Do This, Not That: Delirium & Dementia

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September 2022

Objectives

- Highlight and explain 4 core principles of person-centered inpatient care for people with delirium and dementia
  - Know what's normal
  - Make delirium prevention standard care
  - Use bedside tests of attention to diagnose delirium
  - Reframe behaviors as a means of communication (aka. Medications aren't the only tool in the toolbox)

Know what's normal

Every older adult is different

A Tale of Two Patients

- Two women with atrial fibrillation, osteoarthritis of both knees (same stage radiographically) and osteoporosis with previous vertebral compression fractures

Why does this matter to the hospitalist?

- Risk for hospital acquired conditions
  - Resiliency, tolerance of hospital associated hazards
  - Ex. Delirium, inpatient falls, hospital associated functional decline, malnutrition, pressure injuries
- Prognosis from acute illness or injury
  - Degree of fragility affects likely course of recovery, functional outcomes, survival

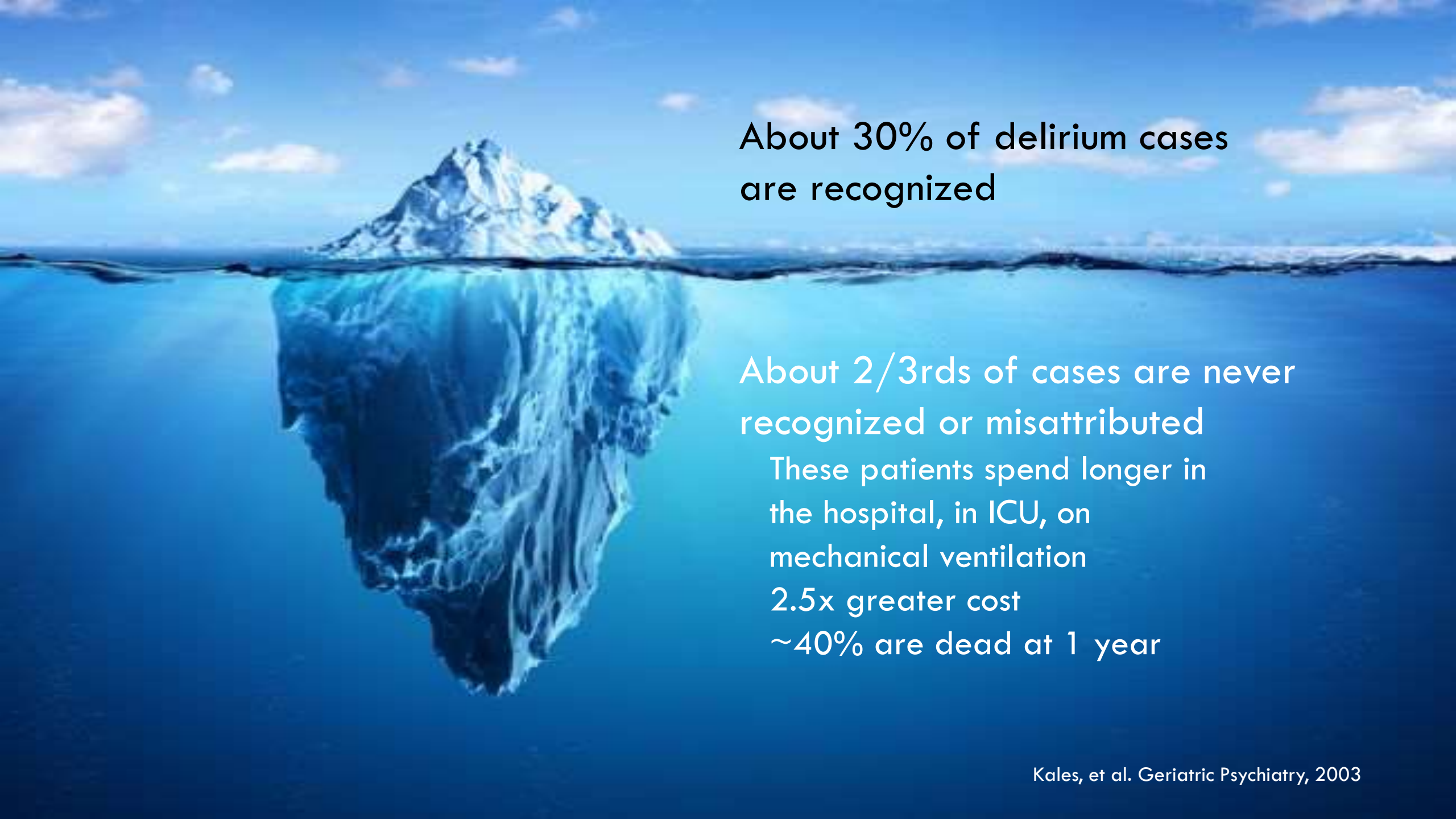
Be proactive with history

- **ASK! Don't wait for crisis to occur**
  - Collateral historians → family caregivers, paid caregivers, long term care staff
  - Use a Geriatrics ROS
  - Take advantage of caregivers' opinions about how we can make the hospital stay less eventful

Geriatric review of systems

ADLs/IADLs	What help do you need to …	**Mood**	How has your mood been recently?
Falls	Have you fallen or come close in the last year?	**Memory**	What concerns do you or your family have about your memory?
Hearing / vision	Trouble seeing or hearing? Wear glasses or hearing aids?		How have their memory & cognitive symptoms changed recently? How?
Swallowing	Trouble swallowing food or liquid?	**Behaviors**	Do they have behavioral symptoms or events related to memory issues? How do you / staff work through them? What works and what doesn't?
Weight	Losing weight without trying? Appetite changing?	**Sleep**	Trouble falling or staying asleep? Feel rested when you wake up? What do you do or take to help with sleep?
Incontinence	How often have you leaked urine or stool in the last few weeks?		

Make delirium prevention standard care



About 30% of delirium cases are recognized

About 2/3rds of cases are never recognized or misattributed

- These patients spend longer in the hospital, in ICU, on mechanical ventilation
- 2.5x greater cost
- ~40% are dead at 1 year

Kales, et al. Geriatric Psychiatry, 2003

Table 2. Predisposing Factors for Delirium.

Demographic characteristics
Age of 65 years or older
Male sex
Cognitive status
Dementia
Cognitive impairment
History of delirium
Depression
Functional status
Functional dependence
Immobility
Low level of activity
History of falls
Sensory impairment
Visual impairment
Hearing impairment
Decreased oral intake
Dehydration
Malnutrition
Drugs
Treatment with multiple psychoactive drugs
Treatment with many drugs
Alcohol abuse
Coexisting medical conditions
Severe illness
Multiple coexisting conditions
Chronic renal or hepatic disease
History of stroke
Neurologic disease
Metabolic derangements
Fracture or trauma
Terminal illness
Infection with human immunodeficiency virus

Table 3. Precipitating Factors or Insults That Can Contribute to Delirium.

Drugs
Sedative hypnotics
Narcotics
Anticholinergic drugs
Treatment with multiple drugs
Alcohol or drug withdrawal
Primary neurologic diseases
Stroke, particularly nondominant hemispheric
Intracranial bleeding
Meningitis or encephalitis
Intercurrent illnesses
Infections
Iatrogenic complications
Severe acute illness
Hypoxia
Shock
Fever or hypothermia
Anemia
Dehydration
Poor nutritional status
Low serum albumin level
Metabolic derangements (e.g., electrolyte, glucose, acid–base)
Surgery
Orthopedic surgery
Cardiac surgery
Prolonged cardiopulmonary bypass
Noncardiac surgery
Environmental
Admission to an intensive care unit
Use of physical restraints
Use of bladder catheter
Use of multiple procedures
Pain
Emotional stress
Prolonged sleep deprivation

Inouye S. NEJM, 2006

Prevention is key

- Delirium is easier to prevent than treat … make this a standard part of FASTHUG thinking at admission
  - Take the opportunity to rethink routine care
  - Address known and anticipated delirium drivers from the beginning of an admission

Drivers & Interventions

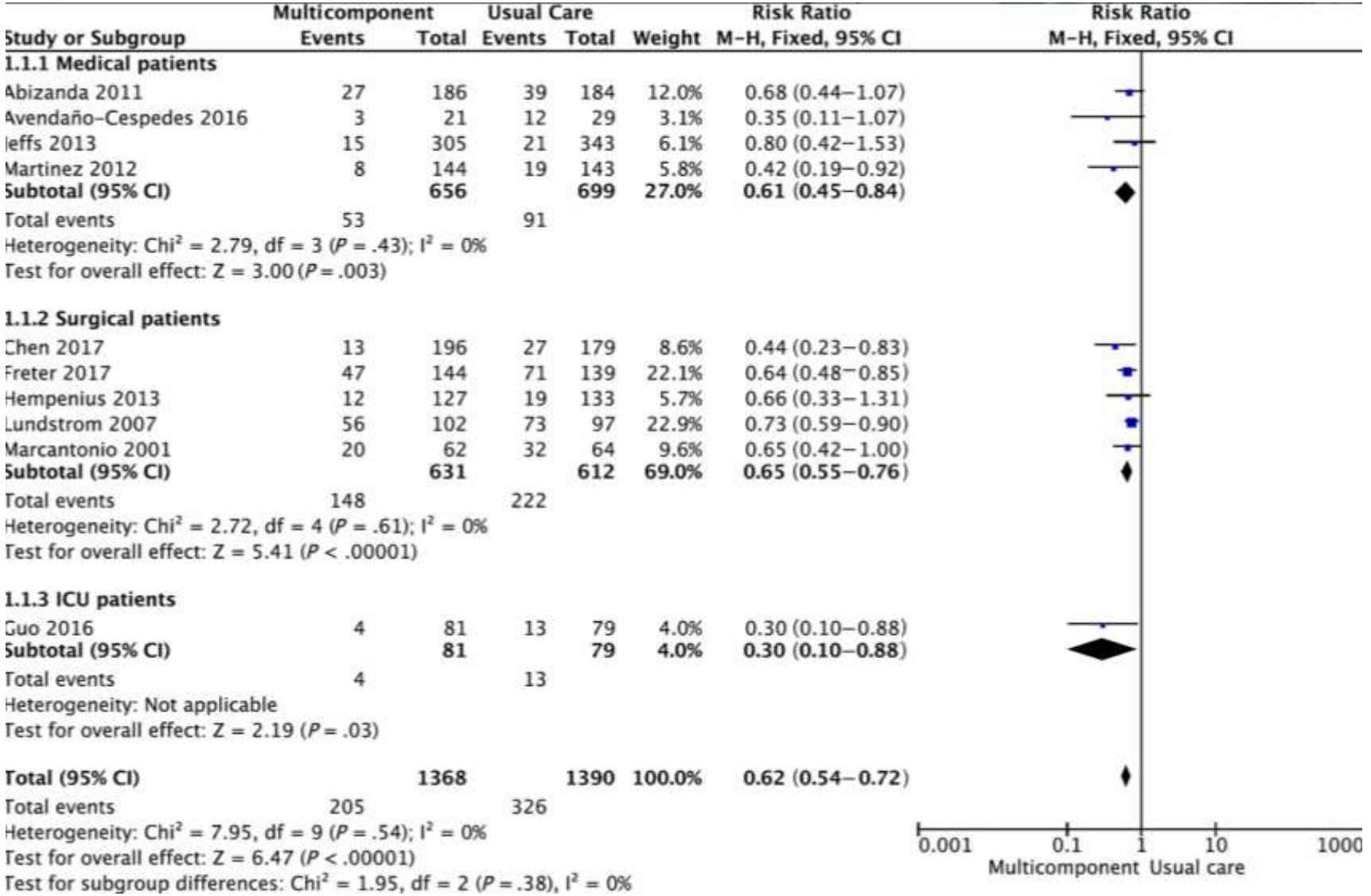
Studies exist looking at individual interventions with little improvement but …

Drivers	Interventions
Pain	Scheduled Tylenol 1000mg TID, topical agents, low dose opiates, heating pad/ice pack
Other discomfort	Change positions regularly, ambulate, distract with activity, remove tethers
Urinary urgency/ retention	DC contributing meds, scheduled toileting Q2 while awake, OOB to void, straight cath *during the day* for clinically significant retention (okay to allow lenient PVR threshold)
Constipation	Regular senna + Miralax (especially if on opiates!), Bisacodyl or mag citrate if fast action needed, ensure sufficient PO fluids and routine activity
Sleep Disruption	Limit daytime napping, ambulate, DC routine vitals 2200-0600, remove alarms/monitors, scheduled melatonin 1mg
Disorienting Surroundings	Regular daytime & mealtime schedule, reduce disorienting alarms, glasses + hearing aids on, borrow pocket talker, open window shades during day, lights off at night
High risk Medications	Avoid the centrally acting, sedating, anticholinergic agents (ie. Promethazine, prochlorperazine, diphenhydramine, hydroxyzine, oxybutynin, benzodiazapines, sedative-hypnotics, etc)

Prevention Works

Meta analysis of 2850 patients across inpatient settings

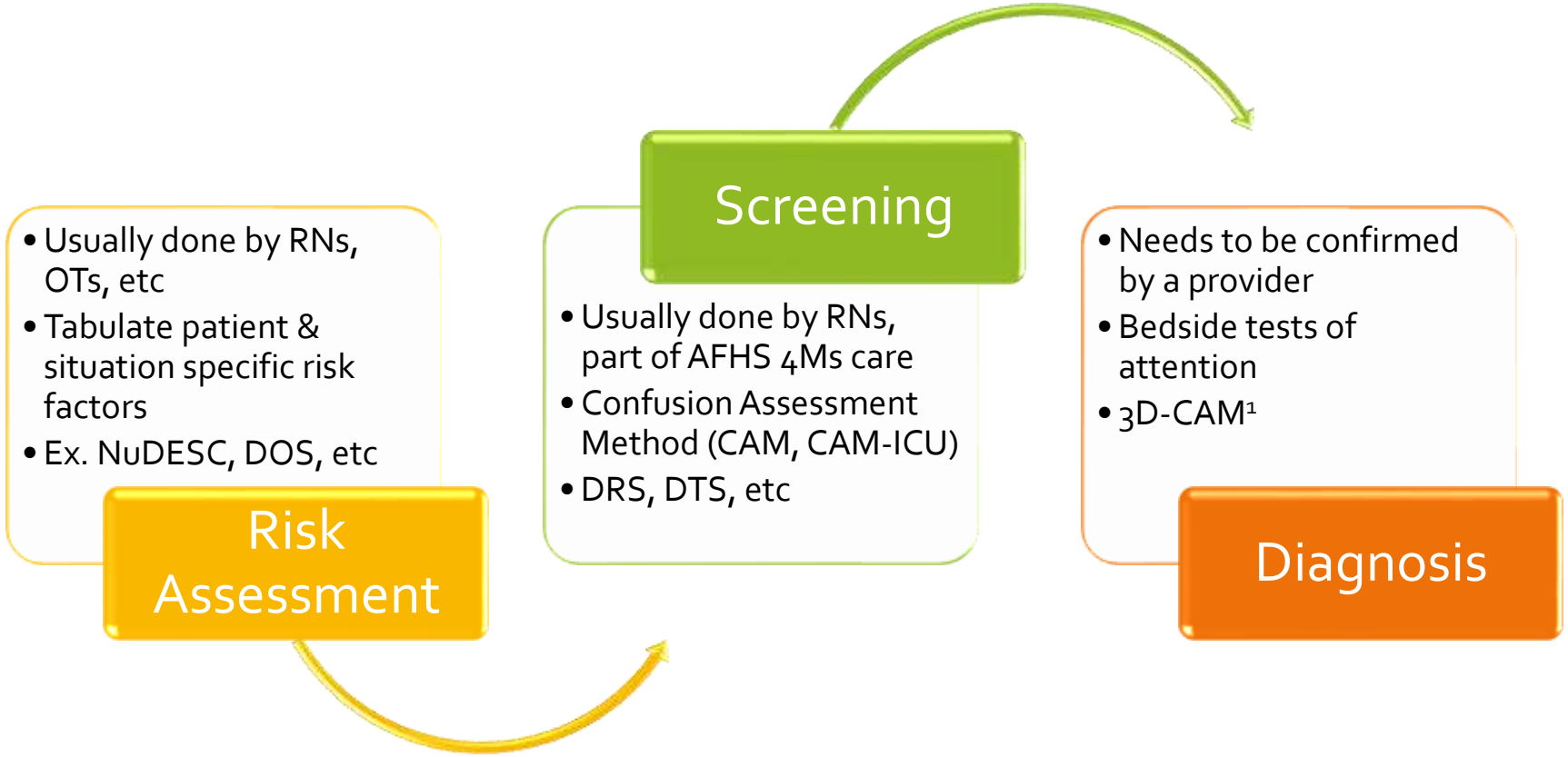
~40% reduction in delirium incidence with a multi-component prevention regimen



Leon-Salas B, et al. J Am Geriatr Soc, 2020

Use bedside tests of attention to diagnose delirium

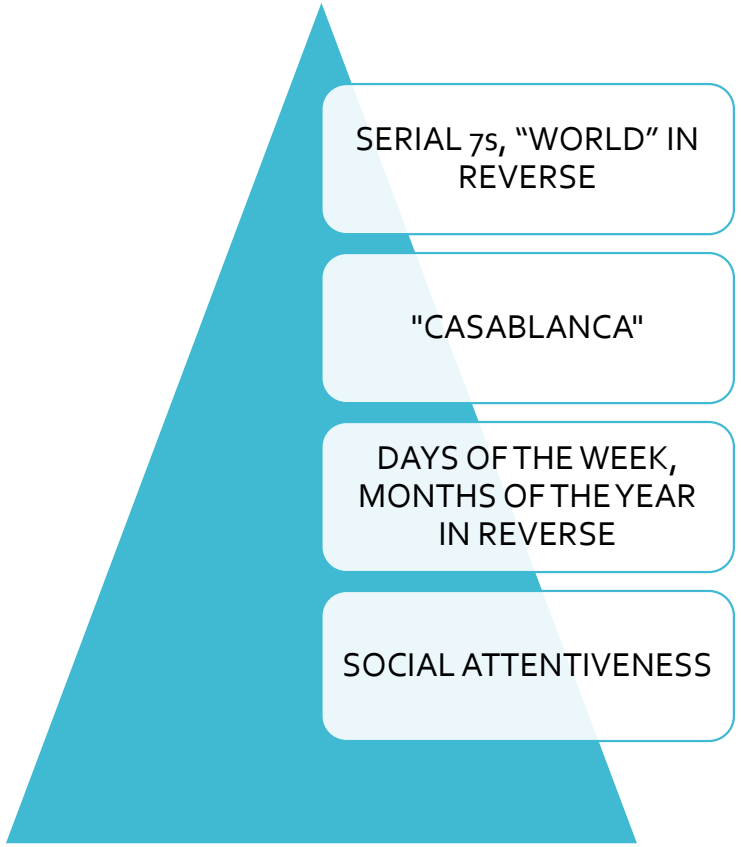
Assessment tools



1. http://www.hospitalelderlifeprogram.org/uploads/delirum/3D-CAM_Training_Manual_Clinical_for_Website_Version_2.1_Final_9-8-14.pdf

Delirium evaluation

INATTENTION



DISORGANIZED THINKING

- "Does a stone float on water?"
- "Is 2lbs heavier than 1lb?"

- Rambling, irrelevant conversation
- Unclear or illogical flow of ideas

Fick DM, et al. J Hosp Med, 2015; Inouye S. NEJM, 2006

Bedside tests of attention

TABLE 2. Top Ten Single-Item Screen for Delirium (N = 201)*†

Screen Item	Screen Positive (%)‡	Sensitivity (95% CI)	Specificity (95% CI)	LR	LR−
Months of the year backwards	42	0.83 (0.69-0.93)	0.69 (0.61-0.76)	2.7	0.24
Four digits backwards	56	0.83 (0.69-0.93)	0.52 (0.44-0.60)	1.72	0.32
What is the day of the week?	21	0.71 (0.55-0.84)	0.92 (0.87-0.96)	9.46	0.31
What is the year?	16	0.55 (0.39-0.70)	0.94 (0.9-0.97)	9.67	0.48
Have you felt confused during the past day?	14	0.50 (0.34-0.66)	0.95 (0.9-0.98)	9.94	0.53
Days of the week backwards	15	0.50 (0.34-0.66)	0.94 (0.89-0.97)	7.95	0.53
During the past day, did you see things that were not really there?	11	0.45 (0.3-0.61)	0.97 (0.94-0.99)	17.98	0.56
Three digits backwards	15	0.45 (0.3-0.61)	0.92 (0.87-0.96)	5.99	0.59
What type of place is this?	9	0.38 (0.24-0.54)	0.99 (0.96-1)	30.29	0.63
During the past day, did you think you were not in the hospital?	10	0.38 (0.24-0.54)	0.97 (0.94-0.99)	15.14	0.64

NOTE: Number of patients with delirium = 42. Abbreviations: CI, confidence interval; LR, likelihood ratio.

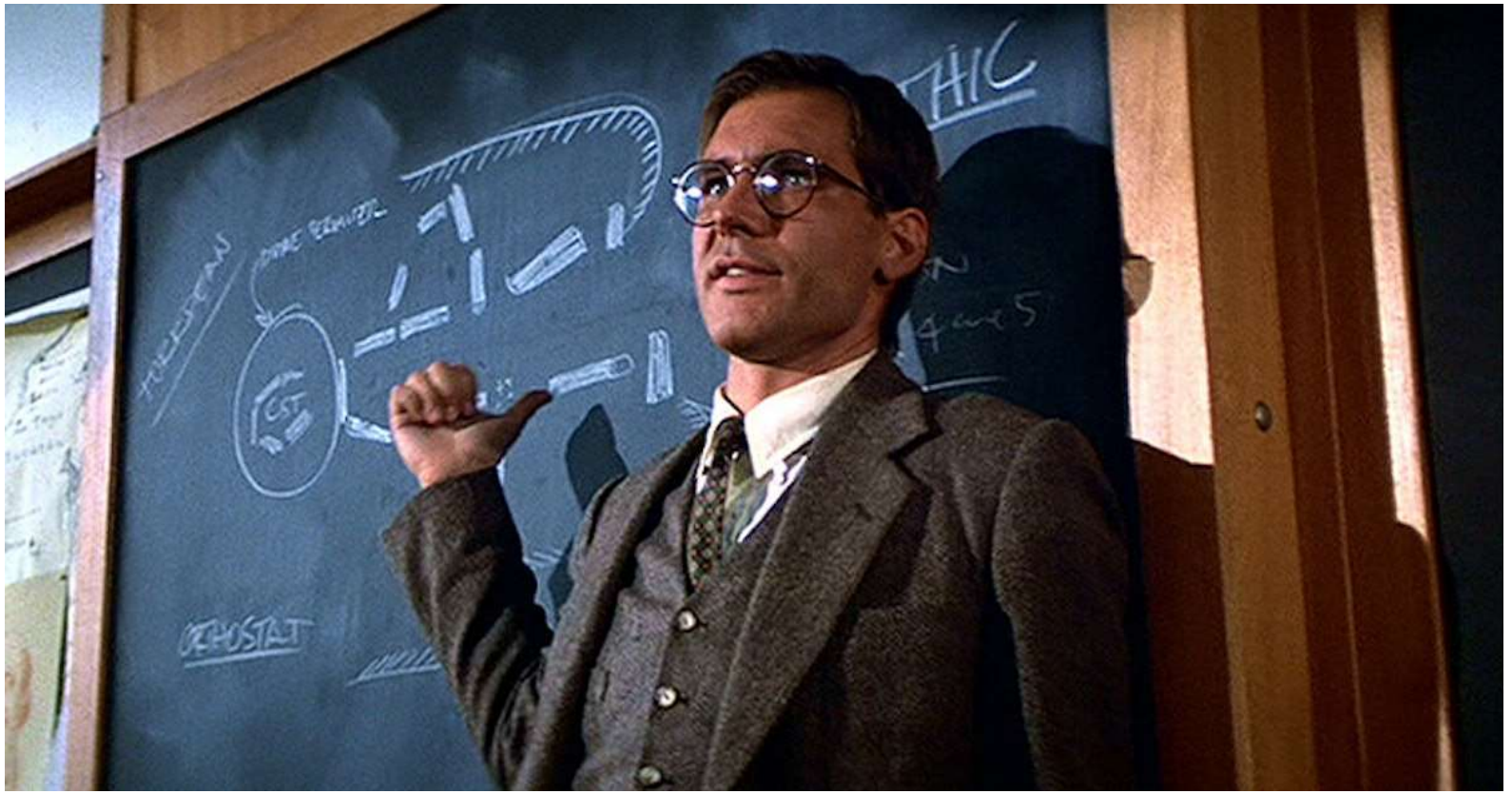
Combining tests results in better sensitivity and specificity

Fick DM, et al. J Hosp Med, 2015

The highly educated, well socialized

May present with less obvious signs of inattention, disorganization

Start with less complex and move to more complex tests of attention

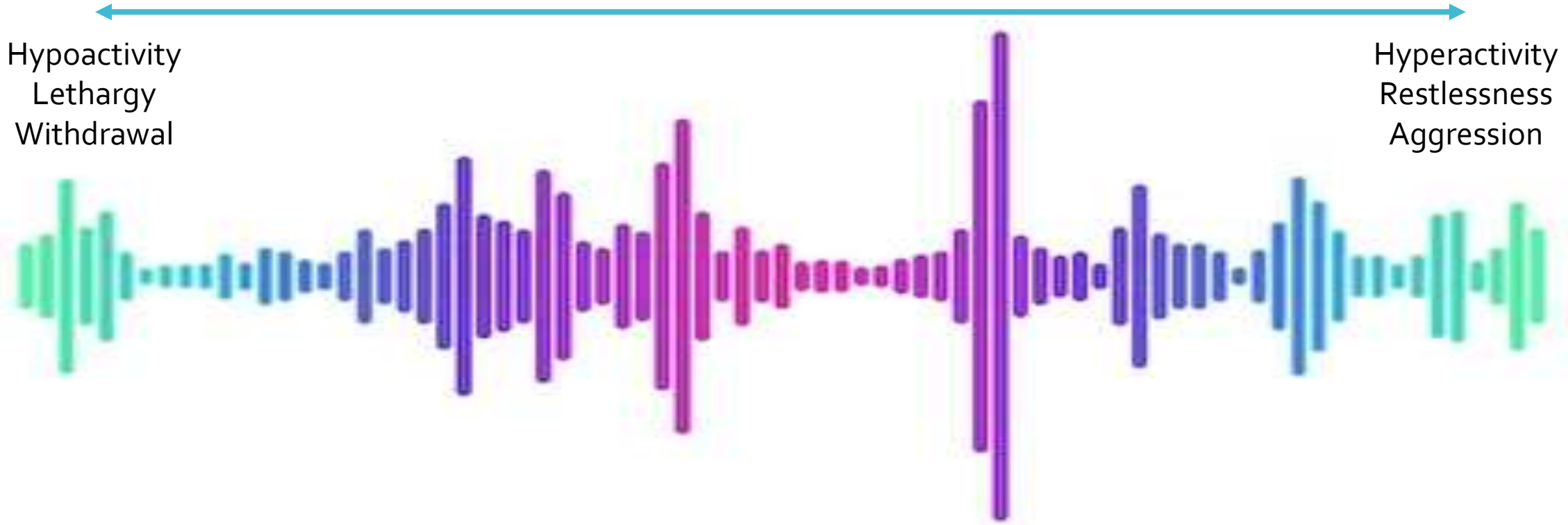


Social attentiveness → Days of the week backwards → Months of the year backwards → "CASABLANCA" → "WORLD" backwards

- What if I'm still unsure?
  - Wait and observe … Signs and symptoms will become more apparent with time
  - Make sure RNs, OTs are still screening

Reframe behaviors as a means of communication

Aka. Medications aren't the only tool in the toolbox

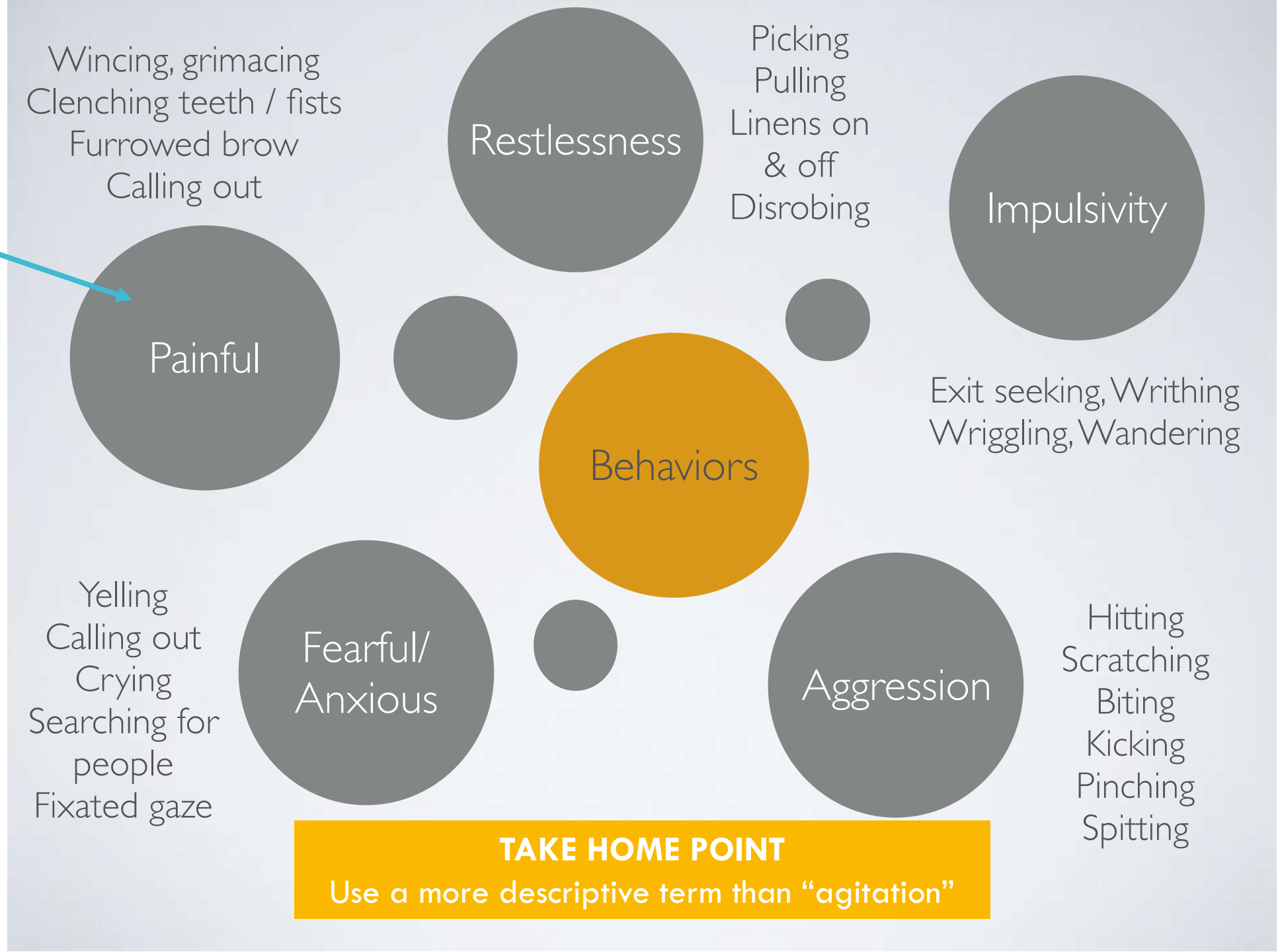


May fluctuate through the day, alongside fatigue or as situations change

Behaviors as communication

- For those less able to communicate their needs verbally or rely on others for their care, behaviors are a means of communicating **an unmet need**
  - **What are some common "unmet needs"?**
    - **Physiologic → hunger, thirst, urge to void, pain / discomfort / stiffness, too hot, too cold, can't see, can't hear**
    - **Psychologic → desire for social contact, investigating unfamiliar noises / sights, fear, anxiety, loneliness, desire to orient oneself, desire to restore familiar routine**
- Stems from personhood definition that includes all human beings, regardless of capacity or other abilities

"Help me, help me" should be considered pain until proven otherwise



TAKE HOME POINT

Use a more descriptive term than "agitation"

When to prescribe?

Many opinions, pros and cons but medications are an appropriate tool for certain patients & circumstances

Antipsychotics in delirium

- No medication has FDA approval for treatment of delirium

- 2019 Annals of Internal Medicine meta analyses
  - No impact of antipsychotics on delirium prevention[1] or treatment[2]
    - Mortality, length of stay, delirium duration / severity, cognitive function
  - Small increase in neurologic & cardiac side effects with short term use

1. Oh ES, et al. Ann Int Med, 2019
2. Nikooie R, et al. Ann Int Med, 2019

Medication for behavioral symptoms

- **Reach for a medication when behaviors are**:
- Non-redirectable or not soothed by other less invasive means
- Dangerous to the patient and/or staff
- Actively interfering with necessary care
- Physically aggressive

- * Antipsychotics for distressing psychosis preventing progression of care & recovery

Medication for behavioral symptoms

- **Goals of medication for behaviors**:
- Achieve wakeful calm
- Turn down the volume & intensity of behaviors
- (Ideally) be limited to short term use
  - Particularly important for people with dementia
  - Black Box warning on atypical antipsychotics for stroke and death among people with dementia
- Not to sedate or restrain, but to treat the symptoms being experienced

Commonly used medications

Agent	Starting Doses	Side Effects
Haloperidol	PO: 0.5-1 mg Q6 PRN IM/IV: 0.5 mg Q6 PRN **Ensure Mg, Phos are replete**	EPS, sedation, orthostasis, QTc prolongation
Quetiapine	(6.25)-12.5-25 mg PO QHS PRN	Sedation, orthostasis, urinary retention, QTc prolongation
Risperidone	PO/ODT: 0.25-0.5 mg BID PRN (max 3 mg/day)	EPS, QTc prolongation
Olanzapine	PO/ODT: 2.5-5 mg Q6 PRN IM: 2.5 mg Q6 PRN (max ~30 mg / day)	Sedation, urinary retention, orthostasis, QTc prolongation
Droperidol *For acute events only*	IM: 2.5-5 mg IV: 1.25-2.5 mg	More sedation than haldol

Tips for use

- Start low, go slow but GO if indicated
  - Starting doses may be sufficient for some but not for all; increase as needed to get to the goal
- Consider medications a bridge to allow providers & caregivers to develop more non-medication strategies to address behaviors
  - Goal is to use the least amount necessary to achieve manageable behaviors / wakeful calm that allows the person to meaningfully engage in their care & recovery
- It is okay (may be preferable) to schedule doses to target known active time periods
- FOLLOW UP EVERY DAY and sometimes more often
  - Not a "set it and forget it" kind of therapy
- Check for baseline QTc in records or check EKG within a few hours of initial dose

Thanks!

Happy to take questions and comments