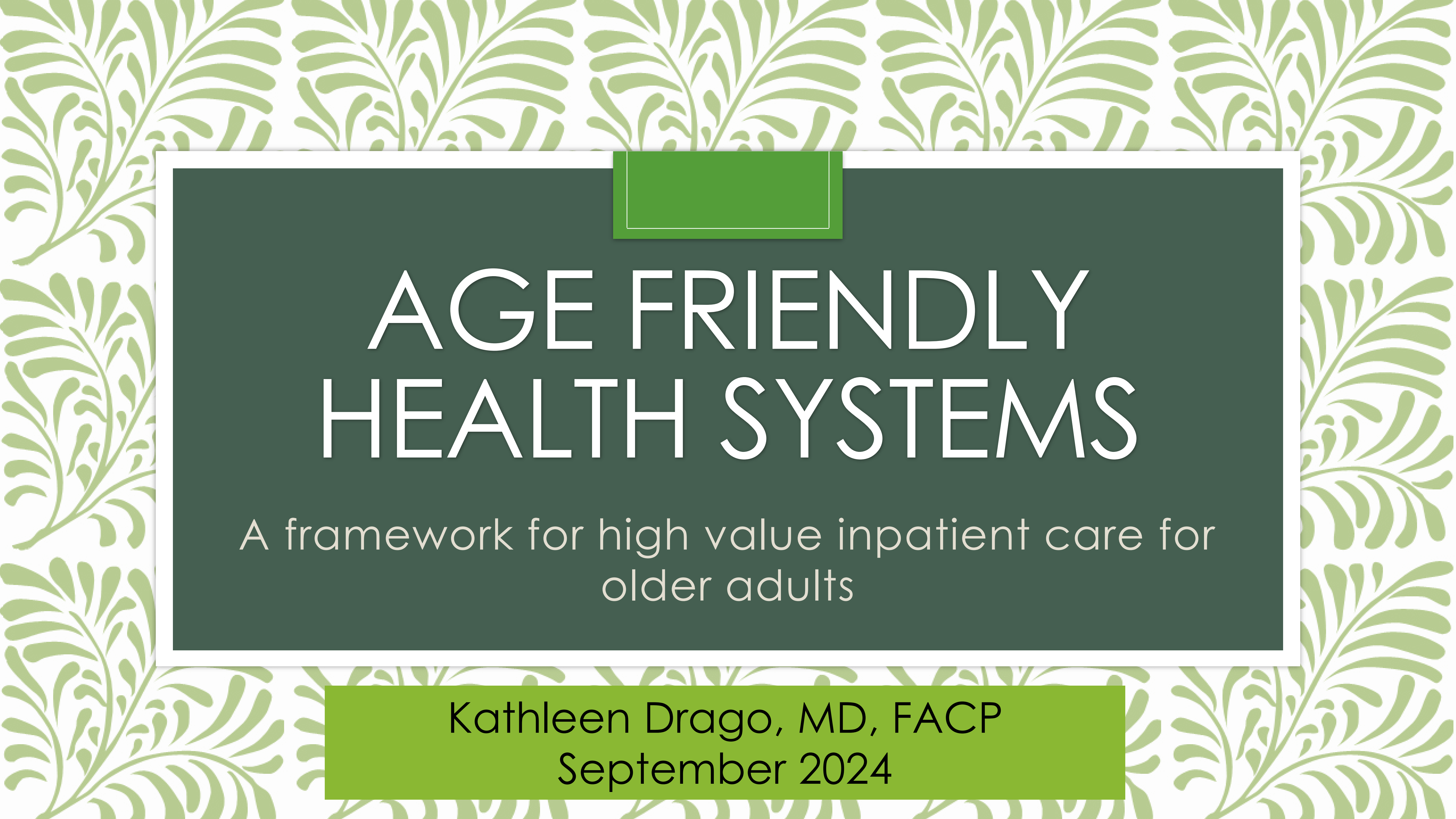


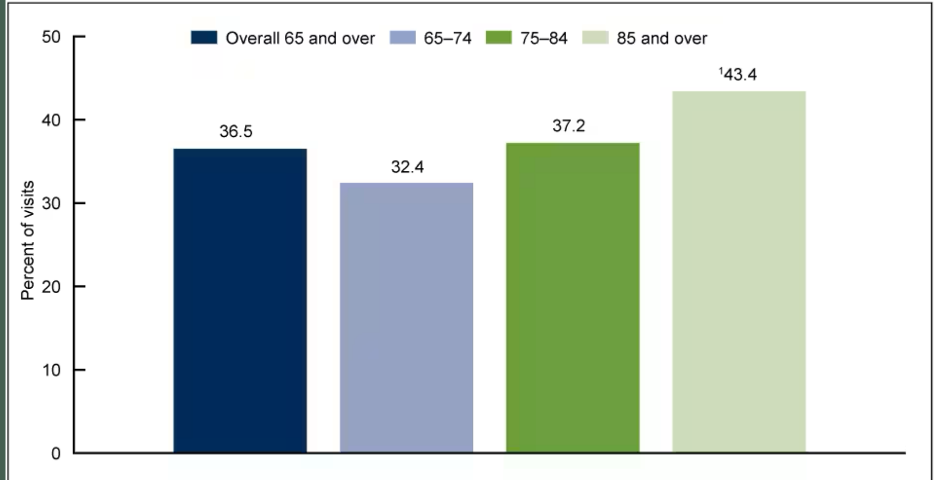
AGE FRIENDLY HEALTH SYSTEMS
A framework for high value inpatient care for older adults
Kathleen Drago, MD, FACP
September 2024

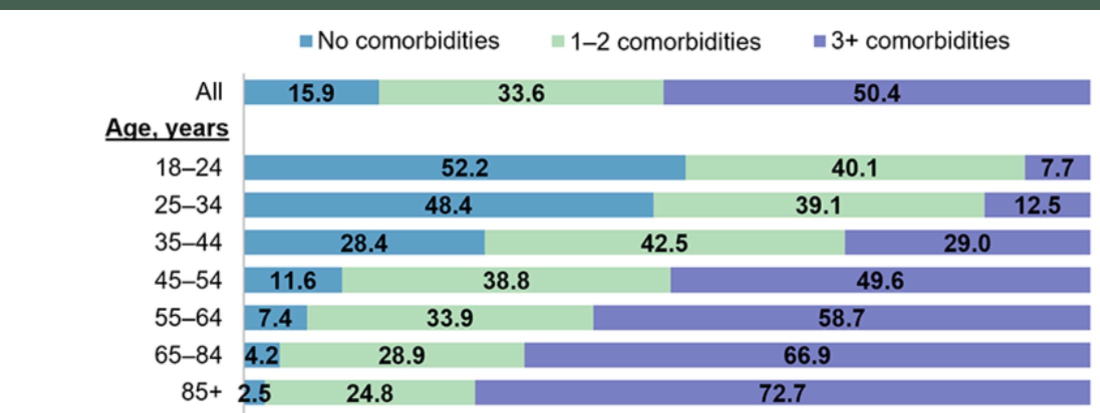
Disclosures & Conflicts

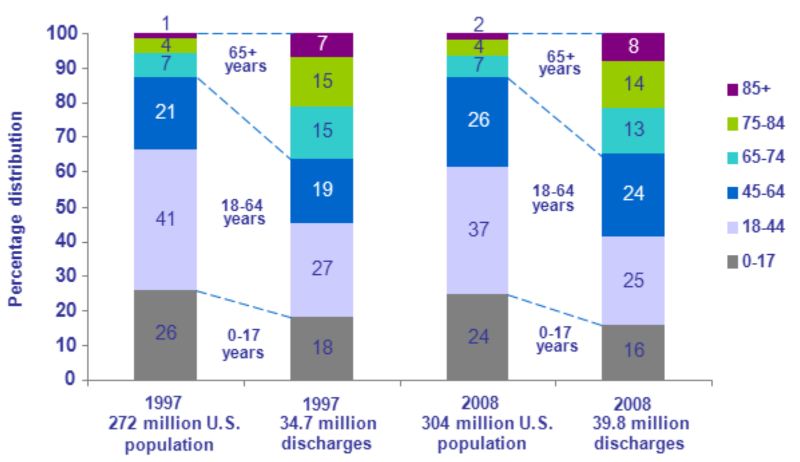
- Only regular financial support is my OHSU salary
- No relationships with industry or grant support
- IHI Faculty for Age Friendly Health Systems program
  - Received 2 honoraria in 2023 for service as an expert faculty advisor

Session Goals

- Explore the hazards that older adults face from hospitalization and how standard care contributes to them
- Unpack the Age Friendly Health Systems initiative and how it addresses risks of hospitalization
- Consider system level impacts and the evolving regulatory landscape

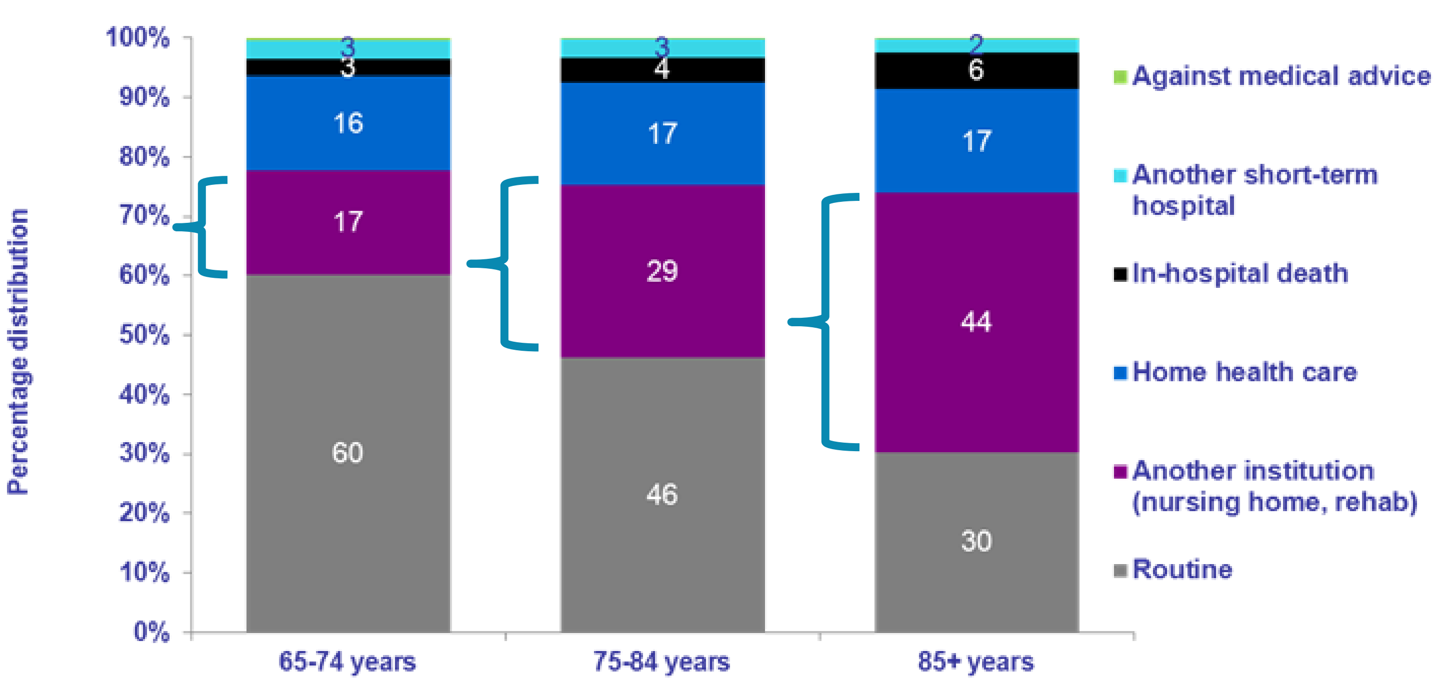




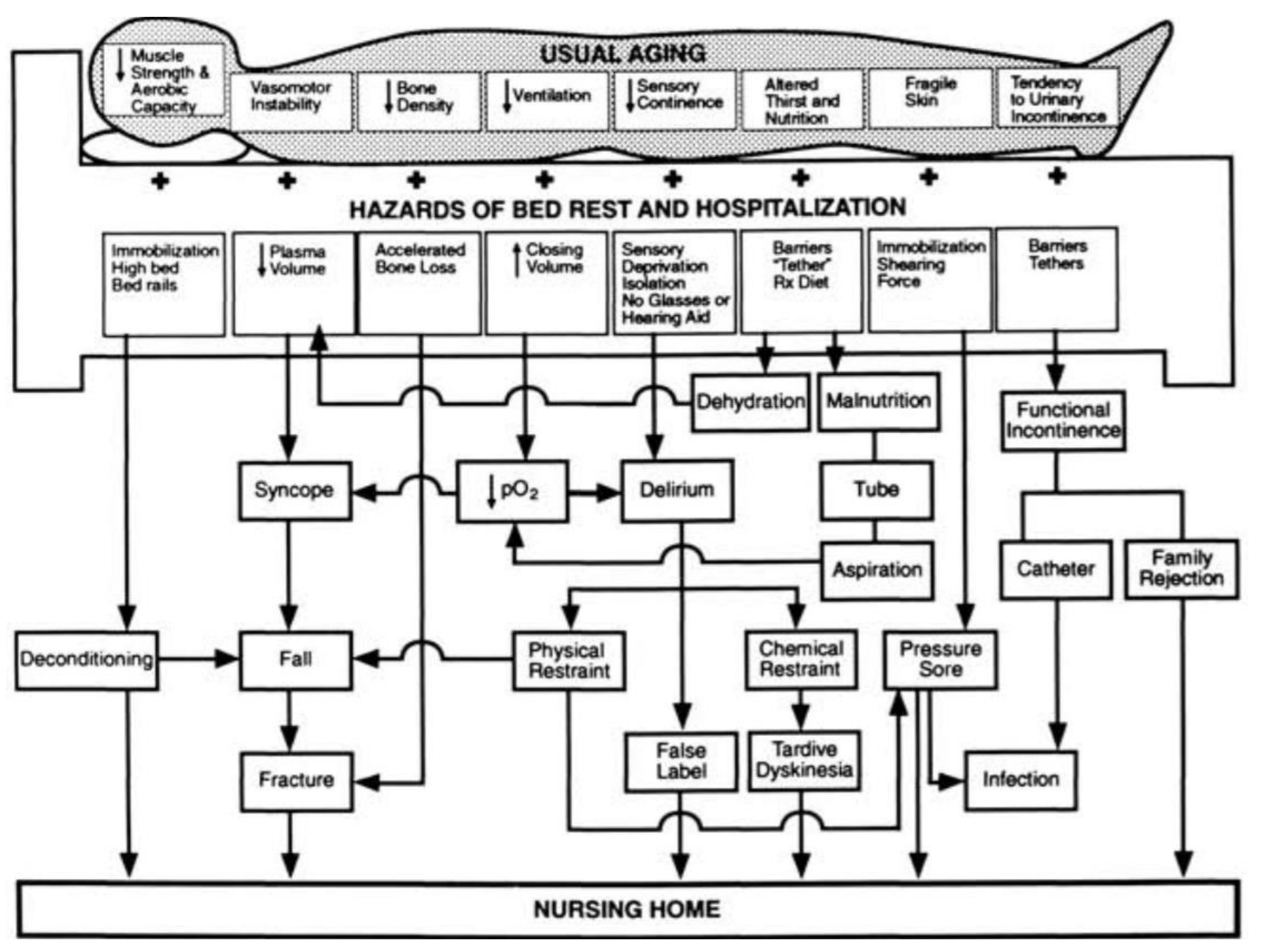


13.2 million hospitalizations among 65+
~40% of the inpatient population

Figure 2. Percentage distribution of discharge status by age, 2008



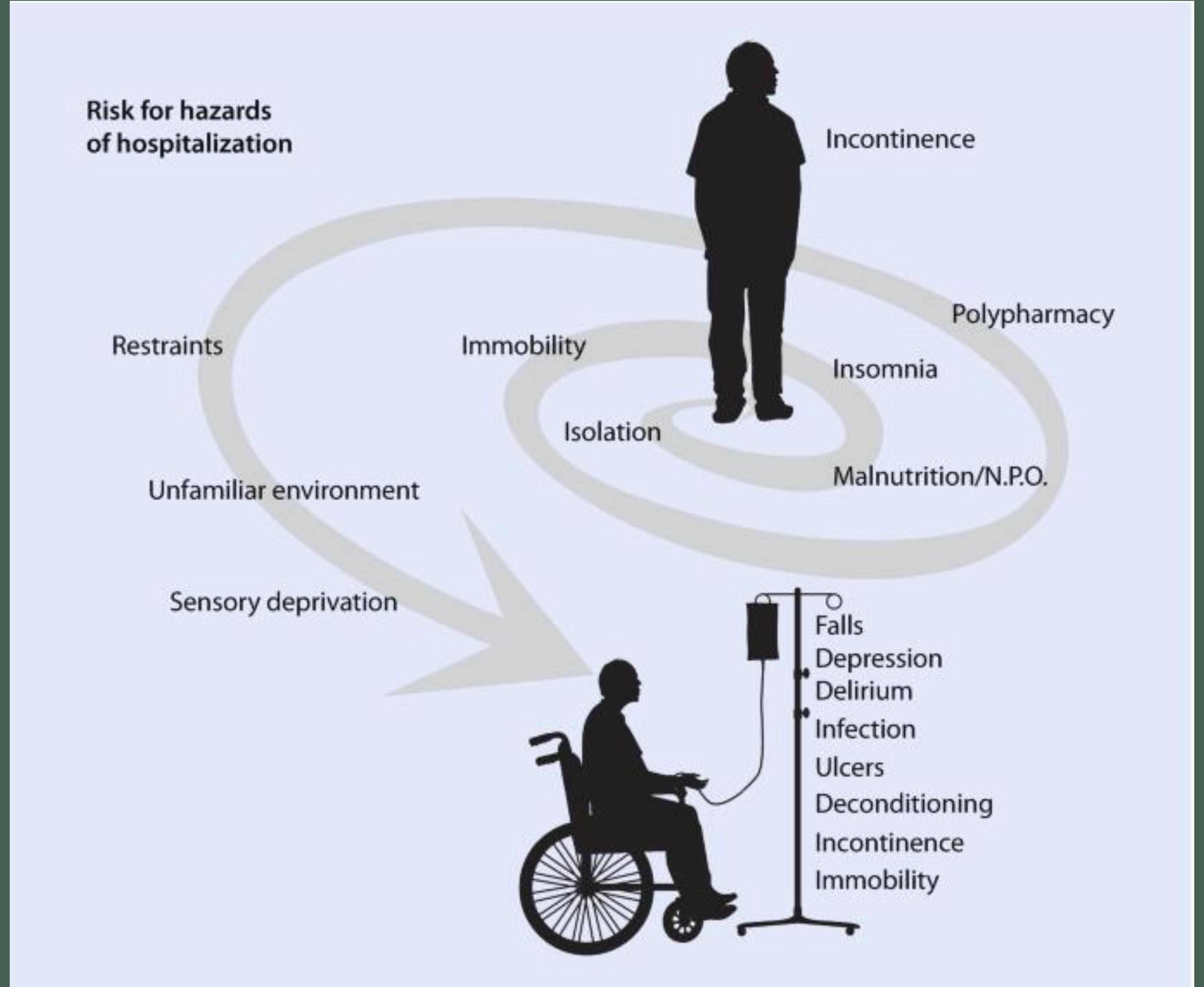
Note: Distributions 1 percent and less are not labeled.
Source: AHRQ, Center for Delivery, Organization, and Markets, Healthcare Cost and Utilization Project, Nationwide Inpatient Sample, 2008



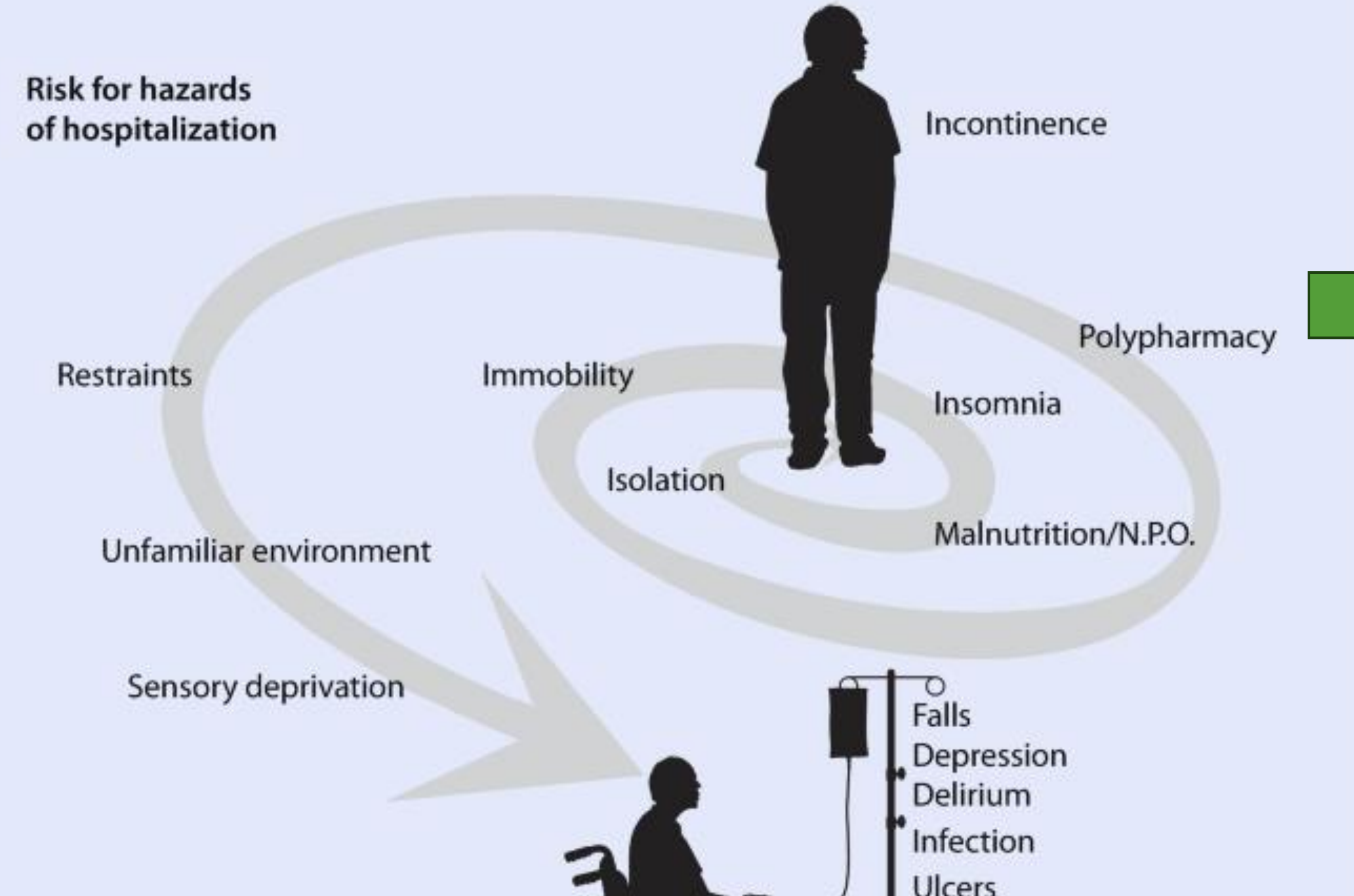
Hazards of Hospitalization

Iatrogenesis that occurs predominantly from the experience of hospitalization, not illness

Category of geriatric syndrome



Davenport, C., Stetzer, R.J. (2020). Prevention of Hazards of Hospitalization. In: Chun, A. (eds) Geriatric Practice. Springer, Cham



These drivers are all supported by basic, standard hospital care and the built environment

WHAT STANDARDS OF CARE & ENVIRONMENTAL FACTORS DRIVE THESE RISKS?

How can we redesign hospital standard work to protect from the hazards of hospitalization?

AGE FRIENDLY HEALTH SYSTEMS

Best practices for older adults are known but are rarely implemented and sustained

- **Individualizing standard patient care, considering risks early**
- **Pre-op older adult specific screening and pre-hab**
- **Delirium screening & prevention measures**
- **Proactive mobilization, preservation of function**
- **Goal-concordant care beyond end-of-life care**

Age-Friendly Health Systems

- Evidence-based set of best practices for geriatric care across ambulatory, inpatient and long-term care settings
  - Areas of geriatric medicine and interventions with solid evidence bases and documented positive impacts on health

- Core framework is the **4Ms** → What Matters, Medication, Mentation, Mobility

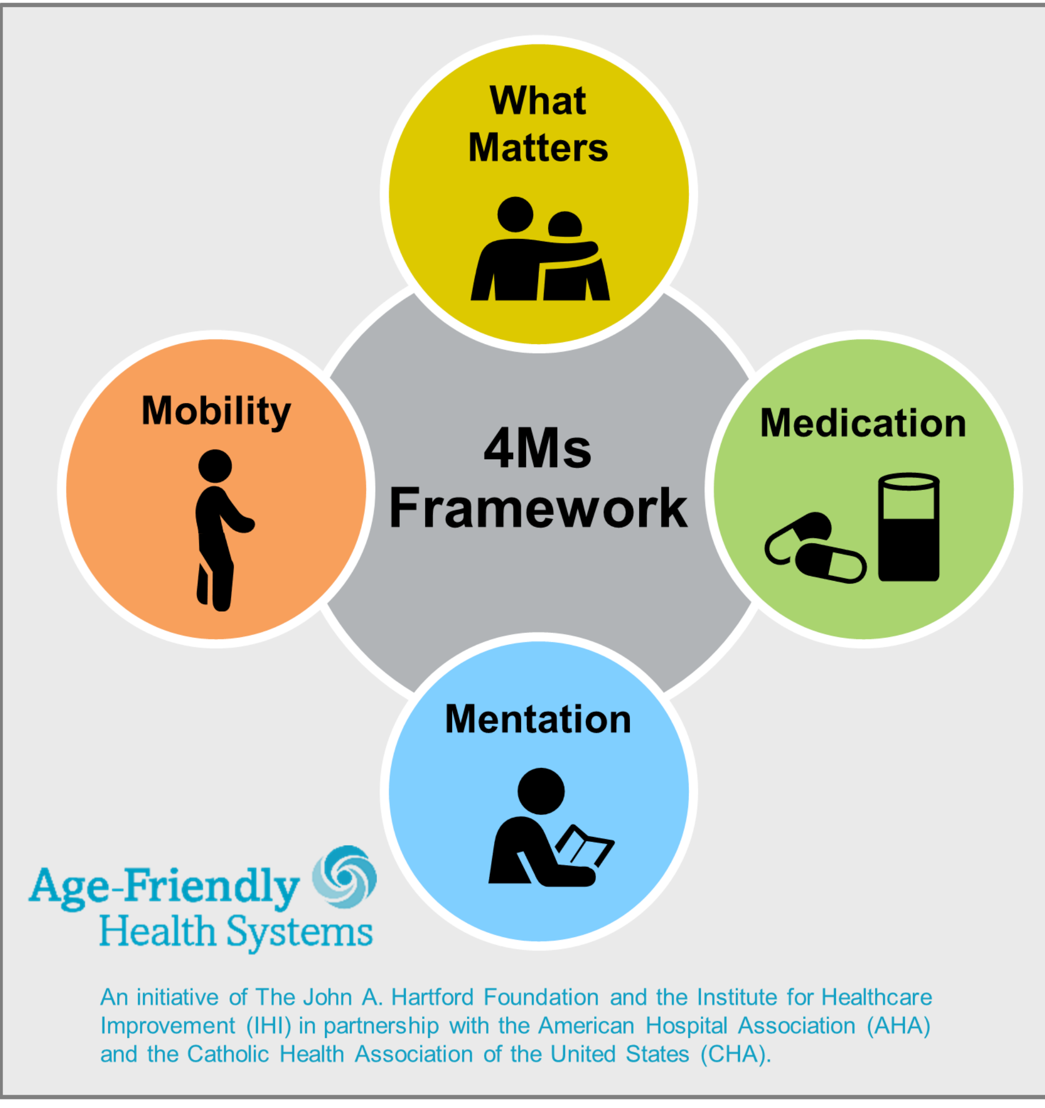
Age Friendly Certifications

Participant

- Care description – describe via survey what processes are in place to address 4Ms needs among older patients
- All the information for applying & the survey form: Age Friendly Recognition

Committed to Care Excellence

- Developed data collection for the 4Ms care described earlier, submit 3 months of process measures to IHI



For related work, this graphic may be used in its entirety without requesting permission.
Graphic files and guidance at ihi.org/AgeFriendly

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, and across settings of care.

Medication

If medication is necessary, use Age-Friendly medication that does not interfere with What Matters to the older adult, Mobility, or Mentation across settings of care.

Mentation

Prevent, identify, treat, and manage dementia, depression, and delirium across settings of care.

Mobility

Ensure that older adults move safely every day in order to maintain function and do What Matters.

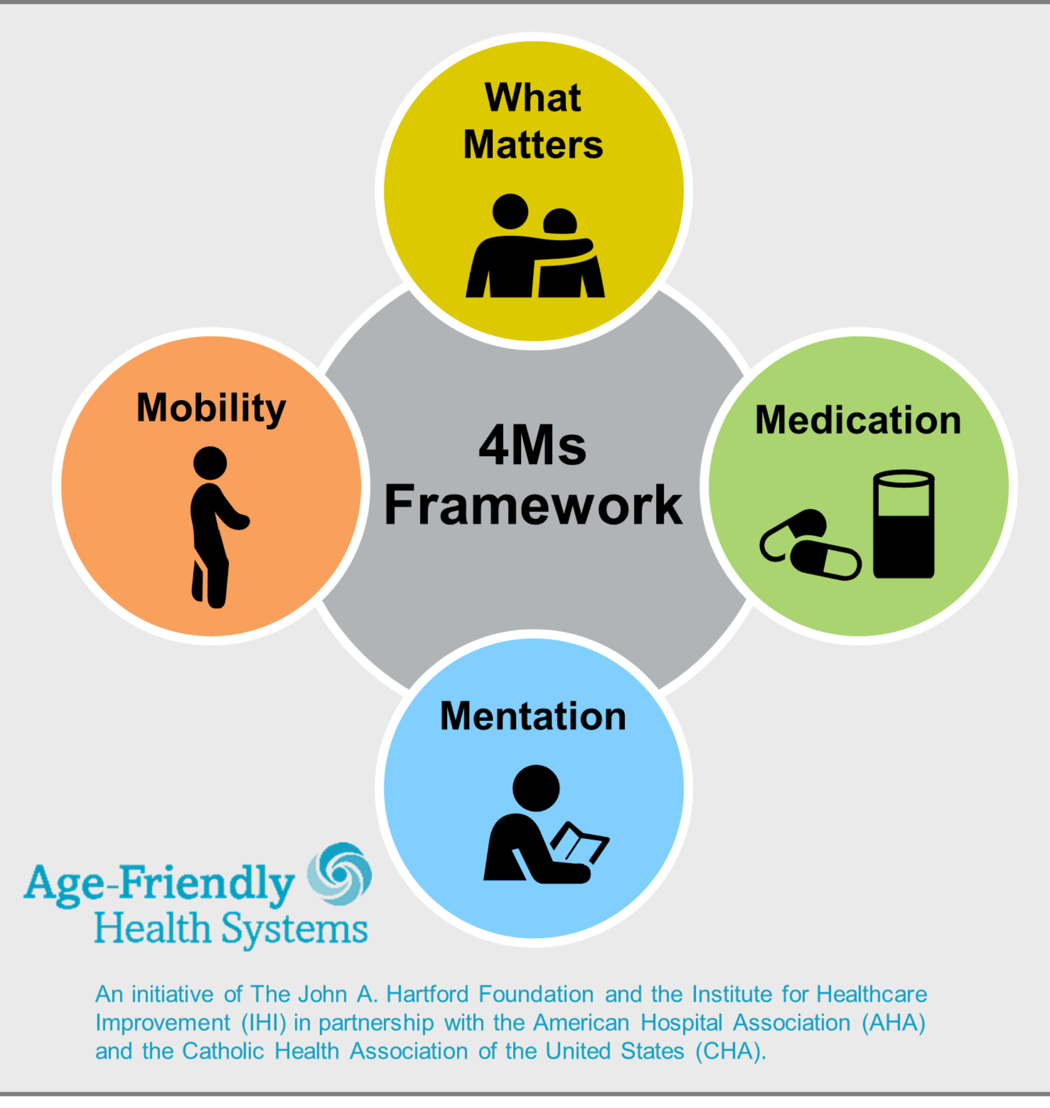
The 4Ms

Nothing here is new … all Ms are represented in various CMS measures, VBP programs, hospital accreditation, specialty certifications (GEDA, stroke centers, etc)

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.
Domain 2: Responsible Medication Management. This domain aims to optimize medication managemer through monitoring of the pharmacological record for drugs that may be considered inappropriate in old adults due to increased risk of harm.
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.
Domain 4: Social Vulnerability. Thi 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.
Domain 5: Age-Friendly Care Leadership. This domain seeks to ensure consistent quality of care for olde adults through the identification of an age friendly champion and/or interprofessional committee tasked with ensuring compliance with all components of this measure

Mandatory CMS Measure

- Structural measure going live in January 2026
- Publicly reported on Care Compare



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The 4Ms

Multiple ways to design standard work supporting each M

- Focus on important steps of assessment & response

Adaptable to realities of different hospitals

	What Matters	Medication	Mentation	Mobility
Aim	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, and across settings of care	If medication is necessary, use age-friendly medication that does not interfere with What Matters to the older adult, Mobility, or Mentation across settings of care	Prevent, identify, treat, and manage delirium across settings of care	Ensure that each older adult moves safely every day to maintain function and do What Matters
Engage / Screen / Assess Please check the boxes to indicate items used in your care or fill in the blanks if you check "Other."	List the question(s) you ask to know and align care with each older adult's specific outcome goals and care preferences: *One or more What Matters question(s) must be listed. Question(s) cannot focus only on end-of-life forms.*	Check the medications you screen for regularly: ☐ Benzodiazepines ☐ Opioids ☐ Highly-anticholinergic medications (e.g., diphenhydramine) ☐ All prescription and over-the-counter sedatives and sleep medications ☐ Muscle relaxants ☐ Tricyclic antidepressants ☐ Antipsychotics ☐ Other: _______________ *Minimum requirement: At least one of the first seven boxes must be checked.*	Check the tool used to screen for delirium: ☐ UB-2 ☐ CAM ☐ 3D-CAM ☐ CAM-ICU ☐ bCAM ☐ Nu-DESC ☐ Other: _______________ *Minimum requirement: At least one of the first six boxes must be checked. If only "Other" is checked, will review.*	Check the tool used to screen for mobility limitations: ☐ TUG ☐ Get Up and Go ☐ JH-HLM ☐ POMA ☐ Refer to physical therapy (PT) ☐ Other: _______________ *Minimum requirement: One box must be checked. If only "Other" is checked, will review.*

	What Matters	Medication	Mentation	Mobility
Frequency	☐ Once per stay ☐ Daily ☐ Other: _______________ *Minimum frequency is once per stay.*	☐ Once per stay ☐ Daily ☐ Other: _______________ *Minimum frequency is once per stay.*	☐ Every 12 hours ☐ Other: _______________ *Minimum frequency is every 12 hours.*	☐ Once per stay ☐ Daily ☐ Other: _______________ *Minimum frequency is once per stay.*
Documentation Please check the "EHR" (electronic health record) box or fill in the blank for "Other."	☐ EHR ☐ Other: _______________ *One box must be checked; preferred option is EHR. If "Other," will review to ensure documentation method is accessible to other care team members for use during the hospital stay.*	☐ EHR ☐ Other: _______________ *One box must be checked; preferred option is EHR. If "Other," will review to ensure documentation method is accessible to other care team members for use during the hospital stay.*	☐ EHR ☐ Other: _______________ *One box must be checked; preferred option is EHR. If "Other," will review to ensure documentation method can capture assessment to trigger appropriate action.*	☐ EHR ☐ Other: _______________ *One box must be checked; preferred option is EHR. If "Other," will review to ensure documentation method can capture assessment to trigger appropriate action.*
Act On Please describe how you use the information obtained from Engage/Screen/Assess to design and provide care. Refer to pathways or procedures that are meaningful to your staff in the "Other" field.	☐ Align the care plan with What Matters most ☐ Other: _______________ *Minimum requirement: First box must be checked.*	☐ Deprescribe (includes both dose reduction and medication discontinuation) ☐ Pharmacy consult ☐ Other: _______________ *Minimum requirement: At least one box must be checked.*	Delirium prevention and management protocol including, but not limited to: ☐ Ensure sufficient oral hydration ☐ Orient older adult to time, place, and situation on every nursing shift ☐ Ensure older adult has their personal adaptive equipment (e.g., glasses,	☐ Ambulate 3 times a day ☐ Out of bed or leave room for meals ☐ PT intervention (balance, gait, strength, gate training, exercise program) ☐ Avoid restraints ☐ Remove catheters and other tethering devices

AGE FRIENDLY AT OHSU

The 4Ms at OHSU

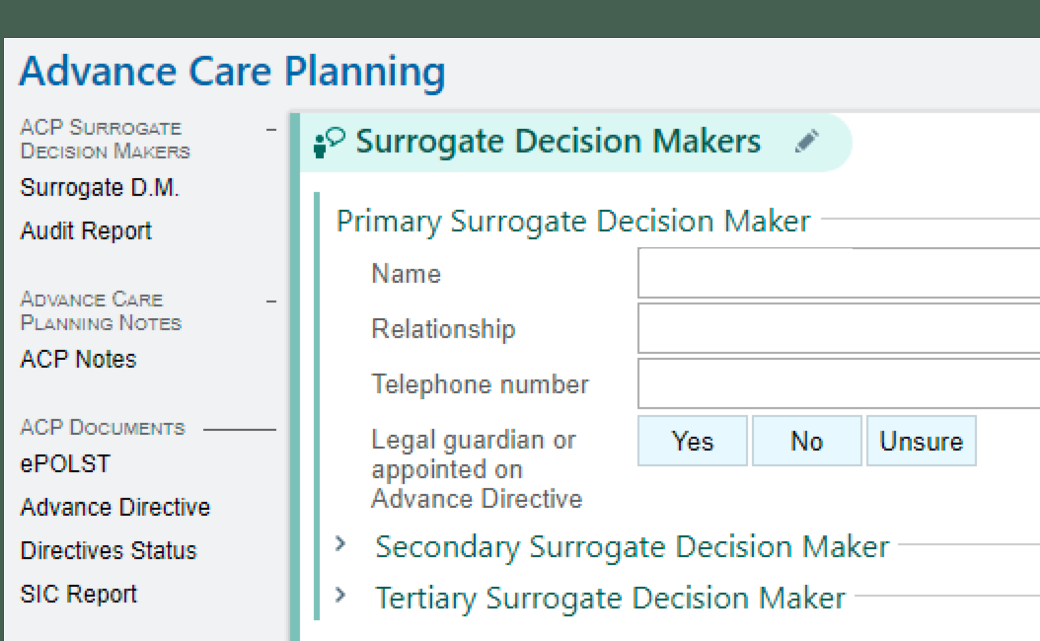
- Process measures tracked:

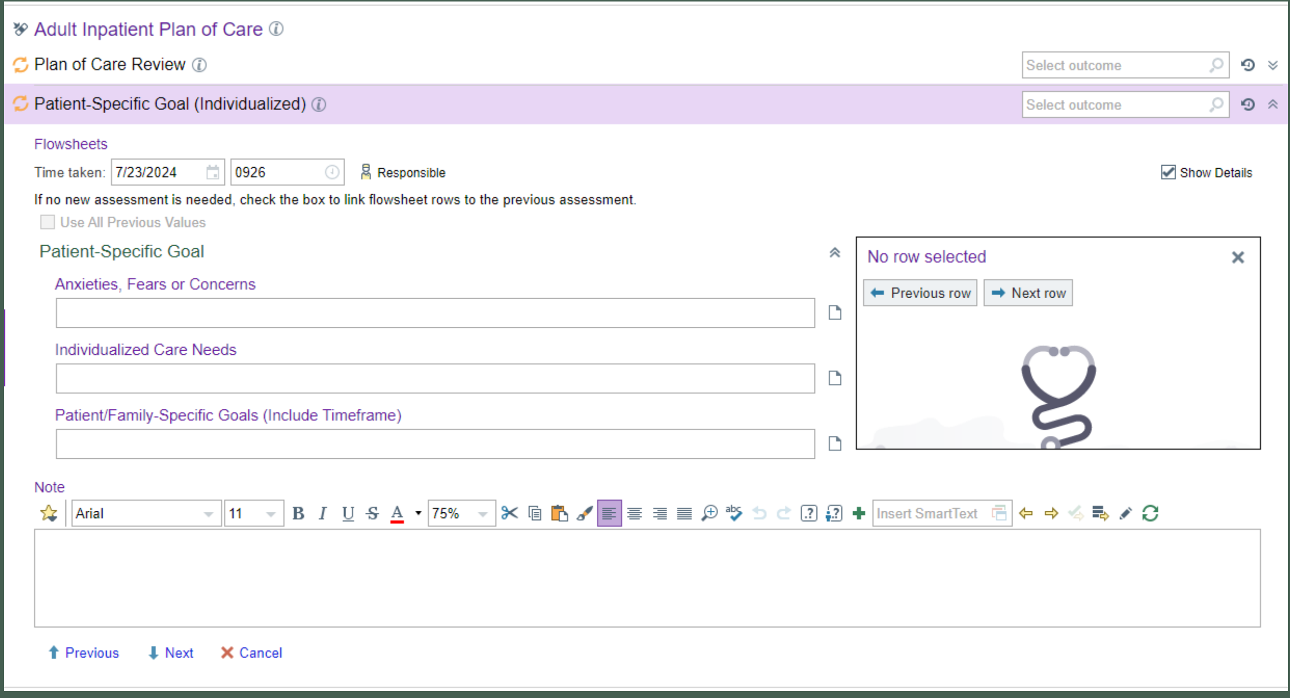
4Ms	Inpatient Process Measure
What Matters	Patient Reported Goals each shift OR Surrogate Decision Maker documented in ACP Navigator
Mentation	CAM or CAM-ICU completed at least once daily
Medication	Share of patients without any of 5 medication classes ordered during the admission (new and chronic meds)
Mobility	Mobility Check assessment completed at least once a day

- <u>Medications</u> – benzos, TCAs, muscle relaxants, anticholinergics (diphenhydramine, hydroxyzine, scopolamine), sedative-hypnotics

4Ms	Inpatient Process Measure	Inpatient Act On Measure
What Matters	Patient Reported Goals each shift OR Surrogate Decision Maker documented in ACP Navigator	Completion of at least 1 Advance Care Plan note during the inpatient stay
Mentation	CAM or CAM-ICU completed at least once per day	Documentation of reorientation AND nighttime sleep duration at least 50% of inpatient days
Medication	Share of patients without any of 5 medication classes ordered during the admission (new and chronic meds)	Discharge med lists free from the 5 classes
Mobility	Mobility Check assessment completed at least once a day	Documented out of bed activity at least 3x each day on at least 50% of inpatient days

What Matters





What Matters

Signed
Nursing Care Plan Summary

Patient Goal for the Shift: Pt will remain free of harm or injury

No data recorded

Goal Outcome Evaluation:
Note: Brad is A & O x3, disoriented to situation. He is performing ADLs independently.

Progress: Moderately Stable (07/18/24 1606)
Outcome Evaluation: (not recorded)
Plan of Care Reviewed with: patient (07/18/24 16
Recommendations forward:
Continue VMT
Continue redirecting and offer PRN meds when r
Barriers to Discharge:
Pending placement

m

Surrogate Decision Maker

Jennifer Ga…

Alberta Eirc…

ACP Notes

Advance Care Planning Notes

Create ACP Note

Consults by Christopher Benjamin, PA-C at 07/19/24 0831
ACP (Advance Care Planning) by Jamee Schoephoerster, MD at 07/16/24 1500
Consults by Christopher Benjamin, PA-C at 07/16/24 0902
ACP (Advance Care Planning) by Emma R Schaus, PA-C at 07/15/24 2106

Mentation

Confusion Assessment Method (CAM)				
Acute Onset and Fluctuatin...				Yes
Acute Onset and Fluctuating C...				Yes
Inattention (2)				Yes
Disorganized Thinking (3)				Yes
Rate Patient's Level of Consci...				Lethargic (Drowsy...
Delirium Present				Yes

Confusion Assessment Method-ICU (CAM-ICU)				
Feature 1: Acute Onset or ...				Positive
Feature 2: Inattention				Positive
Feature 3: Altered Level of Co...				Positive
Feature 4: Disorganized Thinki...				Positive
Overall CAM-ICU				Positive

Sedation/Agitation								
RASS (Richmond Agitation-Sedation S...	-4-->deep s...+	-1-->drowsy+	-1-->drowsy+	0-->alert a...+	-1-->drowsy+	0-->alert a...+	0-->alert a...	0-->alert a...+
Delirium Present								No
Overall CAM-ICU		Positive+	Positive+		Positive+	Negative+		

Mobility Check

Modified Up and Go that crosswalks over to a mobility plan for the shift

OHSU Safe Patient Mobilization: Patient Mobility Check (Algorithm 1)

Data collection about a patient's readiness to mobilize safely should be performed before transitioning to weight-bearing (e.g. bed to chair, up from the toilet/bsc). Assessment of the patient's data to determine the mobility plan should be done by the RN on admission to a unit, once a shift and after a change in condition. All patients have a goal of appropriate activity 3X a day, and this algorithm should guide RN decision-making about placing a PT consult. [Refer to: Inpatient Delegation Protocol, Early Mobilization-Adult/Pediatric] This algorithm should guide, not replace clinical judgment.

Perform Mobility Safety Screen M.O.V.E.

- No active MI x 24 hrs.

Myocardial Stability

Adults:
- No arrhythmias requiring new medication x 24 hours

Peds:
- No hemodynamic instability with arrhythmias

Oxygenation

Adults & Peds: FIO2 < or = to 0.6 and PEEP < or = to 10 cm H2O

Vasopressor Minimal:

Adults: stable Vasopressor rate x2hrs.

Peds:
- Dopamine <10 mcg/kg/min
- No Epinephrine or Norepinephrine Drips

Engages to Voice:

Adults: Patient responds to verbal stimulation

Peds: Patient responds to verbal stimulation

The patient meets all above criteria. → No → Patient is Dependent

Check Activity Restrictions and Recent High Risk Medications

Data Collection – RN and CNA

Participates in Mobility Assessment
Follows simple activity commands?

Assess Patient at Edge of Bed (EOB)/Chair/Crib
Moves to EOB/chair/crib with min assist (i.e. < 16kg[4]; assist to move legs as needed[1]); sit at EOB/chair/crib unsupported with good trunk control?

Standing Readiness
In seated position, straightens and lifts one leg a few inches from floor, hold for 5 seconds; then return leg to resting position and repeat with other leg, if functional.

Standing Balance: Static
While standing, performs mini-march (step in place) with verbal cues or stand-by assist or assistive device (if one leg is functional, stands with balance)

Standing Balance: Dynamic
While walking, steps side-to-side, and forward and backward with balance and strength to maintain body weight with or without assistive devices?

Patient is Independent
Increased activity tolerance with supervision/ assistance as needed

Data Assessment & Care Planning - RN

Patient is Dependent & > 16kg[4]
- **Use ceiling or floor lift with correct sling type and size and a minimum of two Caregivers[2]**
- Hovermatt or SLIPP for Repositioning and Lateral Transfers if no Ceiling Lift present
- Cardiac/Bariatric Shuttle chair via ceiling/floor lift
- Transfer to tumble form chair, caregivers lap or wheelchair
- Active or Passive ROM with ADL
- Motomed daily per MD order (ICU ONLY)
- Progressive Elevation of HOB
- Patients with unclear/unstable spine - use Slider Board with or without SLIPP, unless MD, NP, or PA approves use of other SPM device

Patient is Dependent & For Patients < 16kg[4]
Develop a Mobility Plan that uses clinical judgment to keep patient and staff safe
- *0-12 months: progressively advance these activities based on patient's stability*
  Passive ROM of 4 extremities and neck
  Active ROM: Use bumper/nesting for supported flexion; supine, side-lying & prone positions
  Parent hold in chair; up to seat or swing
  Up to chair, seat or swing 2-3 times a day; floor/tummy time
- *12-48 months: progressively advance these activities based on patient's stability*
  Passive ROM of 4 extremities and neck; Float heels
  Active ROM; supine, side-lying & prone positions; float heels
  Sitting edge of bed; chair/tumble form; 1-2 times ambulation daily
  Sit in chair, side of bed, stand side of bed; ambulate TID

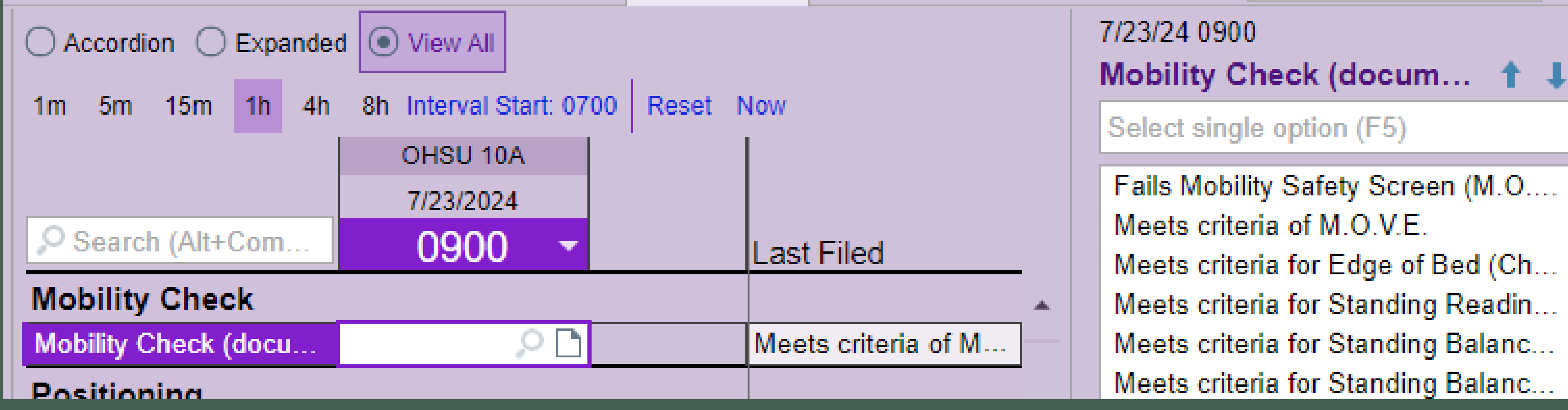
Patient is Semi-Dependent & > 16kg[4]
- Use a Sit to Stand Device or Walking Vest with Ceiling Lift
- If no SPM equipment available, manual Pivot Transfer with min. of two Caregivers[3]
  To commode for toileting, bedside chair/wheelchair for meals and grooming
  Supervised at EOB for: medications, feeding, bed bath, grooming

Patient is Supervised
- Use Appropriate Assistive Device (e.g. walker, cane, wheelchair follow) with stand-by assistance, verbal cueing or coaxing
- Follow therapy protocols if applicable
- Supervised toileting; stand while dressing or grooming
- Short distance ambulation

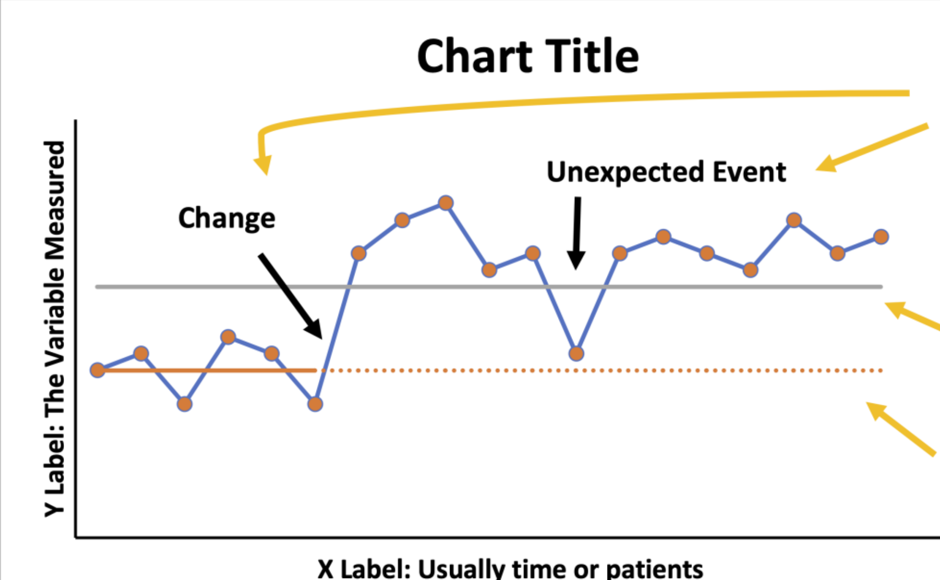
Job Requirements: Nurse or caregiver is required to lift or support no more than 16kg of a patient's weight.
You MUST receive training in proper use of equipment, and safe work practices before lifting or moving patients.

1 Use limb sling with ceiling lift or SLIPP sheet to aid moving legs to/from EOB
2 Increase amount of caregiver assistance if patient weight is >300lbs or BMI >50 or help with line management is needed and/or if patient is unpredictable or potentially combative
3 Encourage patient to use typical mobility aids or devices during assessment and while hospitalized (walker, cane, equipment)
4 16kg = 35lbs

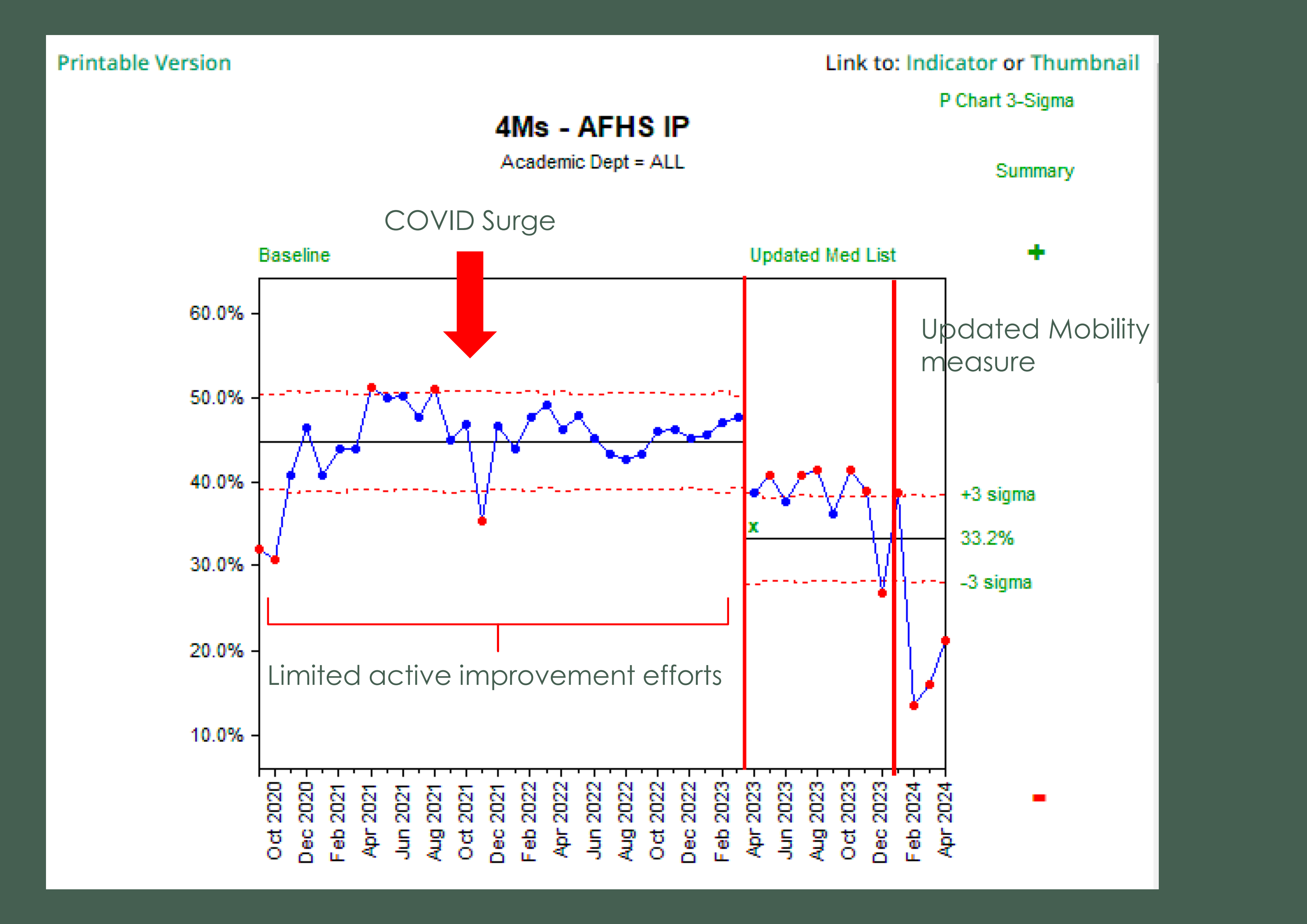
Mobility

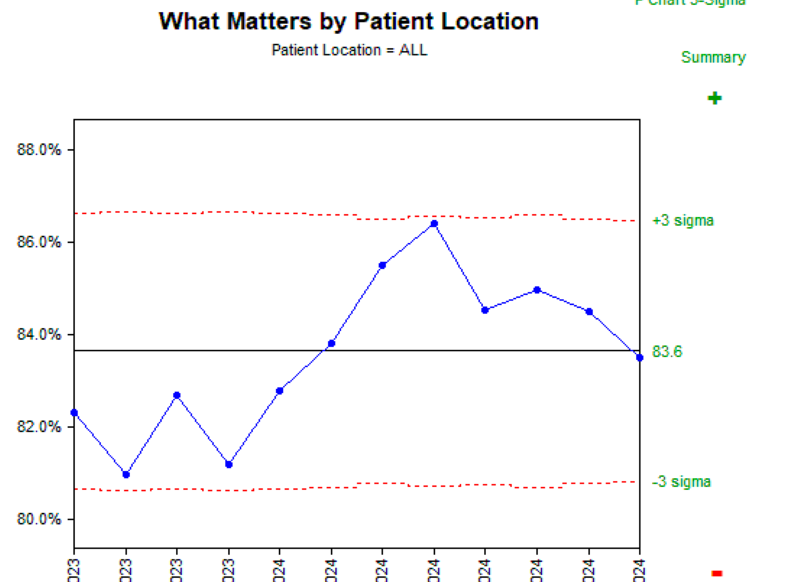


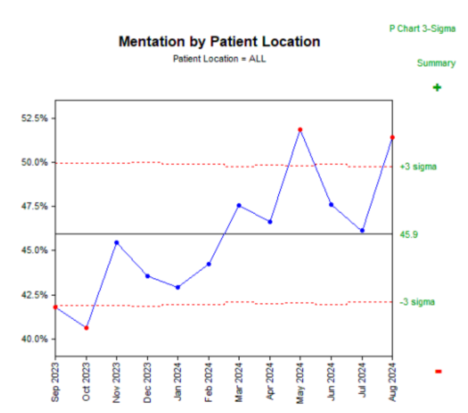
Activity
Activity Performed | up to bedsi... | activity ad... | | | up to bedsi...

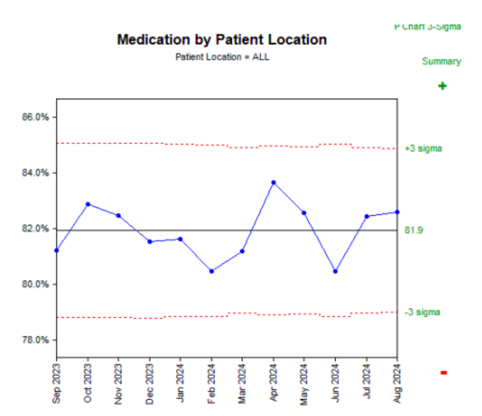


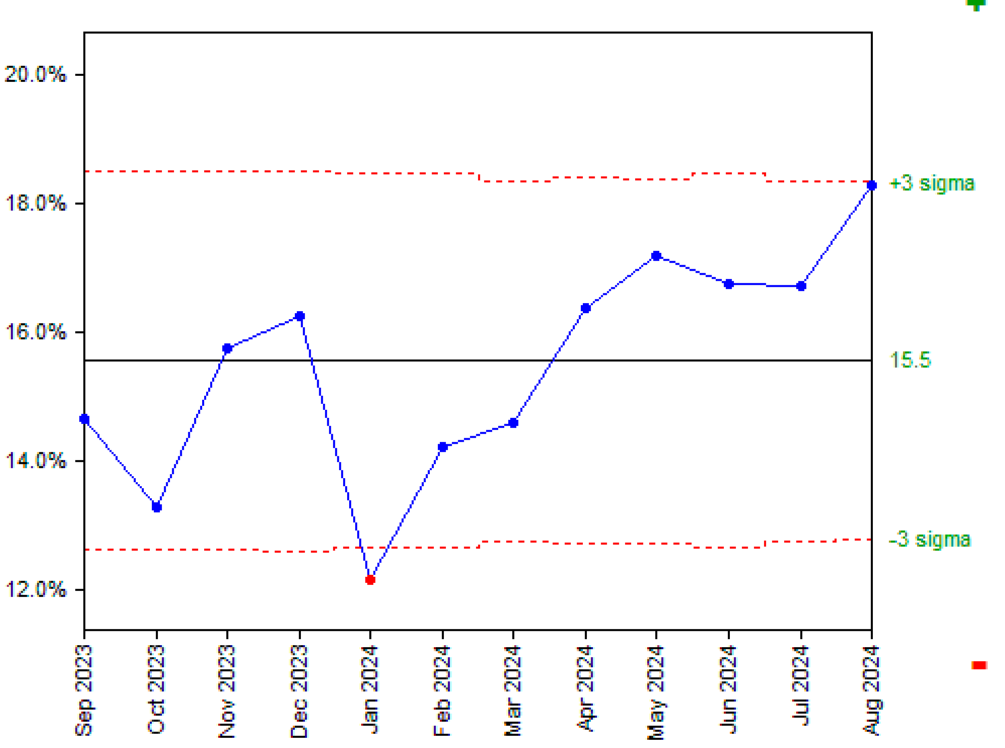
TELLING THE STORY WITH RUN CHARTS


Printable Version
Link to: Indicator or Thumbnail
P Chart 3-Sigma
4Ms - AFHS IP
Academic Dept = ALL
Summary
COVID Surge
Baseline
Updated Med List
Updated Mobility measure
60.0%
50.0%
40.0%
30.0%
20.0%
10.0%
+3 sigma
33.2%
-3 sigma
Limited active improvement efforts
Oct 2020
Dec 2020
Feb 2021
Apr 2021
Jun 2021
Aug 2021
Oct 2021
Dec 2021
Feb 2022
Apr 2022
Jun 2022
Aug 2022
Oct 2022
Dec 2022
Feb 2023
Apr 2023
Jun 2023
Aug 2023
Oct 2023
Dec 2023
Feb 2024
Apr 2024


What Matters by Patient Location
Patient Location = ALL
P Chart 3-Sigma
Summary
88.0%
86.0%
84.0%
82.0%
80.0%
+3 sigma
83.6
-3 sigma
Sep 2023
Oct 2023
Nov 2023
Dec 2023
Jan 2024
Feb 2024
Mar 2024
Apr 2024
May 2024
Jun 2024
Jul 2024
Aug 2024


Mentation by Patient Location
Patient Location = ALL
P Chart 3-Sigma
Summary
52.5%
50.0%
47.5%
45.0%
42.5%
40.0%
+3 sigma
45.9
-3 sigma


Medication by Patient Location
Patient Location = ALL
Summary
86.0%
84.0%
82.0%
80.0%
78.0%
+3 sigma
81.9
-3 sigma


Mobility by Patient Location
Patient Location = ALL
P Chart 3-Sigma
Summary
20.0%
18.0%
16.0%
14.0%
12.0%
+3 sigma
15.5
-3 sigma
Sep 2023
Oct 2023
Nov 2023
Dec 2023
Jan 2024
Feb 2024
Mar 2024
Apr 2024
May 2024
Jun 2024
Jul 2024
Aug 2024

Summary By Month of the Year and Patient Location for OHSU

Service Date Range: 08/01/2024 to 08/31/2024

Month of the Year	Patient Location	Number of Admissions	All 4Ms Goal Met (%)	All 4Ms Goal Met	Surrogate Decision Maker Identified (%)	SDM Goal Met	Daily Goal (%)	Daily Goal Met	What Matters Goal Met	Days without High-Risk Medication (%)	Medication Goal Met	Mobility Check (%)	Mobility Goal Met	CAM Screen (%)	Mentation Goal Met
2024 08	10A	42	2.4%	1	73.8%	31	66.7%	36	36	88.9%	33	26.2%	5	50.1%	30
2024 08	10D	15	13.3%	2	80.0%	12	43.4%	8	12	69.8%	12	30.2%	3	50.0%	9
2024 08	10K	80	12.5%	10	83.8%	67	66.8%	61	67	84.2%	53	45.6%	40	51.7%	62
2024 08	11A	58	0.0%	0	77.6%	45	58.0%	34	45	98.6%	57	0.0%	0	4.5%	3
2024 08	11B	43	9.3%	4	69.8%	30	63.6%	27	30	100.0%	43	2.1%	1	2.1%	1
2024 08	11C	61	4.9%	3	72.1%	44	67.2%	41	44	96.9%	59	1.6%	1	3.1%	2
2024 08	11K	125	20.0%	25	72.8%	91	73.4%	109	109	92.3%	108	48.7%	78	53.4%	103
2024 08	12K ICU	88	0.0%	0	85.2%	75	54.6%	63	75	93.4%	74	0.8%	0	53.5%	74
2024 08	13A	50	4.0%	2	44.0%	22	29.7%	12	22	83.6%	40	12.9%	2	53.0%	41
2024 08	13K	66	12.1%	8	80.3%	53	77.8%	58	58	78.9%	37	35.0%	15	44.7%	32
2024 08	14A	49	4.1%	2	81.6%	40	62.2%	38	40	87.9%	36	27.1%	9	44.4%	21
2024 08	14C	69	4.3%	3	94.2%	65	54.9%	44	65	89.2%	56	26.4%	12	51.0%	54
2024 08	14K	35	20.0%	7	82.9%	29	34.4%	11	29	86.2%	22	42.6%	15	50.6%	27
2024 08	4A	44	2.3%	1	72.7%	32	44.0%	23	32	89.1%	35	23.8%	3	53.0%	36

Next Generation – Manual to Automated with more filtering capacity

- Any time frame or scale
- REaL stratifications
- Adaptable to leaders with different scopes (ie. Unit, clinical team, etc)
- Automatically updates run charts monthly

WHAT DOES THIS MEAN FOR PATIENTS AND HOSPITALS?

Investigating system-level outcomes

- Cross-sectional analysis including 13,396 hospital admissions between September 2020 – September 2022 among 10,630 unique patients 65 years+
- Cohort divided into recipients and non-recipients of 4Ms care
  - Recipients had to receive care for all 4Ms during their stay
  - Partial 4Ms care was considered non-recipient

- Outcomes → overall length of stay, ICU length of stay, total charges, 30-day readmissions
- Adjusted Covariates → age, sex, ethnicity, race, smoking status, admission type (medical vs surgical vs trauma vs emergent), Medicaid status, risk adjusted mortality

UTILIZATION

Most of the benefit is seen by the more seriously ill inpatients

Outcome	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

Opportunities

AFHS

Days at Home of 90

Value Based Care

Population Health efforts APMs Medicaid CCOs Bundled Payments

Takeaways

- Our hospital population is getting older, living with more chronic conditions and vulnerable to medical complications from the hospital environment
  - Payors, regulators & accreditors are taking action
- Age Friendly Health Systems is an evidence-based framework that can positively impact utilization and cost of care
  - Adaptable to different hospital cultures of practice
  - Capitalizes on the strengths of inter-professional teams and expertise
- Oregon and the PNW can lead the way in making hospitalization safer for all