Improving Inpatient Geriatric Care— Focus on Frailty, Falls and Four Ms

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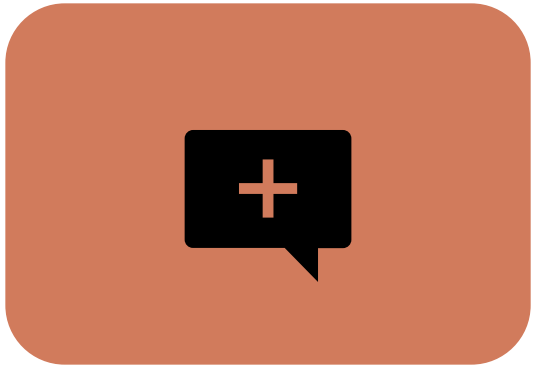
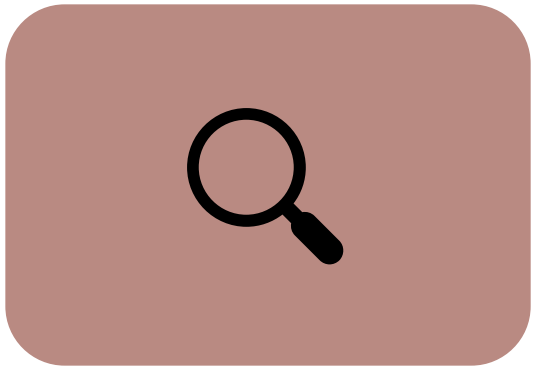
Objectives

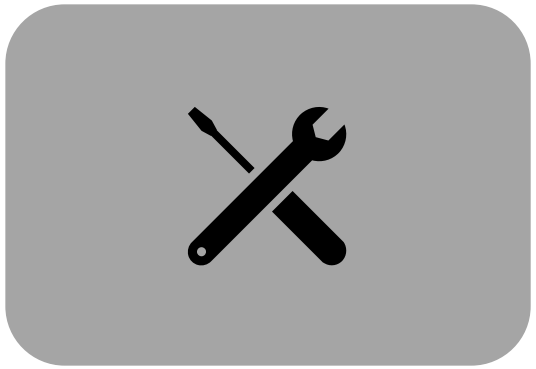
Understand differences in outcomes for frail geriatric trauma patients



Review the Age-Friendly Movement and incorporate the 4Ms as a geriatric best practice framework



Examine how a care plan focused on 4 simple “M’s” as a set can improve outcomes

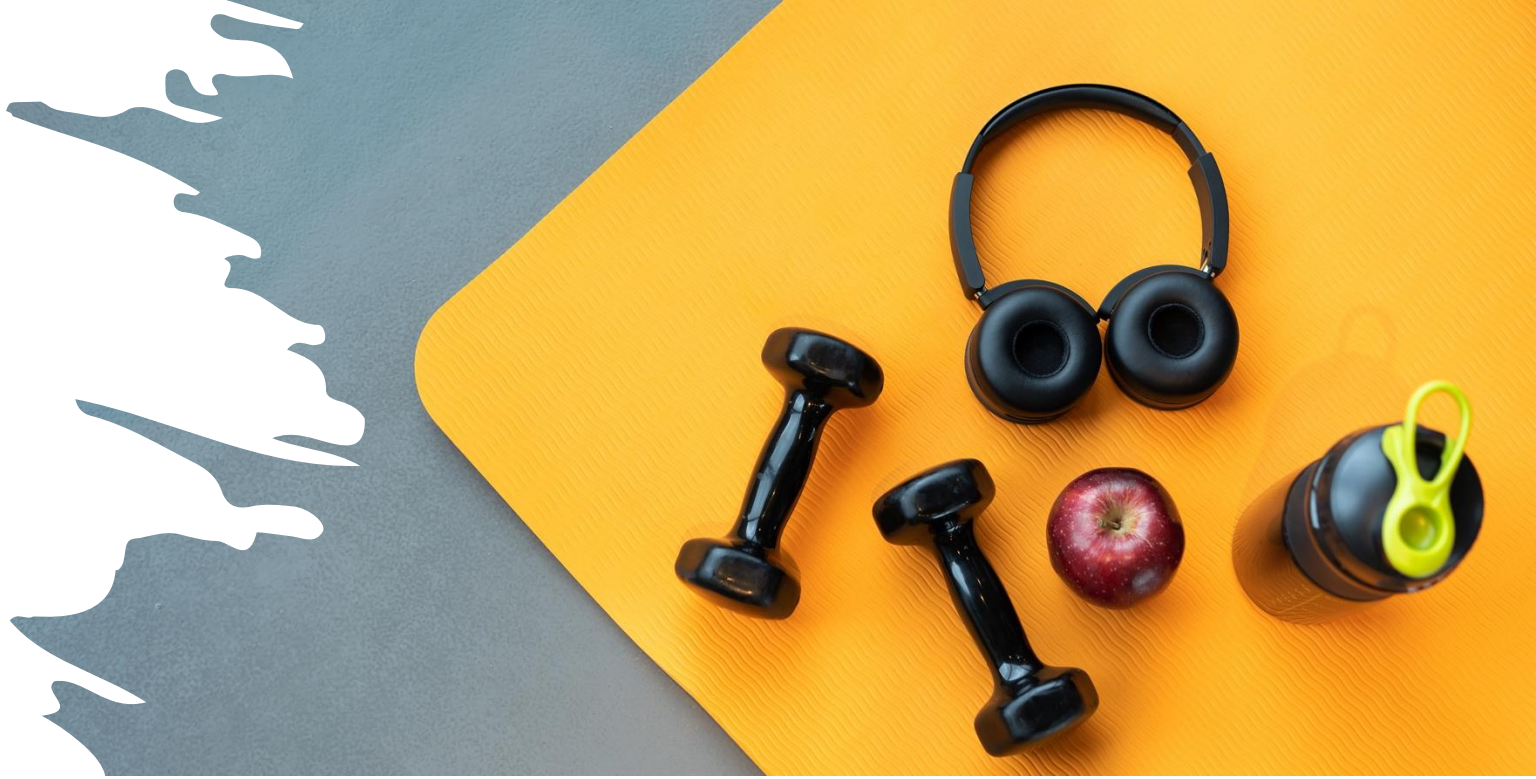


Prepare for what’s next with 2025 Age-Friendly hospital CMS measure

What is Frailty?

- A clinically recognizable state of **increased vulnerability** resulting from a **decline in reserve** and **function** across multiple physiologic systems such that the ability to cope with everyday or acute stressors is comprised.

-Qian-Li Xue, Clin Geriatr Med, 2012
10.1016/j.cger.2010.08.009



Age and Ageing 2023; **52:** 1–11
https://doi.org/10.1093/ageing/afad073

SYSTEMATIC REVIEW

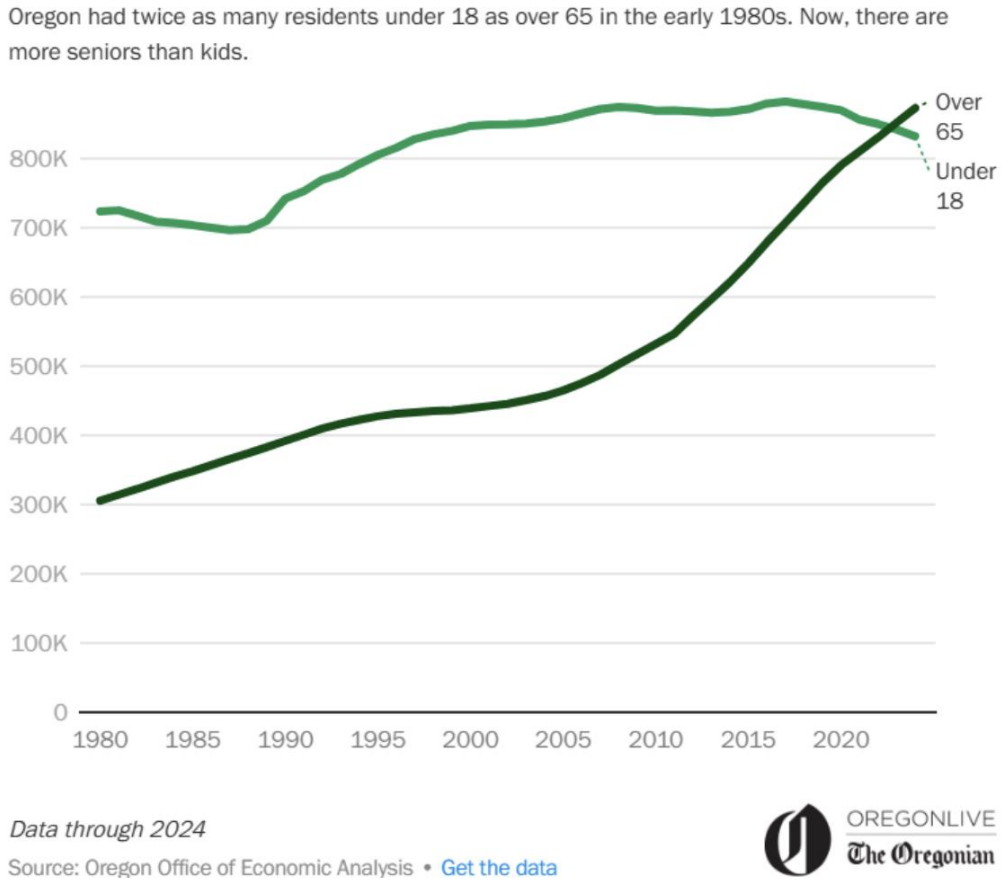
Does frailty status predict outcome in major trauma in older people? A systematic review and meta-analysis

- […]frailty was found to be associated with increased in-patient mortality, increased length of hospital stay, adverse discharge destination and in-patient complications. Frailty was also found to be **a more consistent predictor of adverse outcomes (mortality, failure to rescue and adverse discharge destination) than age or injury severity.**

Shifting Population

➢ Similar Vulnerabilities

- Focus on fall and injury prevention
- Involvement of family and caregivers
- High nutritional needs
- Medication metabolism risks and dose adjustments required



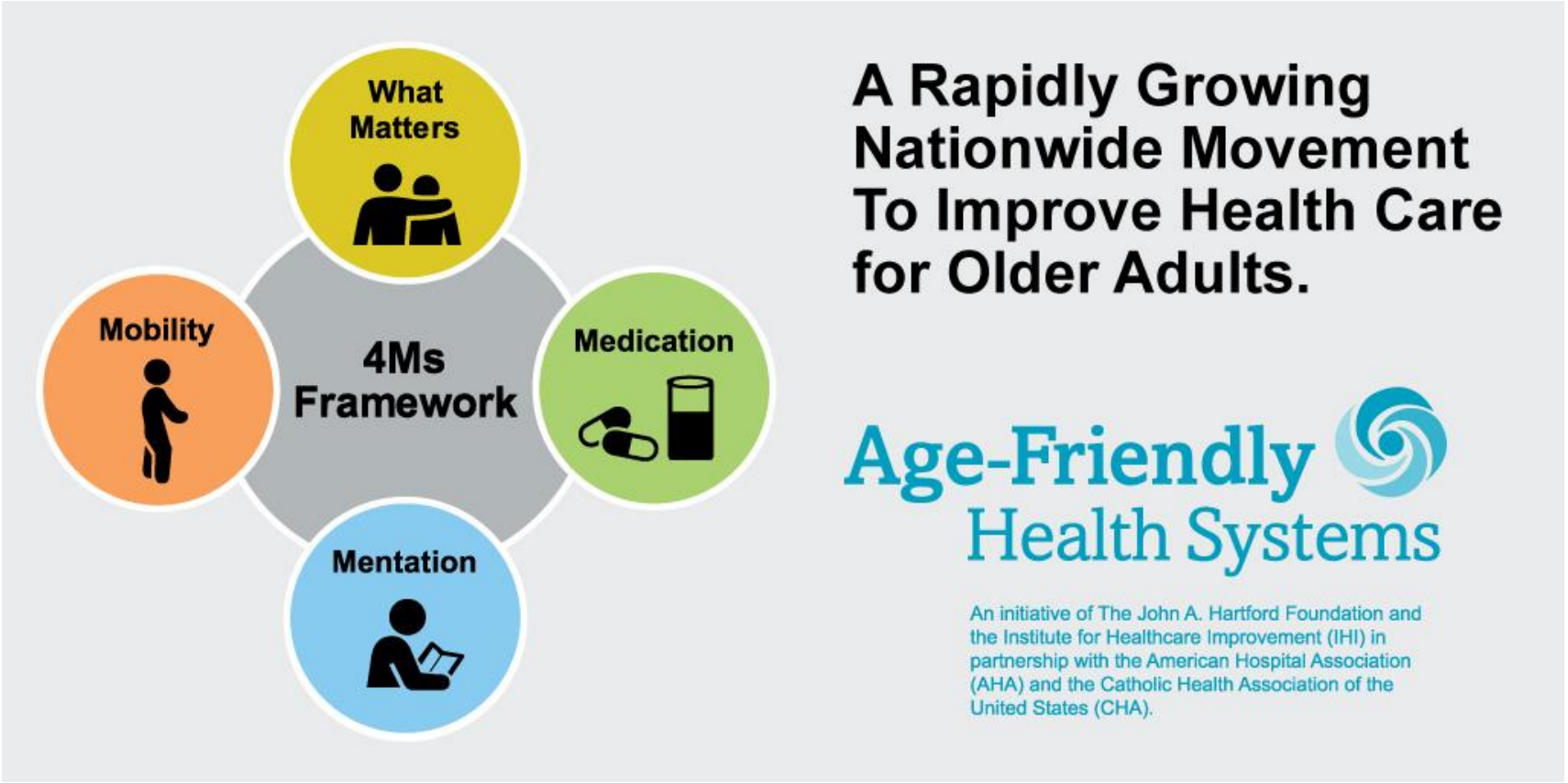
➢ Similar Specialty Care Needs

Pediatric → Adult → **Geriatric**

Age-Friendly Movement

What is Age-Friendly Care?

- Follows an essential set of evidence-based practices, known as the 4Ms
- Causes no harm
- Aligns with **What Matters** to the older adult and their family or caregivers



Assess and Act On

- Review current processes, tools and resources used to support the 4Ms

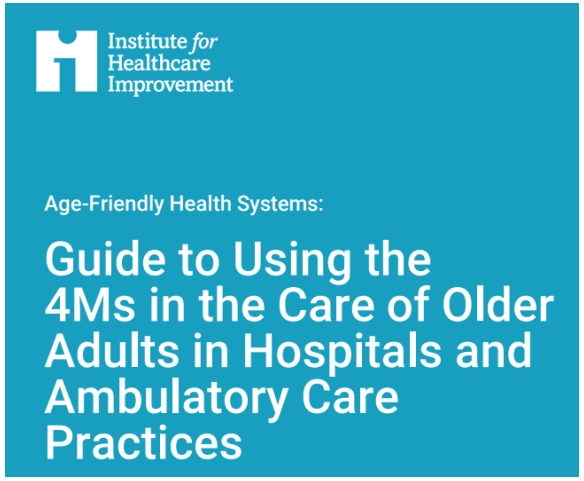
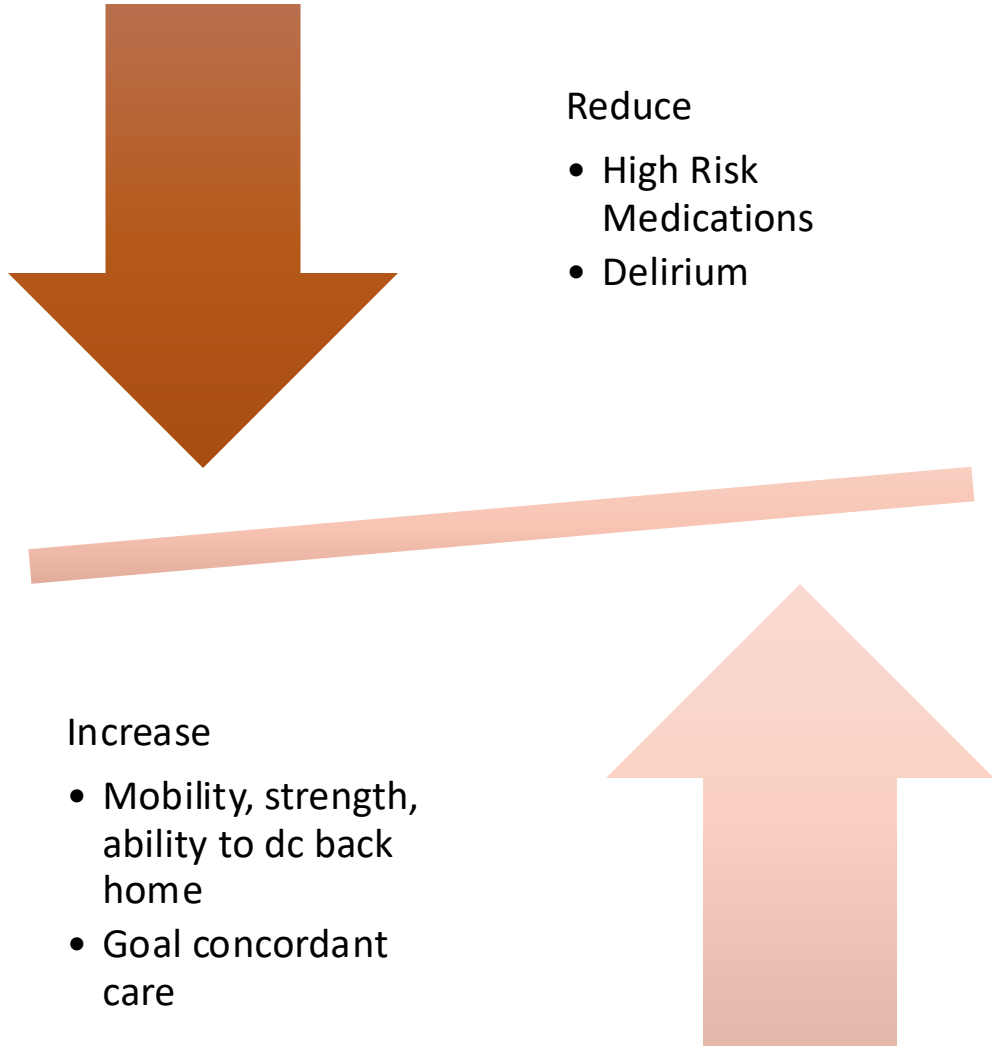


Table 4. Age-Friendly Health Systems Summary of Key Actions

	Assess	Act On
	Know about the 4Ms for each older adult	Incorporate the 4Ms into care delivery and document in the care plan
Hospital	**Key Actions**	
	• Ask the older adult What Matters, including their health outcome goals and care preferences • Document What Matters • Document the older adult's preferred support person or caregiver • Review medications and document high-risk medication use • Screen for delirium at least every 12 hours and upon any change in function or behavior • Screen for mobility limitations	• Align the care plan with What Matters • Deprescribe, adjust doses, and avoid high-risk medications • Ensure sufficient oral hydration • Orient to time, place, and situation (or validation and orienting cues with dementia) • Ensure that older adults have their personal adaptive equipment and hearing and vision devices • Prevent sleep interruptions; use nonpharmacological interventions to support sleep • Ensure early, frequent, and safe mobility

Synergistic Relationship Between 4Ms

What Matters	Know and align care with each older adult's specific health outcome goals and care preferences including, but not limited to, end-of-life care.
Medication	If medication is necessary, use Age-Friendly medication that does not interfere with What Matters to the older adult, Mobility, or Mentation.
Mentation	Prevent, identify, treat, and manage dementia, depression, and delirium.
Mobility	Ensure that older adults move safely every day in order to maintain function and do What Matters.



Reduce

- High Risk Medications
- Delirium

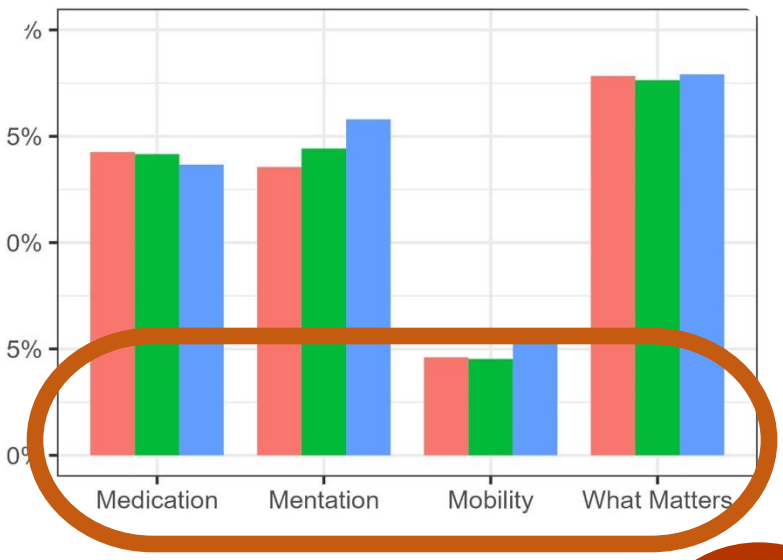
Increase

- Mobility, strength, ability to dc back home
- Goal concordant care

Improved Outcomes When Care Focused on 4Ms

Evaluating Outcomes

- Cross-sectional analysis including 13,396 hospital admission between 9/2020-9/2022
- **Patients had to receive all 4Ms as a set. Cohort was divided into recipients and non-recipients**
- **Partial 4Ms care was considered non-recipient**



What Matters

- Surrogate decision maker identified or patient reported goals embedded into care plan each shift

Medication

- No high-risk medications administered

Mentation

- CAM delirium screening complete

Mobility

- "Mobility check" complete

Focusing on *4 little things* resulted in *4 huge outcomes*

- Basic 4Ms care resulted in significantly improved outcomes:
  - Reduced 30-day readmissions
  - Reduced ICU length of stay
  - Reduced overall length of stay
  - Reduced total charges

What Matters
- Surrogate decision maker identified or patient reported goals embedded into care plan each shift

Medication
- No high-risk medications administered

Mentation
- CAM delirium screening complete

Mobility
- "Mobility check" complete

System Outcomes 2023-2024

- **At OHSU, significantly greater benefit seen in higher acuity geriatric inpatients**

Patient Outcomes	**Overall (% Change)**	**High CMI (% Change)**	**Low CMI (% Change)**
Total Charges	- $18,697.29 (- 20%)	**- $41,825.90 (- 27%)**	- $8,965.31 (- 16%)
Length of Stay	- 0.31 days (- 6%)	**- 1 day (- 15%)**	+ 0.2 days (+ 4.4%)
ICU Length of Stay	- 0.3 days (- 12%)	**- 0.6 days (- 19%)**	- 0.31 days (- 15%)
30 day readmission	NS	**- 14%**	NS

Expanding Geriatric Best Practices with New 2025 CMS ‘Age-Friendly Hospital Measure’

Age Friendly Hospital Measure

- FY2025 Inpatient Prospective Payment Systems Final Rule (p.1428):
  - "[…]**assesses hospital commitment to improving care for patients 65 years or older receiving services in the hospital, operating room, or emergency department**."

Overview of Age-Friendly Hospital Measure

(from FY 2025 Inpatient Prospective Payment Systems Final Rule, p. 1428)

The Age Friendly Hospital measure assesses hospital commitment to improving care for patients 65 years or older receiving services in the hospital, operating room, or emergency department. This measure consists of five domains that address essential aspects of clinical care for older patients. Table IX.C.1 includes the five attestation domains and corresponding attestation statements.

TABLE IX.C-1. THE AGE FRIENDLY HOSPITAL MEASURE'S FIVE DOMAIN ATTESTATIONS

Attestation Domains	Attestation Statements: Attest "yes" or "no" to each element. (Note: Affirmative attestation of all elements within a domain would be required for the hospital or health system to receive a point for that domain)
Domain 1: Eliciting Patient Healthcare Goals This domain focuses on obtaining patient's health related goals and treatment preferences which will inform shared decision making and goal concordant care.	**(A)** Established protocols are in place to ensure patient goals related to healthcare (health goals, treatment goals, living wills, identification of healthcare proxies, advance care planning) are obtained/reviewed and documented in the medical record. These goals are updated before major procedures and upon significant changes in clinical status.
Domain 2: Responsible Medication Management This domain aims to optimize medication management through monitoring of the pharmacological record for drugs that may be considered inappropriate in older adults due to increased risk of harm.	**(A)** Medications are reviewed for the purpose of identifying potentially inappropriate medications (PIMs) for older adults as defined by standard evidence-based guidelines, criteria, or protocols. Review should be undertaken upon admission, before major procedures, and/or upon significant changes in clinical status. Once identified, PIMS should be considered for discontinuation, and/or dose adjustment as indicated.
Domain 3: Frailty Screening and Intervention This domain aims to screen patients for geriatric issues related to frailty including cognitive impairment/delirium, physical function/mobility, and malnutrition for the purpose of early detection and intervention where appropriate.	**(A)** Patients are screened for risks regarding mentation, mobility, and malnutrition using validated instruments ideally upon admission, before major procedures, and/or upon significant changes in clinical status. **(B)** Positive screens result in management plans including but not limited to minimizing delirium risks, encouraging early mobility, and implementing nutrition plans where appropriate. These plans should be included in discharge instructions and communicated to post-discharge facilities. **(C)** Data are collected on the rate of falls, decubitus ulcers, and 30-day readmission for patients > 65. These data are stratified by demographic and/or social factors. **(D)** Protocols exist to reduce the risk of emergency department delirium by reducing length of emergency department stay with a goal of transferring a targeted percentage of older patients out of the emergency department within 8 hours of arrival and/or within 3 hours of the decision to admit.
Domain 4: Social Vulnerability This domain seeks to ensure that hospitals recognize the importance of social vulnerability screening of older adults and have systems in place to ensure that social issues are identified and addressed as part of the care plan.	**(A)** Older adults are screened for geriatric specific social vulnerability including social isolation, economic insecurity, limited access to healthcare, caregiver stress, and elder abuse to identify those who may benefit from care plan modification. The assessments are performed on admission and again prior to discharge. **(B)** Positive screens for social vulnerability (including those that identify patients at risk of mistreatment) are addressed through intervention strategies. These strategies should include appropriate referrals and resources for patients upon discharge.
Domain 5: Age-Friendly Care Leadership This domain seeks to ensure consistent quality of care for older adults through the identification of an age friendly champion and/or interprofessional committee tasked with ensuring compliance with all components of this measure.	**(A)** Our hospital designates a point person and/or interprofessional committee to specifically ensure age friendly care issues are prioritized, including those within this measure. This individual or committee oversees such things as quality related to older patients, identifies opportunities to provide education to staff, and updates hospital leadership on needs related to providing age friendly care. **(B)** Our hospital compiles quality data related to the Age Friendly Hospital measure. These data are stratified by demographic and/or social factors and should be used to drive improvement cycles.

Domain 2: Responsible medication management

1,627 patients included in this study on potentially inappropriate medications and LOS

"….postoperative hospitalization was 1.4 days longer in PIM+ older surgical patients than those that were PIM−. Hospital LOS was almost **two days longer** in frail PIM+ patients than frail PIM− patients, and **nearly two days longer** in cognitively impaired PIM+ patients than cognitively impaired PIM− patients. "

Published in final edited form as:
Anesth Analg. 2022 November 01; 135(5): 1048–1056. doi:10.1213/ANE.0000000000006185.

Potentially Inappropriate Medication Administration is Associated with Adverse Postoperative Outcomes in Older Surgical Patients: A Retrospective Cohort Study

Kevin G. Burfeind, MD, PhD[1], **Yalda Zarnegarnia, PhD**[1], **Praveen Tekkali, MS**[1], **Avital Y. O'Glasser, MD**[1,3], **Joseph F. Quinn, MD**[2], **Katie J. Schenning, MD, MPH, MCR**[1,*]

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Pain & Cognitive Impairment

- Patients with cognitive impairment are often not able to reliably report or rate their pain
- Both OVER and UNDER treated pain can contribute to delirium
- Start low and go slow with opiates and older adults
- Non-verbal or PAIN-AD scales are critical in assessing and evaluating pain in patients with cognitive impairment.

Pain Assessment in Advanced Dementia (PAINAD) SCALE			
Criteria	**Score 0**	**Score 1**	**Score 2**
Breathing (independent of vocalization)	Normal	Occasional labored breathing, short period of hyperventilation	Noisy labored breathing. Long period of hyperventilation. Cheyne-stokes respirations
Negative Vocalization	None	Occasional moan or groan. Low level of speech with a negative or disapproving quality	Repeated troubled calling out. Loud moaning or groaning. Crying
Facial Expression	Smiling or inexpressive	Sad, frightened, frown	Facial grimacing
Body Language	Relaxed	Tense, distressed pacing. Fidgeting	Rigid. Fists clenched. Knees pulled up. Pulling or pushing away. Striking out
Consolability	No need to console	Distracted or reassured by voice or touch	Unable to console, distract or reassure

If restlessness or behaviors in delirium or dementia are escalating always consider uncontrolled pain as a driver

We know >50% of community dwelling older adults live with pain

- Expect this is higher in hospitalized older adults, both from acute illness / injury and immobility & quality of beds

We also know patients with cognitive impairment receive ~50% less opioid pain medication than those without cognitive impairment

Untreated pain is a potent trigger for behaviors

Patel, et al. Pain 2013; Adunsky, et al. Arch Gerontol Geriatr 2002

https://www.facebook.com/mymedmag?__tn__=-UC*F

In older trauma patients, a sudden change in behavior is often due to **uncontrolled pain or other unmet need**

Restless
Pulling on lines
Trying to get out of bed
Agitated
Uncooperative

Toileting
- urgency
- constipation
- incontinence

Discomfort
- pain
- too hot
- too cold
- hungry
- thirsty

Safety
- anxious or scared
- visual misperceptions

Pay attention to age & frailty when deciding what medication to use for common hospital conditions

1 high risk medication administration in a frail older adult can be enough to cause delirium and greatly increase LOS

HIGH-RISK MEDICATIONS THAT GREATLY INCREASE DELIRIUM RISK

BENZODIAZEPINES

Increased risk of cognitive impairment, delirium, falls, fractures, and motor vehicle crashes in older adults.

ANTICHOLINERGICS

Side effects include dizziness, sedation, confusion, delirium, constipation and blurred vision.
Many classes of medications have anticholinergic properties, including:

Antihistamines/ Allergy/Cold & Cough Medicines ([hydroxyzine], [diphenhydramine], OTC medications with "PM")	**Muscle Relaxants** (cyclobenzaprine, methocarbamol,)
Motion Sickness Dizziness/Nausea (promethazine, scopolamine, meclizine, prochlorperazine)	**Bladder antispasmodics** (oxybutynin, trospium)

AVOID OR OBSERVE FOR ADVERSE CNS EFFECTS

Baclofen, Gabapentin, Levetiracetam, Pregabalin, Tramadol

"Z"-DRUGS

Zolpidem (Ambien), Zaleplon, Eszopiclone
May cause ataxia, impaired psychomotor function, syncope, and falls

OLDER ADULTS HAVE AN INCREASED RISK OF ADVERSE DRUG EVENTS

Over time medications can become harmful for older adults due to pharmacokinetic changes

- Decreased **metabolism**
- Decreased **absorption**
- Decreased **elimination**

Distribution
Increased half-life due to increased body fat
Increased plasma concentration of protein-bound medications due to hypoalbuminemia

What to use instead

First, consider if symptom is a result of another medication --> extremely common in older adults with polypharmacy!

Complaint	First Line	Safest Medications
ITCHING	Wash skin, apply topical Eucerin cream TID	fexofenadine, loratadine, cetirizine may help, **avoid hydroxyzine & diphenhydramine**
INSOMNIA	Limit napping during day, increase activity OOB	Melatonin, all others carry risks and are patient dependent
ANXIETY	Therapeutic listening, family or volunteer visits, distraction, pain management	All carry risks
SPASMS	Heat & Massage	All carry risks, could try very low dose tizanidine

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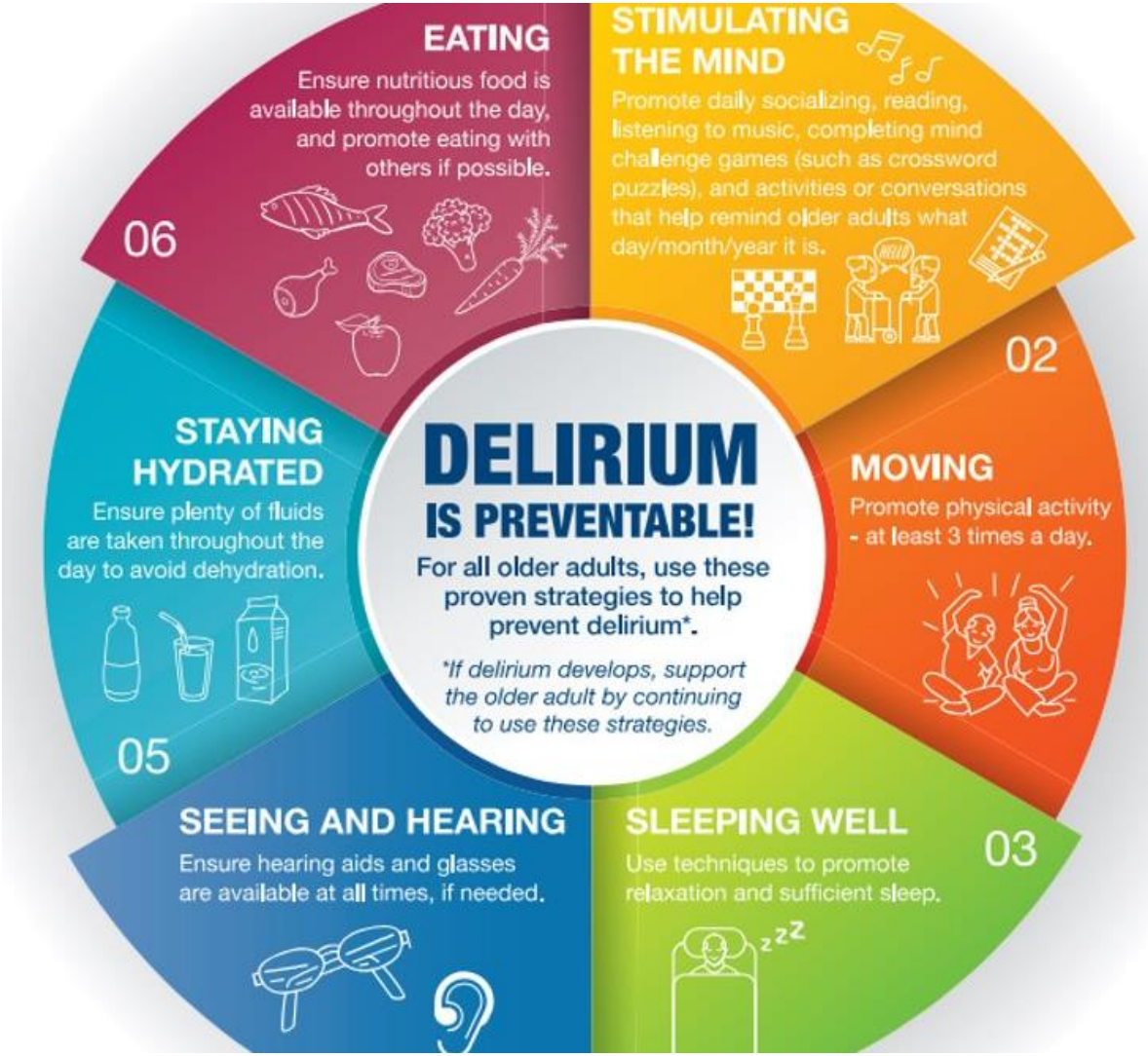
Domain 3: Frailty screening and intervention

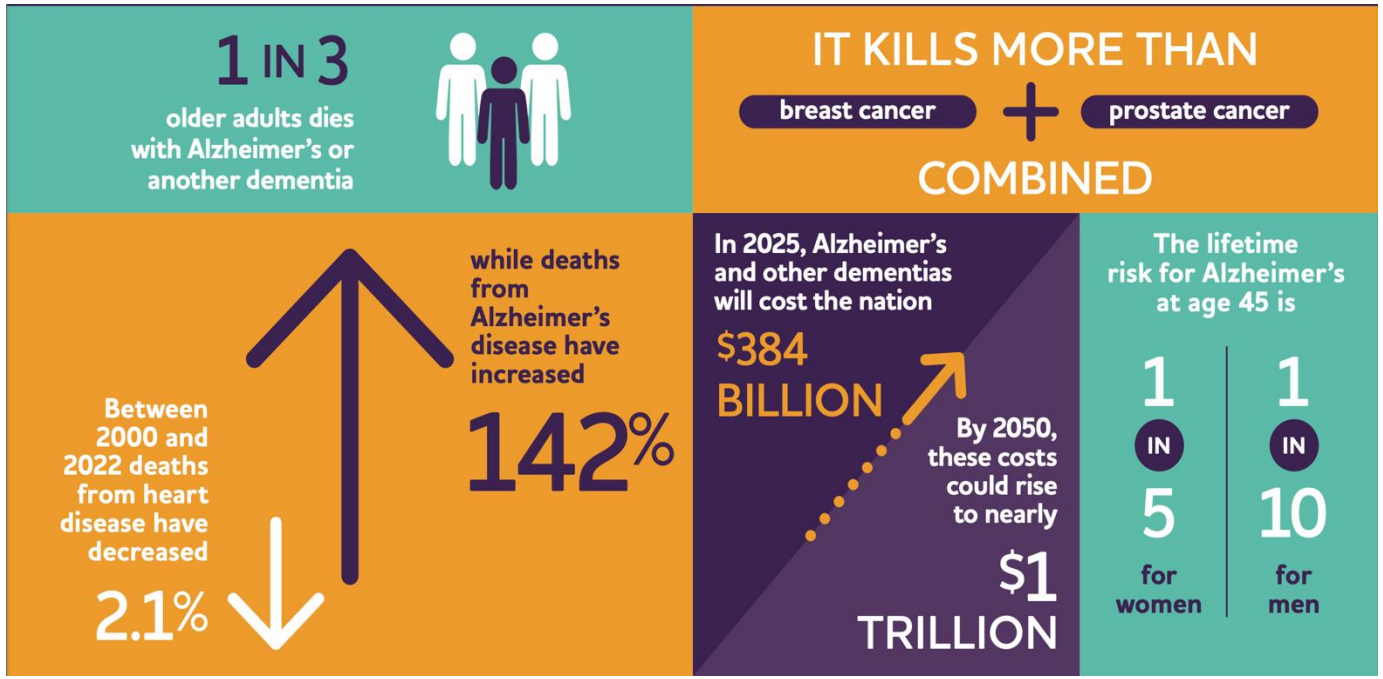
- All inpatients 65+ are screened for risks regarding **mentation, mobility and malnutrition**
  - positive screens result in management plans
    -minimizing delirium
    -encouraging early mobility
    -implementing nutrition plans

"These plans should be included in discharge instructions and and communicated to post-discharge facilities.

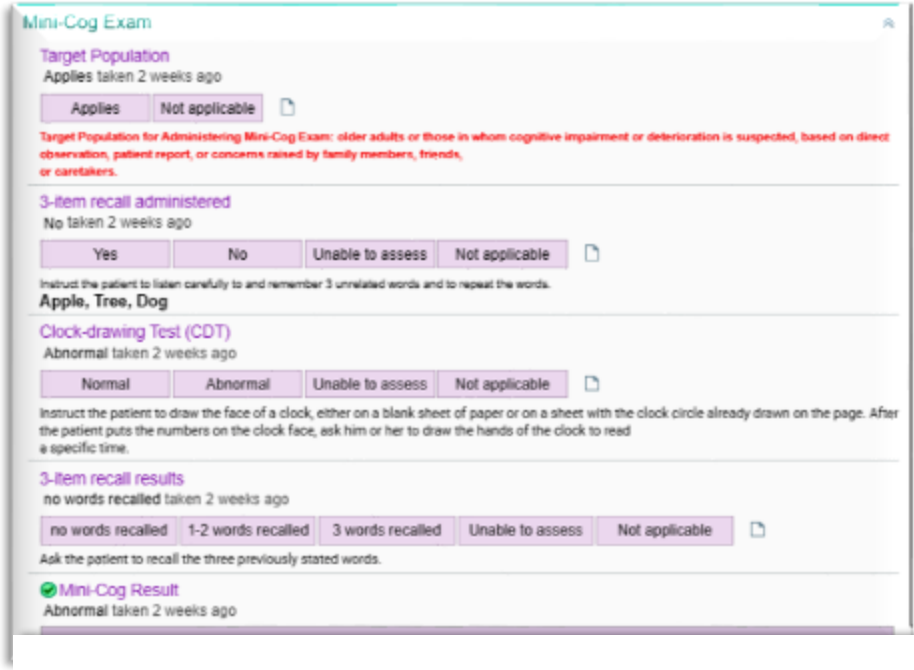
- Protocols exist to reduce the risk of emergency department delirium by reducing length of emergency department stay with goal of moving a targeted % of older patients out within 3 hours of the decision to admit.

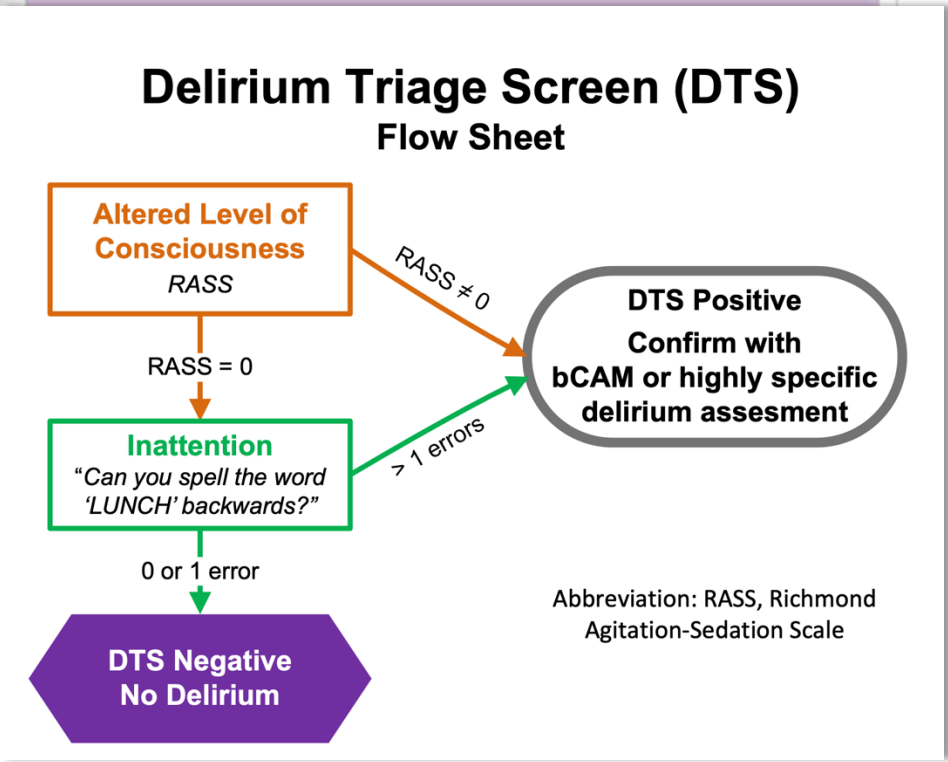


Mentation



https://www.alz.org/alzheimers-dementia/facts-figures





Malnutrition

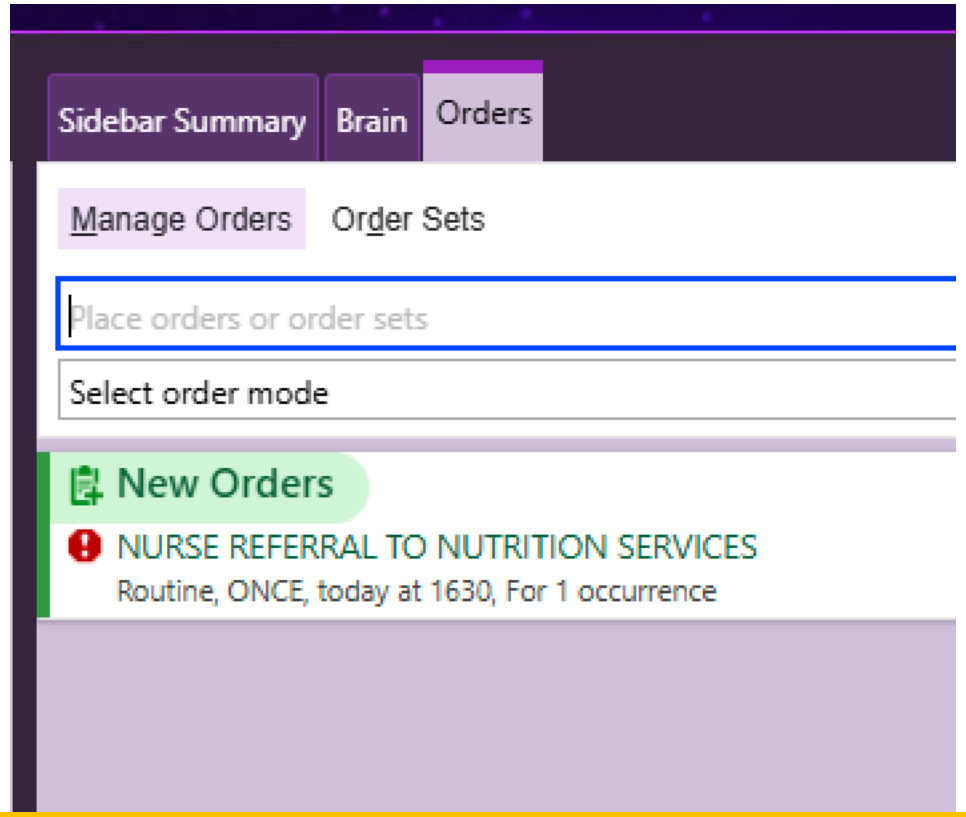


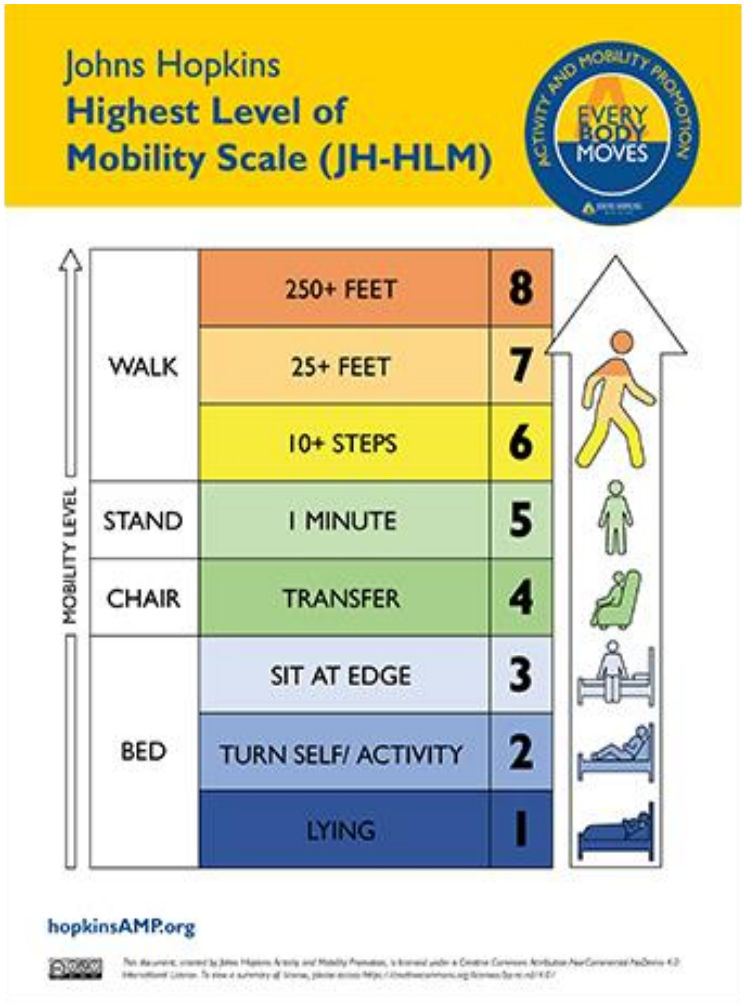
TABLE 2 Malnutrition Screening Tool

Questions	Points
Have you recently lost weight without trying?	
No	0
Unsure	2
If yes, how much weight have you lost?	
2–13 lb	1
14–23 lb	2
24–33 lb	3
Have you been eating poorly because of decreased appetite?	
No	0
Yes	1

Note: Add score for weight loss and appetite for final Malnutrition Screen Tool (MST) score. MST score of 0–1: not at malnutrition risk; if length of stay exceeds 7 days, rescreen and repeat as needed. MST score of 2 or more: at malnutrition risk; rapidly implement nutrition interventions. Perform nutrition consult within 24–72 h, depending on risk.

Nutr Clin Pract. 2022; 37: 12-22. https://doi.org/10.1002/ncp.10801

Mobility



Align Age-Friendly care with other priorities:
Reduce LOS
Reduce HACs (Falls, CAUTI, HAPI)

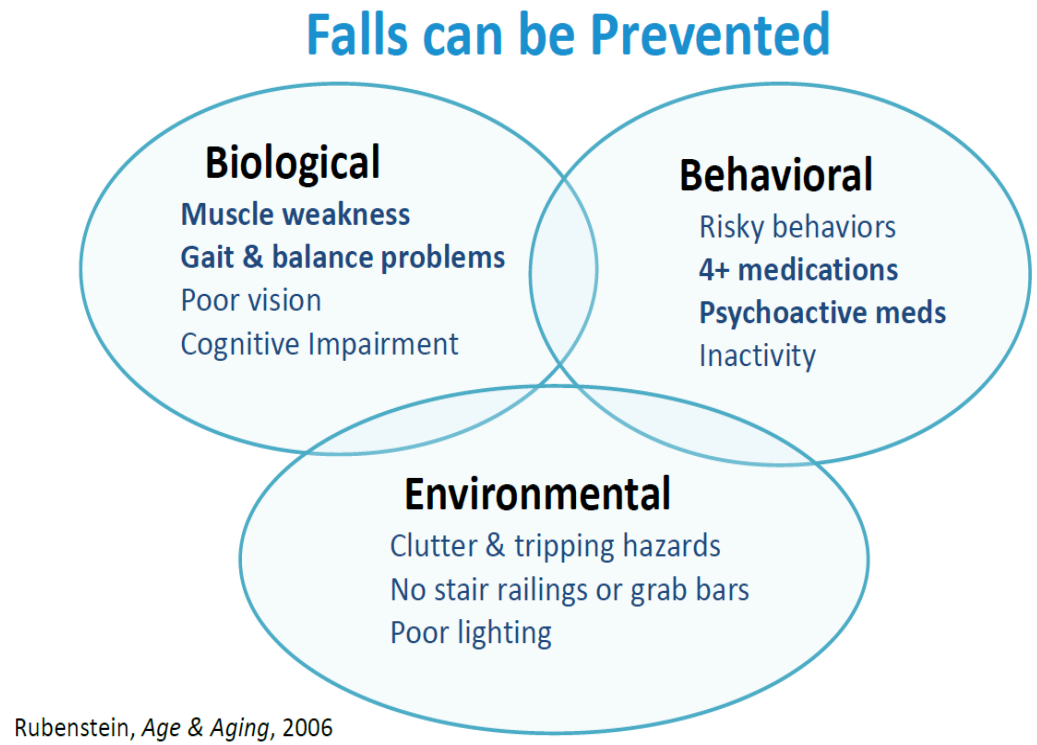
https://doi.org/10.1111/ajag.12636

Fall vs Syncope

Details of the event are important because the differential for falls & syncope are different

- Setting: time of day, surroundings, location, pets, shoes?, assistive devices?
- Prodromal symptoms
- Actions leading to the fall: turning, standing, sitting, reaching

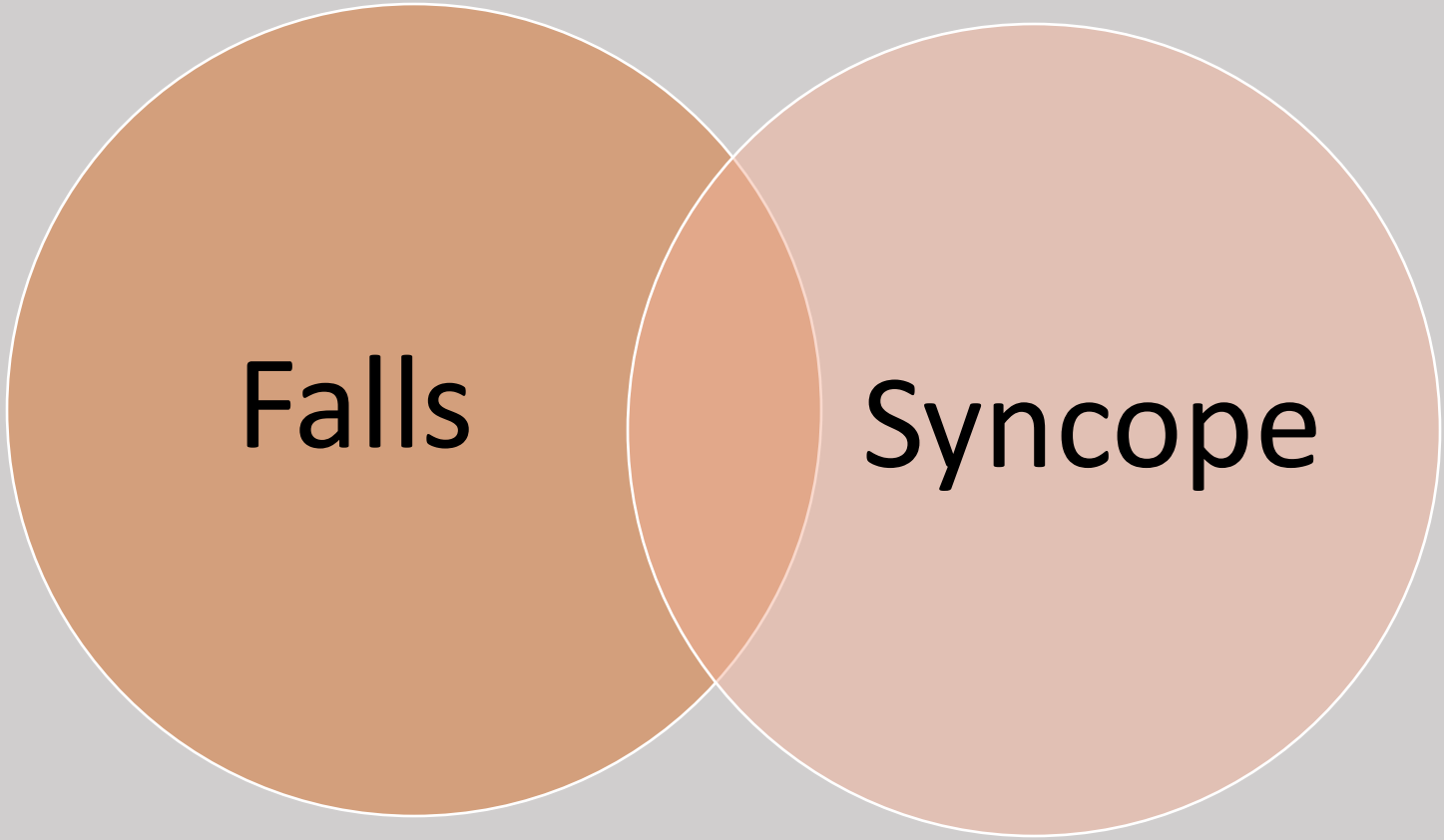
Use this history to decide if the event was syncope or a fall for other reasons



Rubenstein, *Age & Aging*, 2006

CDC Centers for Disease Control and Prevention National Center for Injury Prevention and Control

STEADI Stopping Elderly Accidents, Deaths & Injuries



Gait & balance assessment
Orthostatic vitals
Vision assessment, bifocals to single focus lenses
Medication review & reduction
Footwear change
Correct vitamin deficiencies
New assistive device[1]

12 lead EKG +/- trial of telemetry
Orthostatic Vitals
TTE
Medication review & reduction[2]

1. CDC STEADI Falls Prevention Guideline, 2014
2. Runser LA, et al. Am Fam Physician, 2017

Orthostatic Hypotension

① Have the patient lie down for 5 minutes.
② Measure blood pressure and pulse rate.
③ Have the patient stand.
④ Repeat blood pressure and pulse rate measurements after standing 1 and 3 minutes.

A drop in BP of ≥20 mm Hg, or in diastolic BP of ≥10 mm Hg, or experiencing lightheadedness or dizziness is considered abnormal.

POSITION	TIME	BP	ASSOCIATED SYMPTOMS
Lying Down 	5 Mins.	BP____/____ HR_____	
Standing 	1 Min.	BP____/____ HR_____	
Standing 	3 Mins.	BP____/____ HR_____	

Lying and Standing BP Measurements Only—**No More Sitting**

If orthostatic vital signs positive :

- Keep HOB >30 degrees, avoid lying flat for long periods
- Compression stockings
- **Pumping legs/feet prior to standing**
- **Avoid walking away from chair/bed until standing for 1 min**
- **Push PO fluids (Gatorade, V8 juice), avoid excess caffeine**

Final Takeaways

- Adjust care priorities when Trauma patient is Frail or ≥65 to include focus on 4Ms
- Identify Frailty. Screen for Mentation, Malnutrition and Mobility impairments at admission to help guide risk mitigation
- Identify and lean on interdisciplinary Geriatric Champions who can help those little things add up to improved outcomes

Combating Agism

- https://ogg.osu.edu/media/documents/sage/Facts-on-Aging-Quiz-2015.pdf

Facts on Aging Quiz

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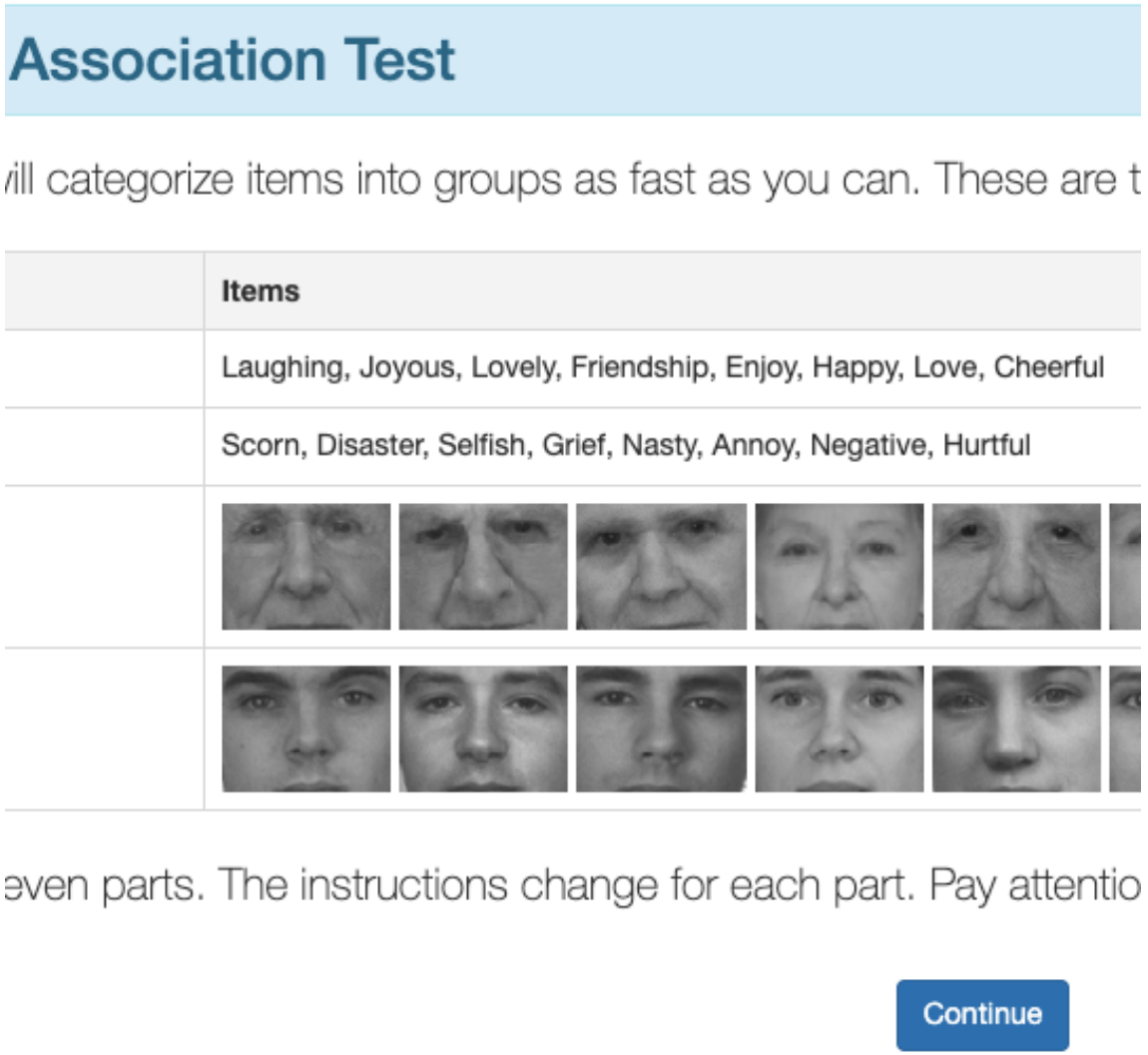
2015

number of versions of quizzes on aging, patterned afte
Aging Quiz" that appeared in two issues of *The Geront*
eveloped at UMKC was authored by Linda Breytspraak
Liz Kendall, M.A. The current revision of that initial ve
PhD, and Lynn Badura, B.A., Graduate Certificate in G

Tools to Assess Bias

- Harvard Implicit Association Test

https://oohtoday.com/aegis-living-campaign-challenges-notions-of-getting-old/



Thank you!

Questions?

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Age-Friendly Health Systems

Committed to Care Excellence for Older Adults

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