PREVENTING DELIRIUM IN OLDER ADULTS

Utah Geriatric Education Consortium (UGEC)

Learning Community Series

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OBJECTIVES

By participating in this discussion, the learner will be able to:

1. Evaluate factors that make a patient at risk for developing delirium.
2. Apply evidence-based interventions to prevent delirium.
3. Use non-pharmacologic strategies to help manage delirium.

OVERVIEW

- Definition
- Background
- Diagnostic criteria
- Risk factors
- Instruments
- Prevention (interventions)
- Non-pharmacologic management

WHAT IS DELIRIUM?

- A disturbance in attention and awareness
- Acute onset with fluctuations in severity
- Accompanied by a change in cognition
- Not better explained by a preexisting or evolving neurocognitive disorder
- Direct consequence of another medical condition

American Psychiatric Assoc (2013) DSM-5, Diagnostic and Statistical Manual of Mental Disorders, fifth edition.

PRESENTATION OF DELIRIUM

- Delirium can present as
  - Hypoactive
  - Hyperactive
  - May fluctuate between the two

BACKGROUND

- Common problem
- Adverse outcomes
- Under-detected and misdiagnosed
- Etiology often due to multiple factors
- Non-pharmacologic interventions effective
- Can be prevented

COMMON PROBLEM

- 14-24% of patients have delirium on admission to hospital
- Approximately 30% of older patients develop delirium during hospitalization
- 15-53% of older adults develop post-operative delirium

Leslie DL. Arch Intern Med 2005;165:1657

DELIRIUM IN NURSING FACILITIES

Upon admission:

6.5% to 50% - depends on type of SNF

Incidence:

- 40% over 6 yrs (Canada)
- 20.7 per 100 person-years (Netherlands)

Teodorczuk, A., Reynish, E. & Milisen, K.; Cheung (2012), E.N.M., Benjamin, S., Heckman, G. *et al. (2018);* Boorsma et al., *Int J Geriatr Psychiatry* 2012;27: 709–715

ADVERSE OUTCOMES

Increased

- Risk of death (10-fold)
- Length of stay
- Hospital costs
- Likelihood of d/c to SNF
- Falls
- Other complications

- Poor functional recovery
- Persistent delirium (vicious spiral)
- 62% increased adjusted mortality rate
- Comparable to acute MI, sepsis

Leslie DL. Arch Intern Med 2005;165:1657

COSTS OF DELIRIUM

Economic costs

- $164 billion annually in the USA
  - Emergency room, hospitalization
  - Post acute care
    - Institutionalization, rehabilitation
    - Home care, caregiver burden

Human costs

- Serious and often fatal
- Dementia risk
- Loss of independence, institutionalization

Inouye, SK, et al. (2014) The Lancet

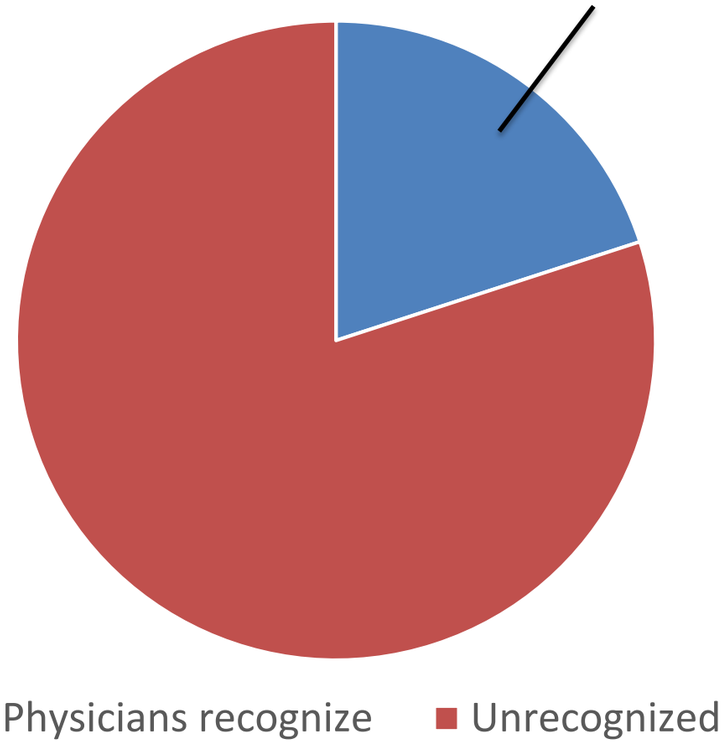
POST-ACUTE CARE SETTING

- Arrive with acute delirium or sub-syndromal delirium
  - More complications
  - More falls
  - Higher rehospitalization rates
  - Higher mortality
- 50% still delirious 1 month later (persistent)
  - Prevents functional recovery

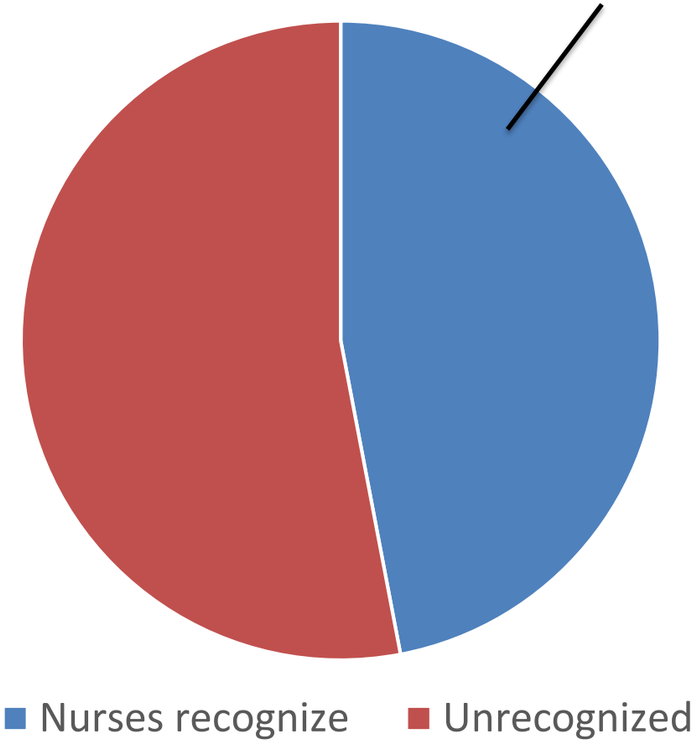
Halter et. al. (Editors), *Hazzard's Textbook of Geriatric Medicine and Gerontology* 2009

RECOGNIZING DELIRIUM

Delirium cases recognized and documented by physicians

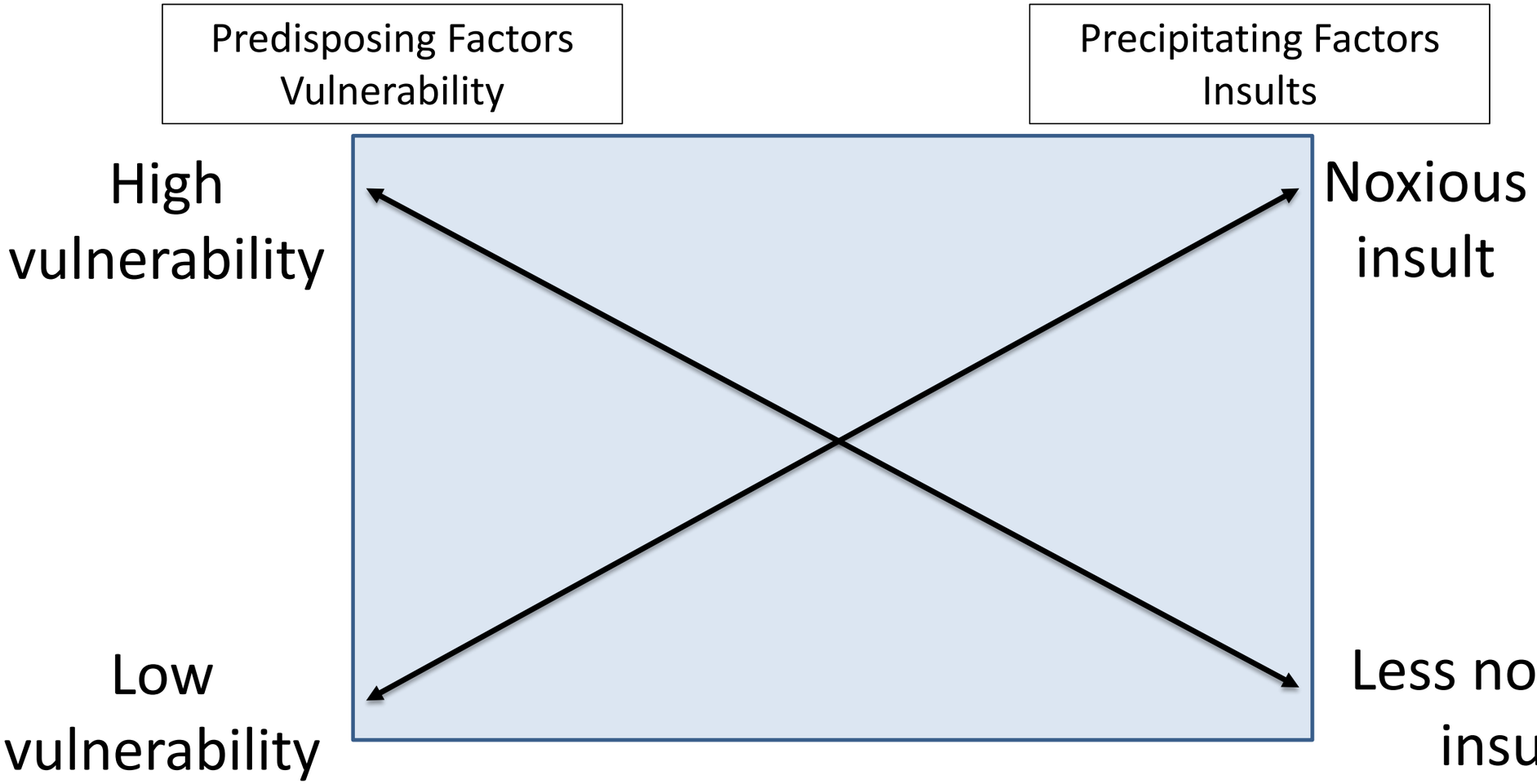


Delirium cases recognized and documented by nurses



Geriatric Review Syllabus 7th ed.

RISK FACTORS



Inouye, SK, et al, (2009) Chapter 53 Delirium, Hazzard's Geriatric Medicine and Gerontology

PREDISPOSING FACTORS FOR DELIRIUM

- Dementia
- Depression
- Male gender
- Malnutrition
- Severe illness
- Advanced age
- Visual impairment
- Hearing impairment
- Prior delirium
- Alcohol abuse
- Renal insufficiency
- Functional impairment
- Baseline use of psychoactive drugs
- Structural brain abnormality (stroke)

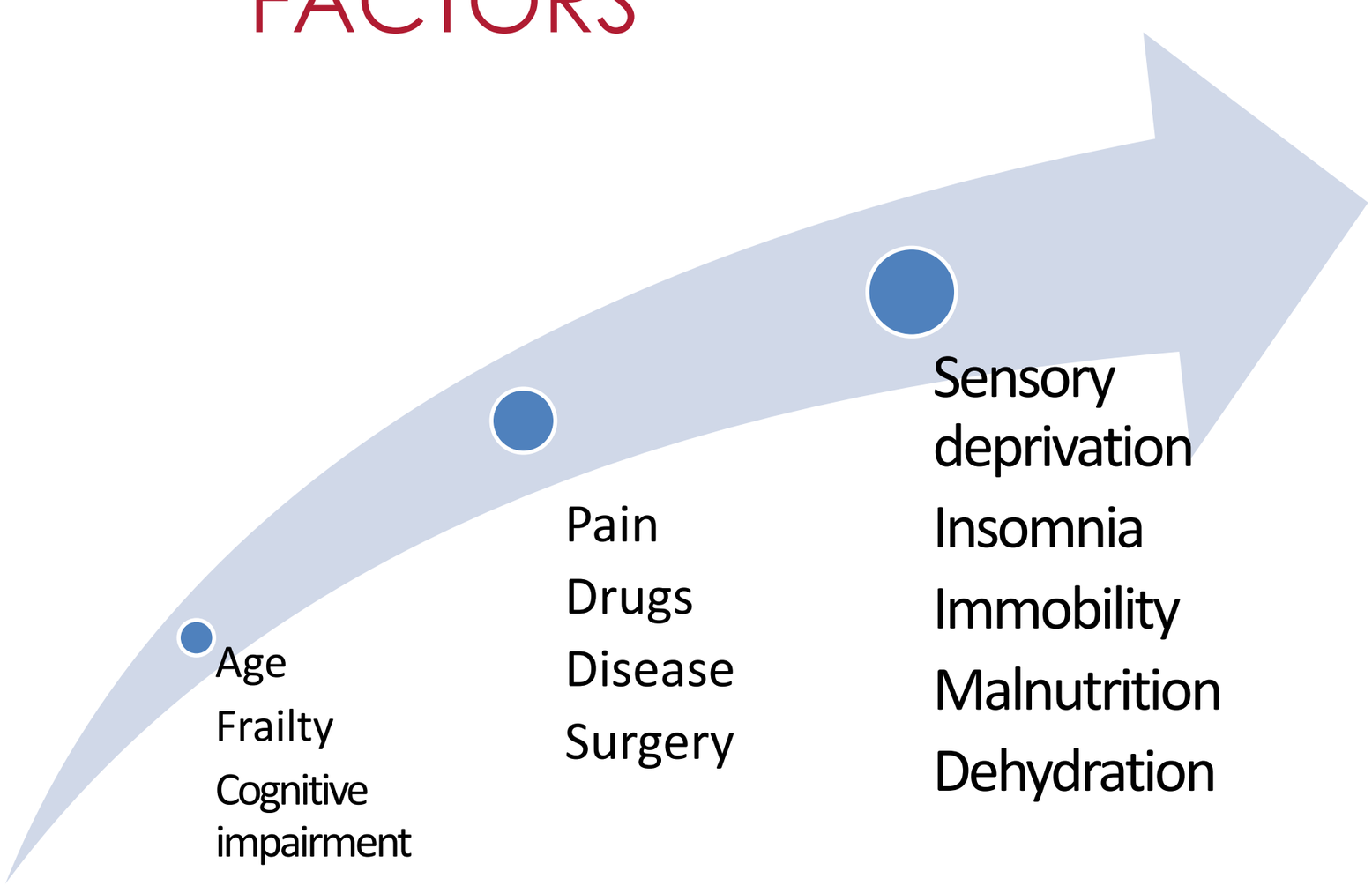
Halter et. al. Hazzard's Textbook of Geriatric Medicine and Gerontology 2009

PRECIPITATING FACTORS FOR DELIRIUM

- Pain
- Injury
- Stress
- Hypoxia
- Infection
- Restraints
- Anesthesia
- Procedures
- Immobilization
- Fecal impaction
- New medications
- Bladder catheter
- Urinary retention
- Sleep deprivation
- Sensory overload
- Sensory deprivation
- Unfamiliar environment
- Metabolic derangements
- Decreased organ function

Halter et. al. Hazzard's Textbook of Geriatric Medicine and Gerontology 2009

COMPOUNDING EFFECT OF RISK FACTORS



Delirium

TOOLS AND INSTRUMENTS

- Confusion Assessment Method (CAM)
- CAM for the Intensive Care Unit (CAM-ICU)
- 3-Minute Diagnostic Interview for CAM delirium (3D-CAM)
- Intensive Care Delirium Screening Checklist (ICDSC)
- Delirium Index (DI)
- Delirium Observation Screening Scale (DOSS)
- Delirium Rating Scale (DRS) – Revised-98
- Delirium Symptom Interview (DSI)
- Memorial Delirium Assessment Scale (MDAS)
- Nursing Delirium Screening Scale (NuDESC)

CONFUSION ASSESSMENT METHOD (CAM)

Must have BOTH features 1 & 2, AND either feature 3 or 4

- Feature 1: Acute onset and fluctuating course
  - Change from baseline
  - Behaviors come and go; increase and decrease in severity
- Feature 2: Inattention
  - Unable to focus or keep track of task or conversation
  - Digit span or other tasks used to evaluate
- Feature 3: Disorganized thinking
  - Incoherent, rambling, irrelevant, illogical
- Feature 4: Altered level of consciousness
  - Alert (normal)
  - Vigilant (hyperalert)
  - Lethargic (drowsy, easily aroused)
  - Stupor (difficult to arouse)

Inouye SK (1990) Ann Intern Med

PREVENTION

HELP! … I need somebody!

PREVENTION OF DELIRIUM

Non-pharmacologic multi-component approaches work!

- Hospital Elder Life Program (HELP), most widely used
  - Effective in reducing delirium and functional decline
  - Reduced use of psychoactive drugs
  - Preventable in 30 - 40% of cases

Inouye, SK, et al. (2014), *The Lancet*

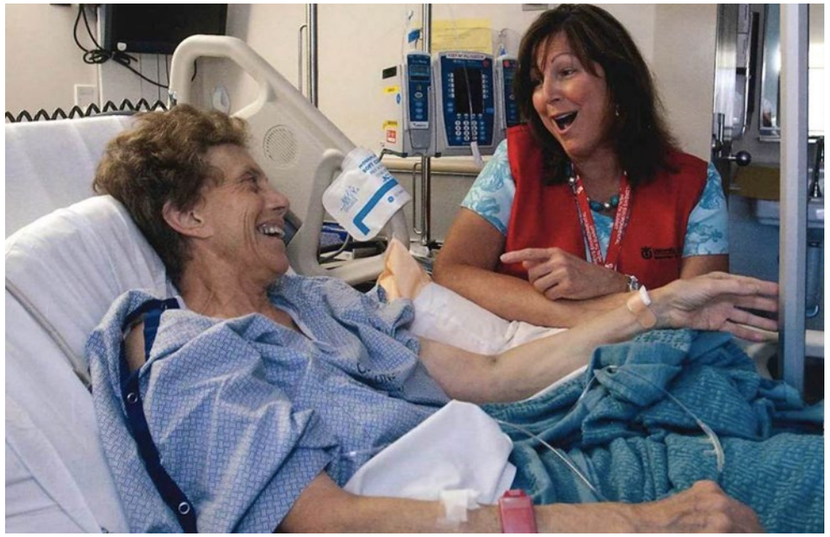
HOSPITAL ELDER LIFE PROGRAM (HELP)

Innovative staffing model

- Volunteer force
- Elder Life Specialist (ELS)
- Elder Life Nurse Specialist (ELNS)
- Geriatricians
- Pharmacist

HELP PROGRAM GOALS

- Maintain physical and cognitive functioning
- Maximize independence at discharge
- Reduce hospital readmissions
- Improve geriatric skills of staff throughout the facility



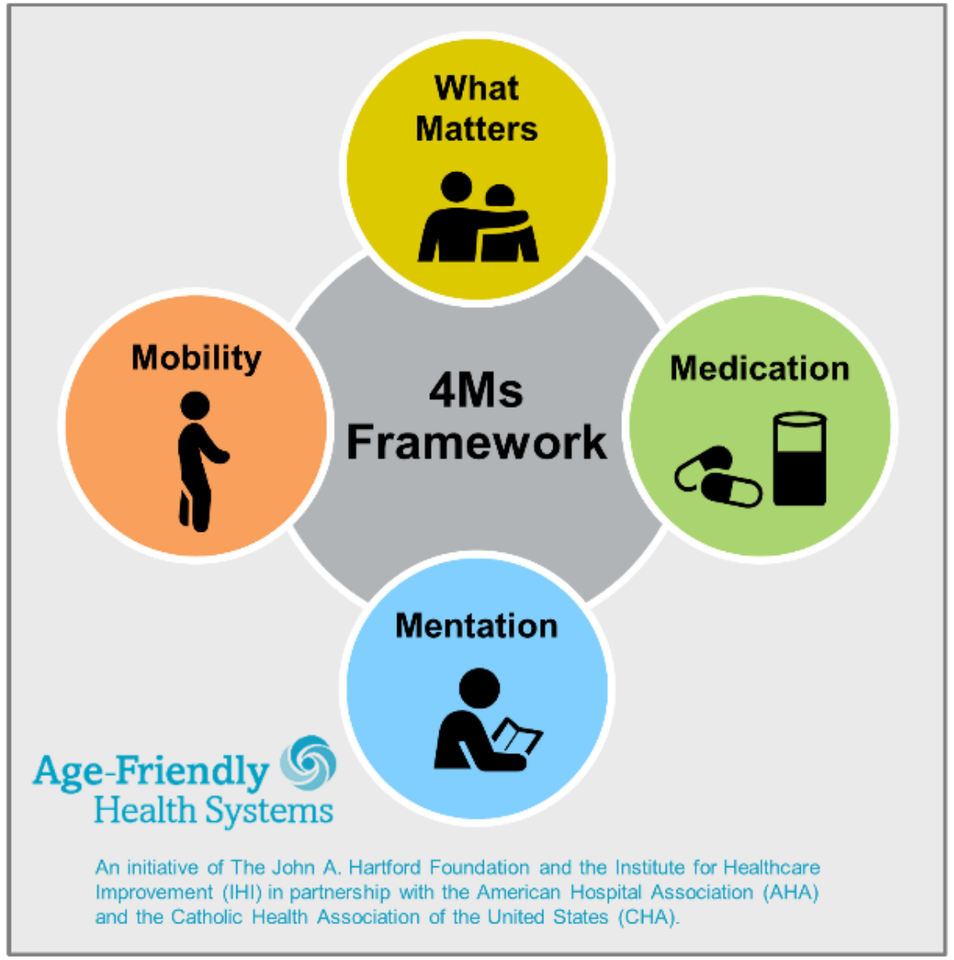
HELP VOLUNTEER INTERVENTIONS

INTERVENTIONS	WHAT THEY PROVIDE
1. Daily visitor program	• Orient, socialize, communicate
2. Targeted activities	• Keep cognitively engaged
3. Early Mobilization	• Walking and ROM exercises
4. Feeding assistance	• Companionship at meals
5. Hearing and vision protocol	• Adaptive equipment: amplifiers and magnifiers (& readers)
6. Non-pharmacological sleep protocol	• Soothing environment, music, herbal tea, hand or foot massage

AGE FRIENDLY HEALTH SYSTEMS

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

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



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

AGE FRIENDLY HEALTH SYSTEMS

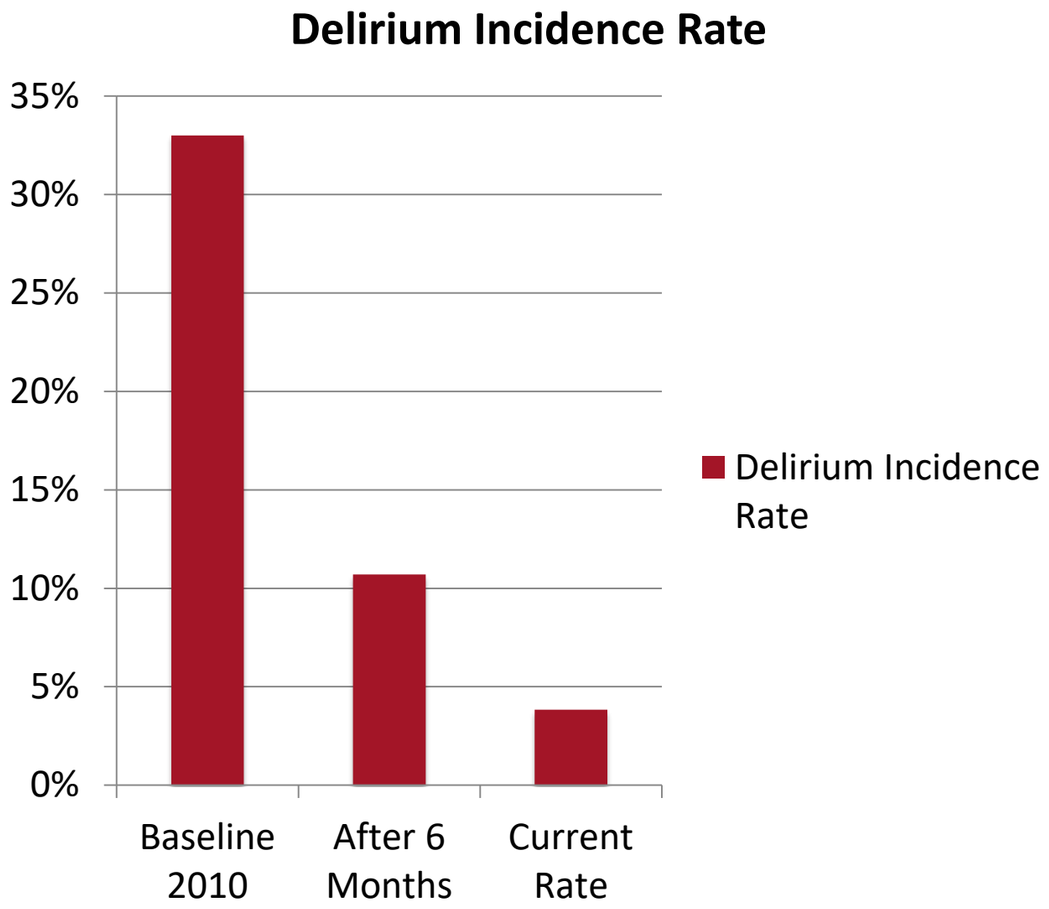
	Specific High-level Interventions	
What Matters	1	Know what matters: health outcome goals and care preferences for current and future care, including end of life
	2	Act on what matters for current and future care, including end of life
Medication	3	Implement standard process for age-friendly medication reconciliation
	4	De-prescribe and adjust doses to be age-friendly
Mobility	5	Implement an individualized mobility plan
	6	Create an environment that enables mobility
Mentation	7	Ensure adequate nutrition, hydration, sleep, and comfort
	8	Engage and orient to maximize independence and dignity
	9	Identify, treat, and manage dementia, delirium, and depression

IMPACT OF HELP

U OF U HELP DELIRIUM DATA

Reduced delirium rate

- Pre-intervention rate 33%
- HELP-enrolled rate at 6 months 10.7%
  - 9 of 84 enrolled patients
- Current rate since inception < 5%



RETROSPECTIVE CHART REVIEW

Length of Stay Mean ± SD	HELP Enrolled (558)	Non-HELP (3,021)	P-Value
Days	4.5 ± 4.2	5.3 ± 3.9	< 0.0001

Disposition (%)	HELP Enrolled (558)	Non-HELP (3,021)	P-Value
Home/Self Care	60.9	53.4	0.001
SNF/Rehab	33.7	38.8	0.02

30-Day Readmissions (%)	HELP Enrolled (558)	Non-HELP (3,021)	P-Value
Rate	15.4	20.3	P = 0.02

DELIRIUM MANAGEMENT STRATEGIES

- Find and treat underlying medical cause
- Minimize drugs with anticholinergic and CNS depressant effects
- Pain: Maximize non-opioid and non-Rx interventions
- Correct fluid/electrolyte imbalances
- Bowel/bladder function
  - Prevent constipation
  - Screen for urinary retention

MANAGEMENT STRATEGIES (CONTINUED)

- Minimize tethers
- Clocks, orientation boards
- Promote oral intake
- Circadian rhythms
  - Uninterrupted sleep at night, soft lighting (not blue)
  - Daytime light & stimulation
- Familiar people, objects
- Physical and cognitive activities

IN REVIEW …

TAKE HOME POINTS

- Disturbance in attention and cognition
- Common, but often missed
- Serious complications
- Acute, fluctuating, NOT dementia, medical cause
- Multitude of risk factors
- Validated instruments
- Can be prevented!
- Systems changes support prevention
- Manage non-pharmacologically whenever possible

RESOURCES

For more information about HELP:
https://www.americangeriatrics.org/programs/ags-cocare-helptm

Confusion Assessment Method (CAM):
https://www.hospitalelderlifeprogram.org/uploads/disclaimers/Long_CAM_Training_Manual_10-9-14.pdf

Short CAM:
https://www.hospitalelderlifeprogram.org/uploads/disclaimers/Short_CAM_Training_Manual_8-29-14.pdf

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