
<tr>
<th></th>
<th>Without Delirium</th>
<th>With Delirium</th>
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<tbody>
<tr>
<td>Hospital Length of Stay (Average)</td>
<td>4 Days</td>
<td>12 Days</td>
</tr>
<tr>
<td>Discharge Back to Home</td>
<td>70%</td>
<td>30%</td>
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<tr>
<td>Mortality</td>
<td>&lt;1%</td>
<td>10%</td>
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</table>
Delirium Patients Have Poorer Outcomes at Care Transition

ADAPT DATA

<table>
<thead>
<tr>
<th></th>
<th>CAM NEG</th>
<th>CAM POS</th>
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<tbody>
<tr>
<td>HOME ROUTINE</td>
<td>54%</td>
<td>13%</td>
</tr>
<tr>
<td>HOME W SVCS</td>
<td>25%</td>
<td>15%</td>
</tr>
<tr>
<td>SNF</td>
<td>17%</td>
<td>43%</td>
</tr>
<tr>
<td>DEATH</td>
<td>0%</td>
<td>15%</td>
</tr>
<tr>
<td>INPAT HOSPICE</td>
<td>0%</td>
<td>4%</td>
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<tr>
<td>OTHER</td>
<td>4%</td>
<td>11%</td>
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One Year Mortality Delirium vs. Not Delirious

ADAPT Data

<table>
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<tr>
<th>Type</th>
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<tbody>
<tr>
<td>ED Discharge</td>
<td>13.19</td>
</tr>
<tr>
<td>ED to observation</td>
<td>14.72</td>
</tr>
<tr>
<td>ED to Inpatient</td>
<td>19.32</td>
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</table>
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**

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<tr>
<th>Description</th>
<th>Cost</th>
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<tbody>
<tr>
<td>Avg daily cost NO Delirium</td>
<td>$2,224.73</td>
</tr>
<tr>
<td>Avg daily cost ANY Delirium</td>
<td>$2,797.79</td>
</tr>
<tr>
<td>Avg Daily Attributable Cost - Delirium</td>
<td>$573.06</td>
</tr>
</tbody>
</table>
Post Acute Care: Complications Associated with Delirium

ADAPT DATA

Musculoskeletal Admit Diag
Del before subacute admit
Dementia
Rehospitalization
% of people who fell
Skin Breakdown
Death

* p<0.001
Predisposing vs Precipitating Risk Factors for Delirium

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

Insults
- Polypharmacy/deliriogenic medications
- 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*

- High Vulnerability
  - More Noxious Insults
- Low Vulnerability
  - Fewer/Less Noxious Insults
Delirium Risk Increases with Age

ADAPT DATA

Graph showing the percentage of delirium cases increasing with age.
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
ADAPT at Hartford Hospital

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

Estimated annual cost savings = $5 million
Decreased Length of Stay In Patients with Delirium Over Time

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

*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

<table>
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<tr>
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<th>Pre</th>
<th>Post</th>
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<tbody>
<tr>
<td>Mental Status Change</td>
<td>25.0</td>
<td>38.6</td>
</tr>
<tr>
<td>Term 'Delirium'</td>
<td>27.3</td>
<td>35.3</td>
</tr>
<tr>
<td>Nurse Acted Upon</td>
<td>36.4</td>
<td>45.5</td>
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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

Acute delirium or encephalopathy- acute care

POST-acute care pathway
Contact Information:

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Objectives Check In!

• **Learn Today:** Identify the adverse short and long term outcomes related to delirium

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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 optical 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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Georgia, Kentucky, North Carolina and Tennessee

Program Directors
## Upcoming Events

### Learning and Action Webinars

<table>
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<tr>
<th>Date</th>
<th>Event Description</th>
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<tr>
<td>February 24, 2022</td>
<td>Combined Community Coalition &amp; Nursing Home LAN: Applying evidenced-based best practices to prevent, mitigate and manage delirium across care settings: Part 2</td>
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<tr>
<td>March 15, 2022</td>
<td>Combined Community Coalition &amp; Nursing Home LAN: Applying evidenced-based best practices to prevent, mitigate and manage delirium across care settings: Part 3</td>
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<tr>
<td>April 19, 2022</td>
<td>Combined Community Coalition &amp; Nursing Home LAN: Applying evidenced-based best practices to prevent, mitigate and manage delirium across care settings: Part 4</td>
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