The Challenge of Delirium in Persons with Dementia: A Person-Centered Approach

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What Is Delirium?

"AN ACUTE, USUALLY TEMPORARY CONFUSIONAL STATE WITH AN UNDERLYING REVERSIBLE CAUSE"

See also: Delirium Definition DSM-5 (APA, 2013)—disturbed attention and awareness, tends to fluctuate, disturbed in at least one other cognitive domain, not better explained by preexisting dementia, not in face of severely reduced arousal or coma, evidence of underlying cause

4 Key Features of Delirium Measured by the Confusion Assessment Method (CAM)

Positive=features 1 & 2 & either 3 or 4

1) Acute onset and/or fluctuating course

2) Inattention

3) Disorganized thinking

4) Altered level of consciousness

(Should be performed AFTER cognitive testing)

(Inouye et al., 1990)

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Delirium Superimposed on Dementia (DSD)

Over Half of Hospitalized Older Adults with Dementia Will Develop Delirium—over 80% Subsyndromal Delirium.

Dementia Is the Most Common Risk Factor for Delirium.

Why Care About DSD?

- It is the MOST COMMON risk factor for Delirium – occurring in almost 50% of PWD
- Poor Outcomes with DSD:
  - ↑ rates of long-term **cognitive impairment**
  - ↑ LOS & rates of **re-hospitalization** within 30 days
  - ↑ risk of permanent admission to **LTC** facilities
  - higher **mortality and functional decline**
  - **Cost as much as diabetes and CHF-$164 billion**
  - **DSD HIGHEST COST—higher than delirium alone and dementia alone (Journal of Gerontology, 2005)**

(Fick, Steis, Waller, Inouye, 2013; Marcantonio, 2012; Fick, Agostini, & Inouye, 2002;2005; Voyer 2007;2010; Leslie, et al., 2008;2011)

Poor Outcomes for DSD—Fick et al., JHM, 2013

shm Journal of HOSPITAL MEDICINE www.journalofhospitalmedicine.com

ORIGINAL RESEARCH

Delirium Superimposed on Dementia is Associated With Prolonged Length of Stay and Poor Outcomes in Hospitalized Older Adults

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BACKGROUND: Current literature does not identify the significance of underlying cognitive impairment and delirium in older adults during and 30 days following acute care hospitalization.

OBJECTIVE: Describe the incidence, risk factors, and outcomes associated with incident delirium superimposed on dementia.

DESIGN: A 24-month prospective cohort study.

SETTING: Community hospital.

PATIENTS: A total of 139 older adults (>65 years) with dementia.

METHODS: This prospective study followed patients daily during hospitalization and 1 month posthospital. Main measures included dementia (Modified Blessed Dementia Rating score, Informant Questionnaire on Cognitive Decline in the Elderly), daily mental status change, dementia stage/severity (Clinical Dementia Rating, Global Deterioration Scale), delirium (Confusion Assessment Method), and delirium severity (Delirium Rating Scale-Revised-98). All statistical analysis was performed using SAS 9.3, and significance was an α level of 0.05. Logistic regression, analysis of covariance, or linear regression was performed controlling for age, gender, and dementia stage.

RESULTS: The overall incidence of new delirium was 32% (44/139). Those with delirium had a 25% short-term mortality rate, increased length of stay, and poorer function at discharge. At 1 month follow-up, subjects with delirium had greater functional decline. Males were more likely to develop delirium, and for every 1 unit increase in dementia severity (Global Deterioration Scale), subjects were 1.5 times more likely to develop delirium.

CONCLUSIONS: Delirium prolongs hospitalization for persons with dementia. Thus, interventions to increase early detection of delirium have the potential to decrease the severity and duration of delirium and to prevent unnecessary suffering and costs from the complications of delirium and unnecessary readmissions to the hospital. *Journal of Hospital Medicine* 2013;8:500–505.

This Is the Real Story of Delirium

Table 4

Key aspects of the delirium experience as reported by patients after delirium resolution (n = 30). 50% had delirium and over a third mod to severe dementia

Category	Subcodes "I was just so afraid of every one around me."
Emotions	Concern, anxiety, fear, anger, threat, shame
Cognitive impairment	Confusion, disorientation, difficulties in comprehension, altered perception of time
Psychosis	Disturbing and rambling thoughts, hallucinations, delusions, nightmares, depersonalization, feeling confined
Memories	Memories of parents, delightful memories
Awareness of change	Sudden change, change back to reality, loss
Physical symptoms	Restrained, falls, constraint, drowsiness

Prospero Review of DSD http://www.crd.york.ac.uk/prospero/

Journal of the
AMERICAN GERIATRICS SOCIETY

CLINICAL INVESTIGATIONS

Tools to Detect Delirium Superimposed on Dementia: A Systematic Review

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OBJECTIVES: To identify valid tools to diagnose delirium superimposed on dementia.

DESIGN: Systematic review of studies of delirium tools that explicitly included individuals with dementia.

SETTING: Hospital.

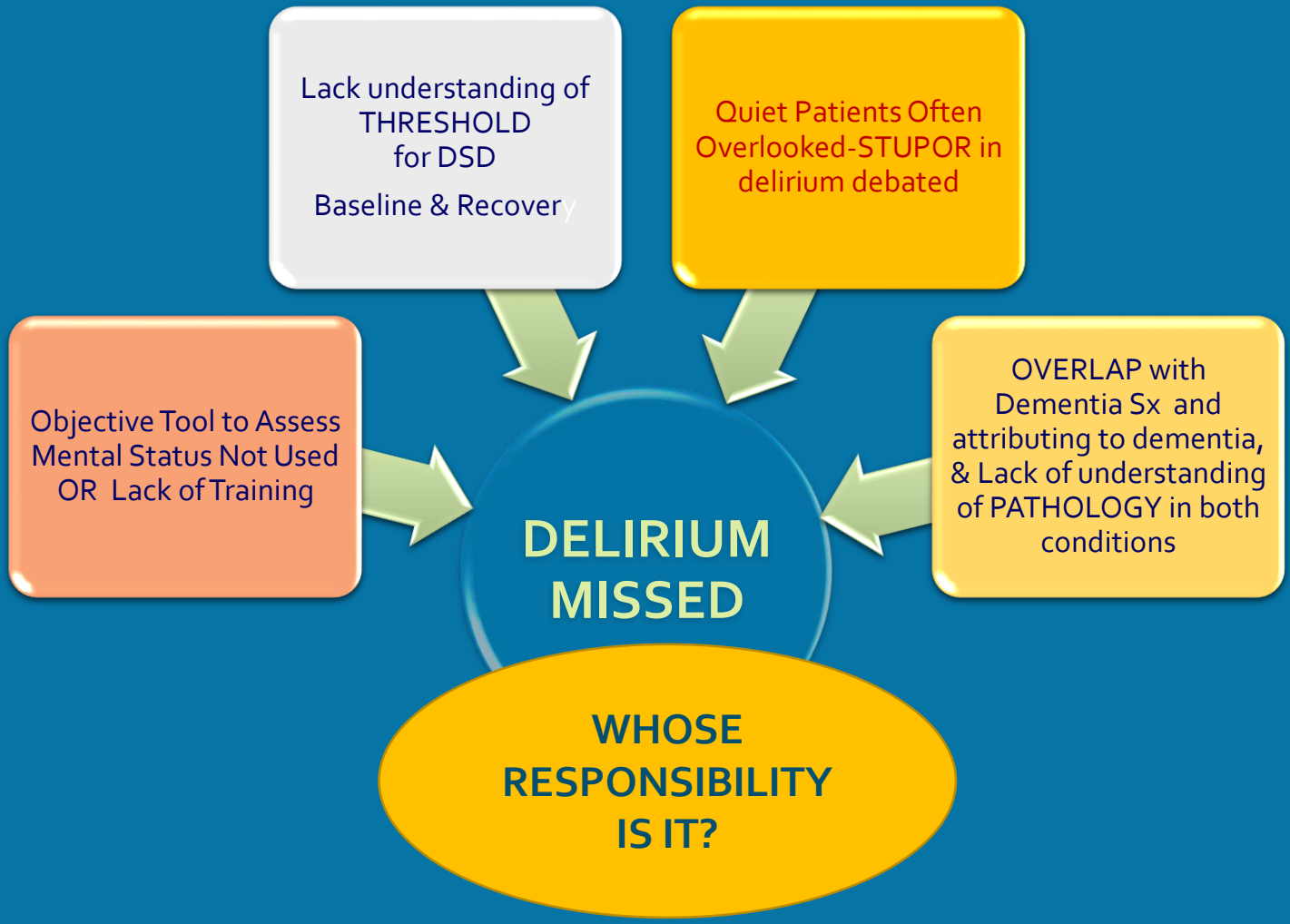
PARTICIPANTS: Studies were included if delirium assessment tools were validated against standard criteria, and the presence of dementia was assessed according to standard criteria that used validated instruments.

MEASUREMENTS: PubMed, Embase, and Web of

Intensive Care Unit (CAM-ICU) reported 100% sensitivity and specificity for delirium in 23 individuals with dementia. One study using electroencephalography reported sensitivity of 67% and specificity of 91% in a population with a 100% prevalence of dementia. No studies examined potential effects of dementia severity or subtype on diagnostic accuracy.

CONCLUSIONS: The evidence base on tools for detection of delirium superimposed on dementia is limited, although some existing tools show promise. Further studies

Why Is It Hard to Recognize AND MEASURE Delirium and DSD?



How Does CAM Do at the Bedside?

Wong et. al., JAMA, 2010; Inouye et. al., Arch Int Med, 2001; Morandi et al., 2012, JAGS

- 2010 JAMA review and 2012 review by Marcantonio et al., on DSD recommended it as the best bedside
- Highest sensitivity with DSD but limited severity
- Not clear who is the best to perform the CAM
- Algorithm, not an assessment
  - Performs poorly using routine observations from clinical care (sensitivity=31%)
- Requires structured assessment to complete
  - Mental status questions
  - Interviewer observations
  - Time, training and resources

Most Recent Work

HOW DO WE MAKE BEDSIDE SCREENING FOR DELIRIUM **QUICK, SIMPLE** (LITTLE TRAINING REQUIRED), **COST EFFECTIVE AND HIGHLY SENSITIVE** (WILL PICK UP DELIRIUM IF IT IS REALLY PRESENT)?

DELIRIUM ULTRA-BRIEF 2-ITEM QUESTION: (UB-2) 36 second screen!

IT HAS 93% SENSITIVITY TO DETECT DELIRIUM 96% SENSITIVITY TO DETECT DSD

01 Please tell me the day of the week?

02 Please Tell Me The Months of the Year Backwards

Society of Hospital Medicine March 2016 Annual Meeting
Named, "Most newsworthy JHM article published in 2015"

Fick et al., Journal of Hospital Medicine, September, 2015

PennState College of Nursing

3D-CAM-10 Questions, 90 sec

(Cite Marcantonio et al., 2014)

3D CAM ASSESSMENT [CAM Copyright 2003, Hospital Elder Life Program, LLC. Not to be reproduced without permission]						
Coding Instructions: Incorrect also includes "I don't know", and No response/non-sensical responses. For any 'Incorrect' or 'Yes' responses, check the box in the final column designating which feature is present.			CAM Feature			
READ: **I have some questions about your thinking and memory....**			1	2	3	4
1. Can you tell me the year we are in right now?	☐ Incorrect	☐ Correct	■	■		■
2. Can you tell me the day of the week?	☐ Incorrect	☐ Correct	■	■		■
3. Can you tell me what type of place is this? [hospital]	☐ Incorrect	☐ Correct	■	■		■
4. **I am going to read some numbers. I want you to repeat them in backwards order from the way I read them to you. For instance, if I say "5 – 2", you would say "2 -5". OK? The first one is "8-2-5" (5-2-8).**	☐ Incorrect	☐ Correct	■		■	■
5. **The second is "3-1-9-4" (4-9-1-3).**	☐ Incorrect	☐ Correct	■		■	■
6. **Can you tell me the days of the week backwards, starting with Saturday?** [S,F,T,W,T,M,S] *may prompt with "what is day before ...." for up to 2 prompts.*	☐ Incorrect	☐ Correct	■		■	■
7. **Can you tell me the months of the year backwards, starting with December?** [D,N,O,S,A,J,J,M,A,M,F,J] *may prompt with "what is month before ...." for up to 2 prompts.*	☐ Incorrect	☐ Correct	■		■	■
8. **During the past day have you felt confused?**	☐ Yes	☐ No		■	■	■
9. [IF Q3 is "Incorrect", do not ask and check "Yes", otherwise, ASK:] **During the past day did you think that you were not really in the hospital?**	☐ Yes	☐ No		■	■	■
10. **During the past day did you see things that were not really there?**	☐ Yes	☐ No		■	■	■
Observer Ratings: To be completed after asking the patient questions 1-10 above.			■	■	■	■
11. Was the patient sleepy, stuporous, or comatose during the interview?	☐ Yes	☐ No	■	■	■	
12. Did the patient show excessive absorption with ordinary objects in the environment (hypervigilant)?	☐ Yes	☐ No	■	■	■	
13. Was the patient's flow of ideas unclear or illogical, for example tell a story unrelated to the interview (tangential)?	☐ Yes	☐ No	■	■		■
14. Was the patient's conversation rambling, for example did he/she give inappropriately verbose and off target responses?	☐ Yes	☐ No	■	■		■
15. Was the patient's speech unusually limited or sparse? (e.g. yes/no answers)	☐ Yes	☐ No	■	■		■
16. Did the patient have trouble keeping track of what was being said during the interview?	☐ Yes	☐ No	■		■	■
17. Did the patient appear inappropriately distracted by environmental stimuli?	☐ Yes	☐ No	■		■	■
18. Did the patient's level of consciousness fluctuate during the interview, for example, start to respond appropriately and then drift off?	☐ Yes	☐ No		■	■	■
19. Did the patient's level of attention fluctuate during the interview, e.g., did the patient's focus on the interview or performance on the attention tasks vary significantly?	☐ Yes	☐ No		■	■	■
20. Did the patient's speech/thinking fluctuate during the interview, for example, patient spoke slowly, then spoke very fast?	☐ Yes	☐ No		■	■	■
OPTIONAL QUESTIONS: COMPLETE ONLY IF FEATURE 1 IS NOT CHECKED AND FEATURE 2 IS CHECKED AND EITHER FEATURE 3 OR 4 IS CHECKED			■	■	■	■
21. Contact a family member, friend, or health care provider who knows the patient well and ask: "Is there evidence of an acute change in mental status (memory or thinking) from the patient's baseline?"	☐ Yes	☐ No		■	■	■
22. IF SECOND DAY OF HOSPITALIZATION OR LATER AND PREVIOUS 3D-CAM RATINGS ARE AVAILABLE: Review previous 3D-CAM assessments and determine if there has been an acute change in performance, based on ANY new "positive" items	☐ Yes	☐ No		■	■	■
CAM Summary: Check if Feature Present in column above			1	2	3	4
DELIRIUM REQUIRES FEATURE 1 AND 2 and EITHER 3 OR 4: _____ Present _____Not Present						

We Then Tested It at the Bedside!

The purpose of this pilot study was to test the feasibility of using a **2-step delirium detection protocol** completed by clinicians using **two ultra-brief questions** followed by the **3D-CAM** as part of a systematic delirium identification process that is now being tested in a larger NIH trial.

Sensitivity & Specificity (n=24 subjects)

	2 Item Ultra-Brief Screener		2-Step Delirium Identification Protocol	
Clinician Type	Sensitivity	Specificity	Sensitivity	Specificity
Physicians (n=7)	80%	56%	80%	78%
Nurses (n=13)	100%	67%	100%	89%
CNA's (n=7)	100%	61%	N/A	N/A

Facilitators of Implementation

"I felt comfortable with the questions, even though it is just my first day."

(Hospitalist)

Barriers of Implementation

"I (Researcher) had to correct the CNA on the 'what is the day of the week?' question; this is the first time for the CNA to do the study and the training was a few weeks ago. The next time she did the assessment, she did it correctly."

(Researcher field note)

Important Caveats for Delirium

- Prevention Works (Treatment Is Harder)
- Screener fails must be followed with diagnostic
- Screening Should Always, Always Be Done With Prevention Plan In Place!
- Good Delirium Care Is Good Care Period!
- All Together—team Approach And Know Your System Values And Needs
  (Cost, Ceo, All Disciplines In This Together)

VIEW PDF

COMMENT

SAVE

Journal of Gerontological Nursing

RESEARCH BRIEF

Pilot Study of a Two-Step Delirium Detection Protocol Administered By Certified Nursing Assistants, Physicians, and Registered Nurses

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Abstract

The feasibility and acceptability of a two-step screening protocol for delirium identification was pilot tested. Step 1, a screening tool, comprises two items: "Please tell me the day of the week," and "Please tell me the months of the year backwards starting with December." If either/both items are incorrect, Step 2, a 3-minute diagnostic assessment, follows. Trained researchers enrolled 24 hospitalized older adults and identified 22% to be delirious after a reference standard assessment. Thereafter, physicians and RNs completed the two-step protocol, whereas certified nursing assistants (CNAs) completed the screener only, on the same patients. All three clinical assessments were successfully completed in 100% of enrolled participants and within the target 2-hour time window in 91%. The screener and two-step protocol achieved high sensitivities and specificities in RNs, CNAs, and physicians. Qualitative information on barriers to and facilitators of implementation was also collected. Nurses and other clinicians can feasibly implement this ultra-brief screener and two-step protocol, which holds promise to improve delirium identification. [*Journal of Gerontological Nursing*, *xx*(x), xx–xx.]

2-ITEM ULTRA-BRIEF (UB-2) DELIRIUM SCREEN Quick Guide ©

POSITION	Try to sit at eye level
SENSORY	Be sure sensory aides (glasses, hearing) are in place
WORDING	Please read the script exactly as written

1: Please tell me the day of the week

The participant can check anywhere (e.g., white board, newspaper, etc.), but cannot ask anyone else in the room.

2: Please tell me the months of the year backward, say December as your first month

MISSED MONTH	If participant finished reciting months but missed one or more, it is incorrect and no prompting is allowed.
STUCK	Prompt only with: *"what month comes before* _____ (last month they said)?*"* Prompt up to two times; if after 2 prompts participant is frustrated, confused, or taking a long time, mark it incorrect and offer them an exit such as, "*that's a tough one, you're doing well… let's try the next question.*"
WRONG TYPE OF ANSWER	If the participant begins at November, starts forward, or begins spelling, assume they don't understand the question and re-read the instructions **once**. If the participant is incorrect again, mark it as incorrect but let them finish.

If incorrect on either question, use an additional screening tool to further assess, such as the CAM or 3D-CAM https://www.hospitalelderlifeprogram.org/request-access/delirium-instruments/

Remember to avoid correcting or cuing the older adult; it's okay if they're incorrect.

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(Please cite Fick et al, Journal of Hospital Medicine, 2015)

What's Next?

READI STUDY FUNDED IN APRIL 2016-NIH

- **Goal1)** To validate the ultra-brief two-item screener already enrolled over 250 older persons
- **Goal 2)** To assess the feasibility, time, effectiveness, and costs of the 2-step delirium identification protocol performed by physicians and nurses, and the ultra-brief screener performed by certified nursing assistants.
- **Goal 3)** To conduct a qualitative study of the process to determine barriers and facilitators to implementation of the protocol and in persons with AD (supplement)

What Approaches Are Likely to Be Effective?

MULTI-PRONGED APPROACH

1. Remove or treat underlying cause(s)
2. Manage & understand delirium behaviors
3. Prevent or remediate complications
4. Restore cognitive and physical function

Even with a team approach it is hard to do all of this—focus on TOP areas and YOUR LOCAL CONTEXT, CULTURE & ROI

JAMA | Review

Delirium in Older Persons
Advances in Diagnosis and Treatment

Esther S. Oh, MD, PhD; Tamara G. Fong, MD, PhD; Tammy T. Hshieh, MD, MPH; Sharon K. Inouye, MD, MPH

IMPORTANCE Delirium is defined as an acute disorder of attention and cognition. It is a common, serious, and often fatal condition among older patients. Although often underrecognized, delirium has serious adverse effects on the individual's function and quality of life, as well as broad societal effects with substantial health care costs.

OBJECTIVE To summarize the current state of the art in diagnosis and treatment of delirium and to highlight critical areas for future research to advance the field.

EVIDENCE REVIEW Search of Ovid MEDLINE, Embase, and the Cochrane Library for the past 6 years, from January 1, 2011, until March 16, 2017, using a combination of controlled vocabulary and keyword terms. Since delirium is more prevalent in older adults, the focus was on studies in elderly populations; studies based solely in the intensive care unit (ICU) and non–English-language articles were excluded.

FINDINGS Of 127 articles included, 25 were clinical trials, 42 cohort studies, 5 systematic reviews and meta-analyses, and 55 were other categories. A total of 11 616 patients were represented in the treatment studies. Advances in diagnosis have included the development of brief screening tools with high sensitivity and specificity, such as the 3-Minute Diagnostic Assessment; 4 A's Test; and proxy-based measures such as the Family Confusion Assessment Method. Measures of severity, such as the Confusion Assessment Method–Severity Score, can aid in monitoring response to treatment, risk stratification, and assessing prognosis. Nonpharmacologic approaches focused on risk factors such as immobility, functional decline, visual or hearing impairment, dehydration, and sleep deprivation are effective for delirium prevention and also are recommended for delirium treatment. Current recommendations for pharmacologic treatment of delirium, based on recent reviews of the evidence, recommend reserving use of antipsychotics and other sedating medications for treatment of severe agitation that poses risk to patient or staff safety or threatens interruption of essential medical therapies.

Author Audio Interview

Supplemental content

CME Quiz at jamanetwork.com/learning

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Table 4. Multicomponent Nonpharmacologic Approaches to Delirium Prevention

Approach	Description
Orientation and therapeutic activities	Provide lighting, signs, calendars, clocks Reorient the patient to time, place, person, your role Introduce cognitively stimulating activities (eg, reminiscing) Facilitate regular visits from family, friends
Fluid repletion	Encourage patients to drink; consider parenteral fluids if necessary Seek advice regarding fluid balance in patients with comorbidities (heart failure, renal disease)
Early mobilization	Encourage early postoperative mobilization, regular ambulation Keep walking aids (canes, walkers) nearby at all times Encourage all patients to engage in active, range-of-motion exercises
Feeding assistance	Follow general nutrition guidelines and seek advice from dietician as needed Ensure proper fit of dentures
Vision and hearing	Resolve reversible cause of the impairment Ensure working hearing and visual aids are available and used by patients who need them
Sleep enhancement	Avoid medical or nursing procedures during sleep if possible Schedule medications to avoid disturbing sleep Reduce noise at night
Infection prevention	Look for and treat infections Avoid unnecessary catheterization Implement infection-control procedures
Pain management	Assess for pain, especially in patients with communication difficulties Begin and monitor pain management in patients with known or suspected pain
Hypoxia protocol	Assess for hypoxia and oxygen saturation
Psychoactive medication protocol	Review medication list for both types and number of medications

Prevention

Multicomponent Nonpharmacologic Interventions

Primary prevention with multicomponent nonpharmacologic approaches has been consistently demonstrated to be the most effective strategy for delirium prevention among hospitalized, non-ICU medical and surgical patients. These prevention strategies include early mobilization, adequate hydration, sleep enhancement, orientation to time and place, therapeutic activities such as reminiscence (for cognitive stimulation), and hearing and vision optimization by using hearing and vision aids as needed. Table 4 provides details on these specific approaches to guide clinicians in how to implement delirium prevention strategies.

Because delirium is usually precipitated by multiple factors, effective prevention strategies should be implemented together (typically 3 or more at a time) by a multidisciplinary team. In a meta-analysis of 14 interventional studies based on the Hospital Elder Life Program,[57,58] these approaches significantly reduced the risk of incident delirium by 53% (odds ratio, 0.47 [95% CI, 0.38-0.58), and the risk of falls by 62% (odds ratio, 0.38 [95% CI, 0.25-0.60]) among hospitalized, non-ICU patients 65 years and older.[22]

Multicomponent nonpharmacologic approaches are cost-effective, with 1 study demonstrating an incremental net monetary benefit of £8180 (US $12 852 in 2014), using a cost-effectiveness threshold of £20 000 (US $31 423) per quality-adjusted life year.[59] This study took the novel approach of statistical modeling for patients undergoing surgical hip fracture repair, using decision tree analysis to explore deterministic and probabilistic sensitivity analyses. A Cochrane review of delirium prevention examined 39 trials involving 16 082 patients[60] and found moderate-quality evidence that multicomponent nonpharmacologic interventions are effective for prevention of incident delirium but less robust for decreasing delirium severity or duration.[60] Educating nursing aides and

Most Common Causes to Consider

- Medications (Anticholinergic)
- Infections (UTI, respiratory)
- Dehydration
- Electrolyte imbalance
- Impaired oxygenation
- Severe pain
- Sleep deprivation

Original Investigation | HEALTH CARE REFORM

Effectiveness of Multicomponent Nonpharmacological Delirium Interventions

A Meta-analysis

Tammy T. Hshieh, MD; Jirong Yue, MD; Esther Oh, MD; Margaret Puelle; Sarah Dowal, MSW, MPH; Thomas Travison, PhD; Sharon K. Inouye, MD, MPH

Invited Commentary page 521

Supplemental content at jamainternalmedicine.com

IMPORTANCE Delirium, an acute disorder with high morbidity and mortality, is often preventable through multicomponent nonpharmacological strategies. The efficacy of these strategies for preventing subsequent adverse outcomes has been limited to small studies to date.

OBJECTIVE To evaluate available evidence on multicomponent nonpharmacological delirium interventions in reducing incident delirium and preventing poor outcomes associated with delirium.

DATA SOURCES PubMed, Google Scholar, ScienceDirect, and the Cochrane Database of Systematic Reviews from January 1, 1999, to December 31, 2013.

STUDY SELECTION Studies examining the following outcomes were included: delirium incidence, falls, length of stay, rate of discharge to a long-term care institution (institutionalization), and change in functional or cognitive status.

DATA EXTRACTION AND SYNTHESIS Two experienced physician reviewers independently and blindly abstracted data on outcome measures using a standardized approach. The reviewers conducted quality ratings based on the Cochrane risk-of-bias criteria for each study.

MAIN OUTCOMES AND MEASURES We identified 14 interventional studies. The results for outcomes of delirium incidence, falls, length of stay, and institutionalization were pooled for the meta-analysis, but heterogeneity limited our meta-analysis of the results for change in functional or cognitive status. Overall, 11 studies demonstrated significant reductions in delirium incidence (odds ratio [OR], 0.47; 95% CI, 0.38-0.58). Four randomized or matched trials reduced delirium incidence by 44% (OR, 0.56; 95% CI, 0.42-0.76). The rate of falls decreased significantly among intervention patients in 4 studies (OR, 0.38; 95% CI, 0.25-0.60); in 2 randomized or matched trials, the rate of falls was reduced by 64% (OR, 0.36; 95% CI, 0.22-0.61). Length of stay and institutionalization also trended toward decreases in the intervention groups, with a mean difference of −0.16 (95% CI, −0.97 to 0.64) day shorter and the odds of institutionalization 5% lower (OR, 0.95; 95% CI, 0.71-1.26). Among higher-quality randomized or matched trials, length of stay trended −0.33 (95% CI, −1.38 to 0.72) day shorter, and the odds of institutionalization trended 6% lower (OR, 0.94; 95% CI, 0.69-1.30).

CONCLUSIONS AND RELEVANCE Multicomponent nonpharmacological delirium prevention interventions are effective in reducing delirium incidence and preventing falls, with a trend toward decreasing length of stay and avoiding institutionalization. Given the current focus on prevention of hospital-based complications and improved cost-effectiveness of care, this meta-analysis supports the use of these interventions to advance acute care for older persons.

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JAMA Int Med 2015

11/14 STUDIES DECREASED DELIRIUM INCIDENCE (OR 0.47)

2 RCTs FALLS 64% ↓

What Can We Do to Start?

- Mobilize older persons-at least every shift
- Remove offending drugs and put alerts in place to keep them off bad drugs while using non-drug approaches (eco-psycho-social-environmental)
- Hydration and nutrition
- Sleep hygiene (includes keeping them active)
- Remove invasive devices ASAP and NORMALIZE the environment (get them home!)
- Get to KNOW your patient-preferences, goals

Delirium Management Pharmacologic

Pearl: Reserve for patients with severe agitation which will:

1. Cause interruption of essential medical therapies (e.g., intubation)
2. Pose safety hazard to patient or staff
3. Pose safety hazard to patient or staff
4. ONLY after you tried other approaches
5. DRUGS SHOULD NEVER BE A FIRST LINE APPROACH

CURRENTLY NO FDA APPROVED DRUG TO TREAT OR PREVENT DELIRIUM—SO USE A NON-DRUG APPROACH

NIH Delirium Trials at PSU

Http://Clinicaltrials.Gov/

RESERVE

- Focus on DSD
- RCT Intervention
- SINGLE Component
- Post-acute Care
- Patient Centered

END-DSD

- Focus on DSD
- C-RCT Intervention
- MULTI-Dimensional
- Acute Hospitalization
- Nurse & Pt Centered

Multi-dimensional Approach: 4 Components/Bundle

"ADAPTIVE VERSUS TECHNICAL FIX"

- **Education**—initial/ongoing-staff nurse driven--> **300 nurses-100%**
- **Electronic Health Record-**3 Screens-different sites and systems but same content
- Weekly **Rounds** on every shift with **Unit Champions** who are direct care nurses
- **Feedback** loop to UCs and nurses on CAM use, delirium—**ADAPTIVE versus TECHNICAL** fix

Understanding Delirium & Dementia Behaviors In the Lens of Person-Centered Care

- Focus on UNMET NEEDS--needs and response based behaviors (NOT behavior as "problematic") www.nursinghometoolkit.com
- Understanding (NOT LABELING) Agitation
- Non-Drug strategies 1st: behavioral interventions, family participation, person-centered approach
- KNOW the person—understand goals & emotion
- Pharmacologic approaches as a LAST RESORT-- for severe agitation: beware of vicious cycles of medications and worsening delirium

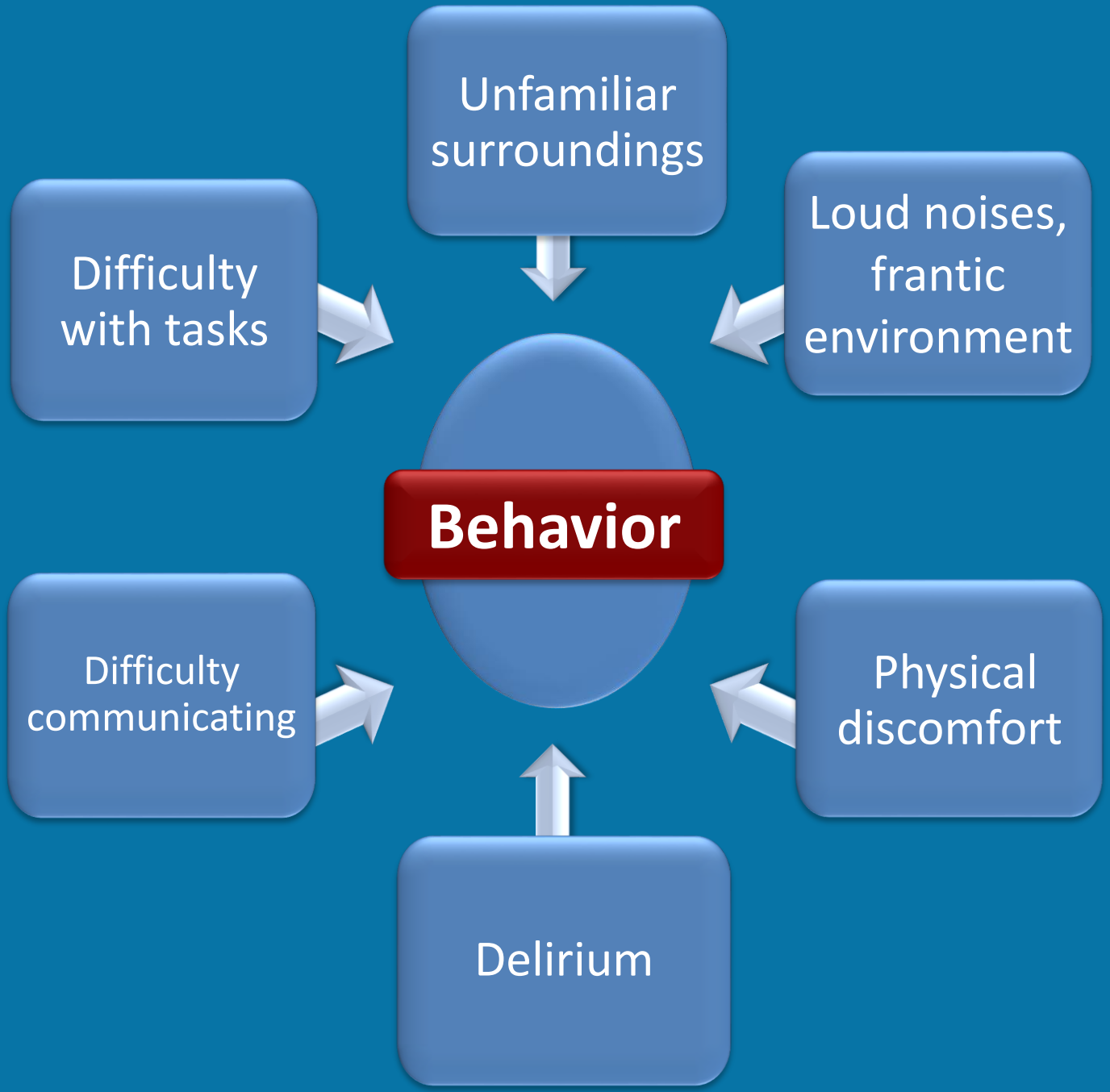
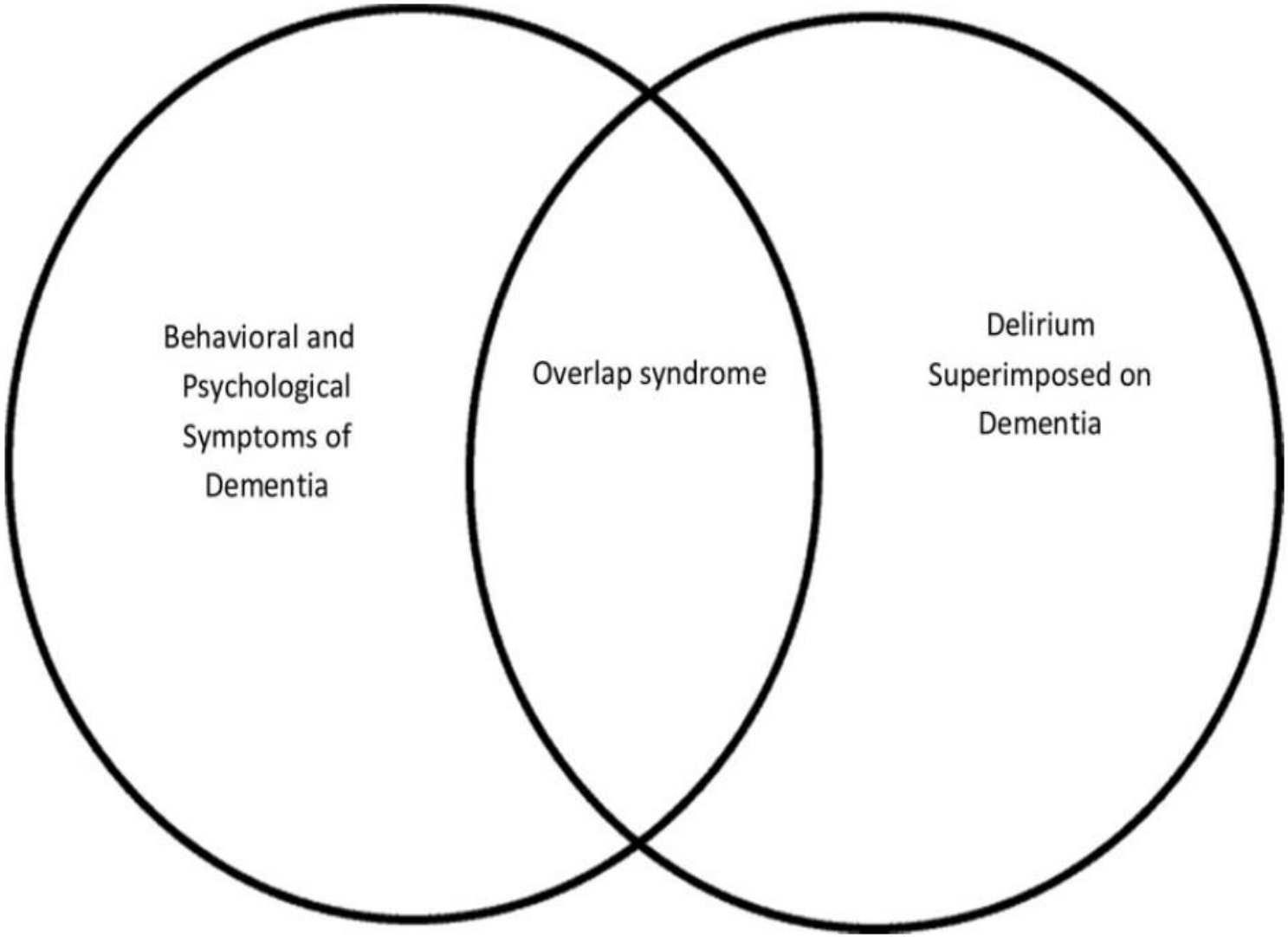

Unfamiliar surroundings
Loud noises, frantic environment
Difficulty with tasks
Behavior
Difficulty communicating
Physical discomfort
Delirium

Figure 2. Diagrammatic representation of the relationship between BPSD and DSD. There is some overlap in the symptoms of BBPSD and delirium and it is possible that in fact what is attributed to BPSD in research and clinical practice is actually DSD



TODAY IS

_____, _____ ____, _____

ALL ABOUT ME

YOUR NURSE TODAY IS:

_____

YOUR NURSING ASSISTANT TODAY IS:

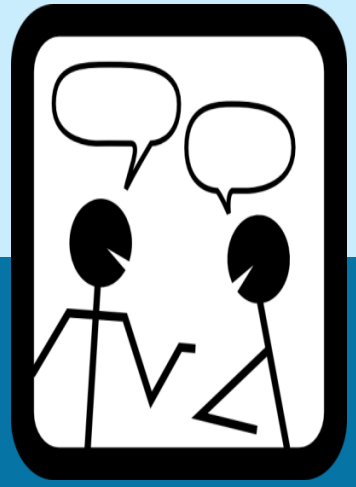
_____

Do You Know Your Patient?

Knowing Individuals with Dementia Combined with Evidence-Based Care Promotes Function and Satisfaction in Hospitalized Older Adults

- WE NEED TO TAKE AN ACTIVE-APPROACH TO PROVIDING PERSON-CENTERED CARE—TOOLS AND TIME to ask the older person WHAT MATTERS
- CASE OF MR. JAMES & ALL ABOUT ME BOARD

Call Me: Gramps



I want you to know:

- I've got 4 grandkids and 2 great grandkids who I really enjoy.
- I am British

My biggest concern:

- Returning to the level of function I had before coming in here.

(EXAMPLE From Suzanne Dutton MSN, GNP-BC--Sibley Memorial Hospital, Washington, DC—used with permission)

Table 1: Descriptive statistics and t-tests by group for medications						
Medication Variable	**Control**		**Intervention**		**t**	**p**
	N	**Mean (SD)**	**N**	**Mean (SD)**		
Number of Unique Rx	167	16.9 (7.3)	224	15.0 (5.8)	2.75	0.0063
Number Unique PRN Rx	167	5.3 (5.0)	224	3.8 (3.1)	3.38	0.0008
Times PRN Rx Given	167	13.9 (17.5)	224	9.5 (11.8)	2.83	0.0049
Beers						
Number of Unique Rx	167	1.2 (1.1)	224	1.0 (1.1)	1.33	0.1854
Number of Unique PRN Rx	167	0.7 (0.9)	224	0.5 (0.8)	2.27	0.0240
Times PRN Rx Given	82	3.6 (4.0)	81	2.9 (2.7)	1.44	0.1508
ACH Risk						
Total Score	167	1.7 (1.9)	224	1.2 (1.7)	2.58	0.0102
Total Score for PRN Rx	167	0.9 (1.4)	224	0.4 (1.0)	3.38	0.0008
Number of Risk 3 Rx	167	0.3 (0.5)	224	0.2 (0.4)	2.38	0.0180
Number of Risk 3 PRN Rx	167	0.5 (1.2)	224	0.3 (0.9)	2.51	0.0114
Times Risk 3 PRN Rx Given	29	1.8 (1.6)	17	2.1 (2.1)	-0.40	0.6937
ACB Scale						
Total Score	167	3.5 (2.6)	224	3.0 (2.3)	2.01	0.0450
Total Score for PRN Rx	167	1.7 (2.0)	224	1.1 (1.5)	3.20	0.0015
Number of Scale 3 Rx	167	0.4 (0.6)	224	0.3 (0.6)	1.91	0.0565
Number of Scale 3 PRN Rx	167	0.7 (1.4)	224	0.3 (1.0)	2.69	0.0076
Times Scale 3 PRN Rx Given	35	1.9 (1.4)	24	2.0 (1.9)	1.76	0.1299
Number of Beers Strong ACP Rx	167	0.4 (0.6)	224	0.3 (0.5)	3.03	0.0027
CNS Active						
Number of Unique Rx	167	5.2 (3.5)	224	4.6 (2.6)	2.05	0.0410
Number of Unique PRN Rx	167	3.1 (3.2)	224	2.2 (2.0)	3.31	0.0011
Times PRN Rx Given	134	12.2 (14.1)	176	8.5 (10.2)	2.61	0.0097

Figure 2

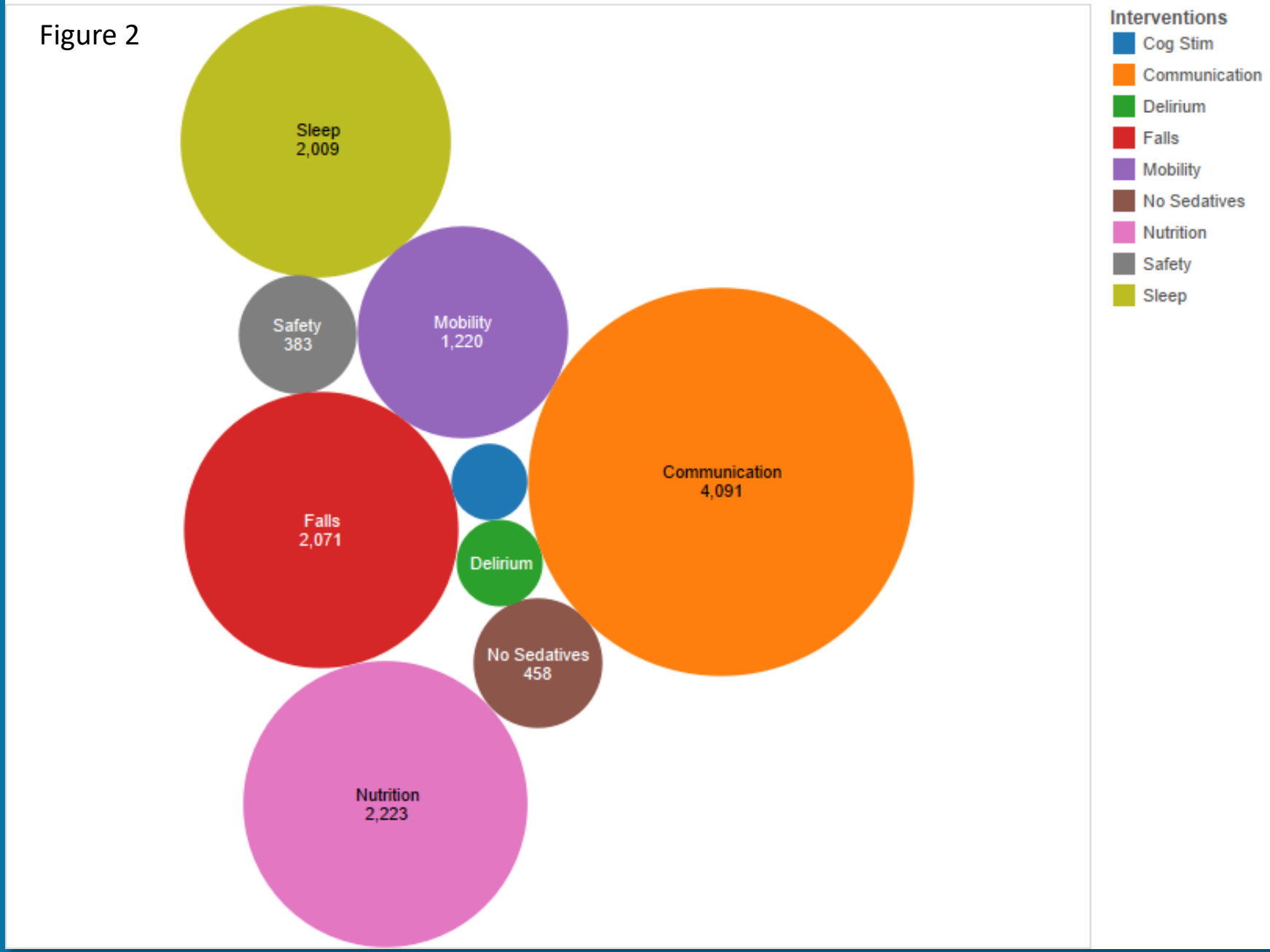
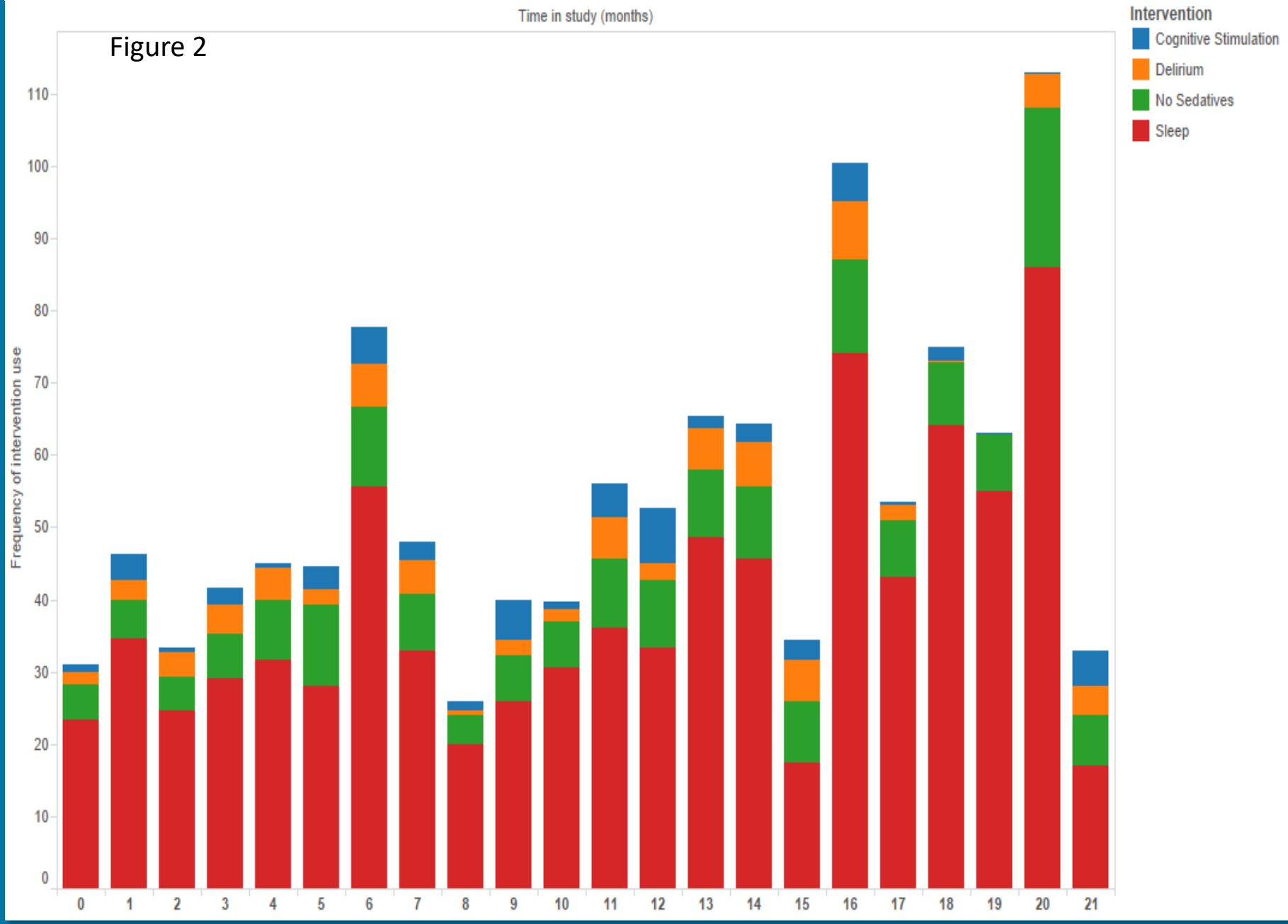

Sleep
2,009
Safety
383
Mobility
1,220
Communication
4,091
Falls
2,071
Delirium
No Sedatives
458
Nutrition
2,223
Interventions
Cog Stim
Communication
Delirium
Falls
Mobility
No Sedatives
Nutrition
Safety
Sleep

Figure 2


Time in study (months)
Frequency of intervention use
Intervention
Cognitive Stimulation
Delirium
No Sedatives
Sleep
0
10
20
30
40
50
60
70
80
90
100
110
0
1
2
3
4
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What is the Age Friendly Health System Initiative?

The John A. Hartford Foundation and IHI have adopted the bold and important aim of establishing Age-Friendly Care in **20 percent of US hospitals and health systems by 2020.**

An Age-Friendly Health system is one where every older adult:

- Gets the best care possible;
- Experiences no healthcare-related harms; and
- Is satisfied with the health care they receive.

How Will We Get There?: The "4Ms"

- **What Matters:** Knowing and acting on each patient's specific health goals and care preferences
- **Medication:** Optimizing medication use to reduce harm and burden, focused on medications affecting mobility, mentation, and what matters
- **Mentation:** Identifying and managing depression, dementia, and delirium across care settings
- **Mobility:** Maintaining mobility and function and preventing complications of immobility

How Do Each of Us Talk About Aging, Disability and Delirium/Dementia?

- Next I would like you to spend 2-3 minutes talking to your neighbor—share one example of how you use language or stereotype about aging that is not so positive and ***HOW in the next month you will practice changing this language in your daily practice.***
- After you talk with one another write it down on a sticky note & keep A copy OR REMINDER OF IT for yourself to do!

Delirium Resources to Check Out!

- iDelirium
- World Delirium Day March 14, 2018
  - Commit to using the word “delirium”
  - Screen for delirium
  - Educate about Prevention of delirium
- NIDUS https://deliriumnetwork.org/ Delirium Boot Camp October 3-5, 2018 at Penn State, Webinars, Grants
- Nursing Home Toolkit to promote positive behavioral health in persons with dementia http://www.nursinghometoolkit.com/


World Delirium Awareness Day
14 March 2018


I Am
DELIRIUM AWA
World Delirium
Awareness Day 2018
#WDAW2018

Go to Healio.com for "The Critical Vital Sign of Cognitive Health and Delirium: Whose Responsibility Is It? August 2018 issue, free access to Editorial.

TABLE 1

TIPS FOR BEDSIDE DELIRIUM CARE

- Ask about older adults' preferences and goals when addressing delirium prevention and care
- Document cognitive strengths and abilities (not just deficits) in health record
- Remember delirium is common in older adults with dementia and leads to poorer outcomes if not recognized
- Always have a prevention plan in place when screening for delirium
- Assess for common causes of delirium (e.g., infection, dehydration, medications, acute illness, pre-existing cognitive impairment)
- Consider highlighting World Delirium Day every March 14 with delirium awareness activities
- Delirium care is good care, so consider working with health system administrators to illustrate the evidence for cost savings and quality for prevention of delirium

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- **Conflicts of interest:** NONE
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- Mount Nittany Health System
- Altoona Regional Health System
- Harvard, Aging Brain Center, Hebrew Senior Life
- RESERVE & READI—study staff and participants

VANDERBILT UNIVERSITY

MOUNT NITTANY HEALTH

Altoona Regional Health System

HARVARD

INVESTIGATORS:

Drs. Lorraine Mion, Sharon Inouye, Ann Kolanowski, Ed Marcantonio, Ngo Long, Doug Leslie, Marie Boltz, Janice Penrod & team.

Join NIDUS to connect to Delirium Research

What is NIDUS?

- NIA-funded research network dedicated to advancing the study of delirium through development of research resources, career development opportunities, and dissemination of delirium science.

How to be involved:

- Participate in the American Delirium Society Meeting, San Francisco CA, June 10-12
- Apply to attend the Delirium Boot Camp – 3-day workshop on delirium research, Oct. 3-5, 2018, State College PA
  - **Applications due June 20**: deliriumnetwork.org/career-development/boot-camp-application/
- Apply for a NIDUS Pilot Grant ($50,000 USD) – application available soon!
  - Proposals due November 7, 2018, awarded Feb. 2019
- Register for website **deliriumnetwork.org** to access our blog, resources and receive NIDUS newsletter and announcements.

Follow NIDUS online!

Twitter: @nidus_delirium ● Facebook: NIDUSDelirium ● Email: nidus@hsl.harvard.edu

It’s Not About You—its About The Cow