CAPTURE Falls

Collaboration and Proactive Teamwork Used to Reduce

Fall Risk Assessment: Best Practices for Nursing Staff in the Acute Care Setting

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Acknowledgement

Learning Objectives

- Review baseline data from 2011 hospital survey specific to fall risk assessment/communication.

- Discuss published fall risk assessment tools.

- Conduct a fall risk assessment.

- Review main points and questions from attendees.

# Introduction to Best Practices in Fall Risk Assessment

Fall Reduction

- Fall risk has been reduced in studies where interprofessional team members were actively engaged in fall risk reduction efforts. *(Gowdy and Godfrey, 2003; Szumlas et al, 2004; von Renteln-Kruse and Krause, 2007)*

- An interprofessional team (vs. nursing only strategy) and use of benchmarks are associated with sustained improvement *(Sulla and McMyler, 2007; Krauss et al, 2008; Murphy et al, 2008)*

Evidence Based Practice...What is it?

Patient Values

Best Research Evidence

Clinical Expertise
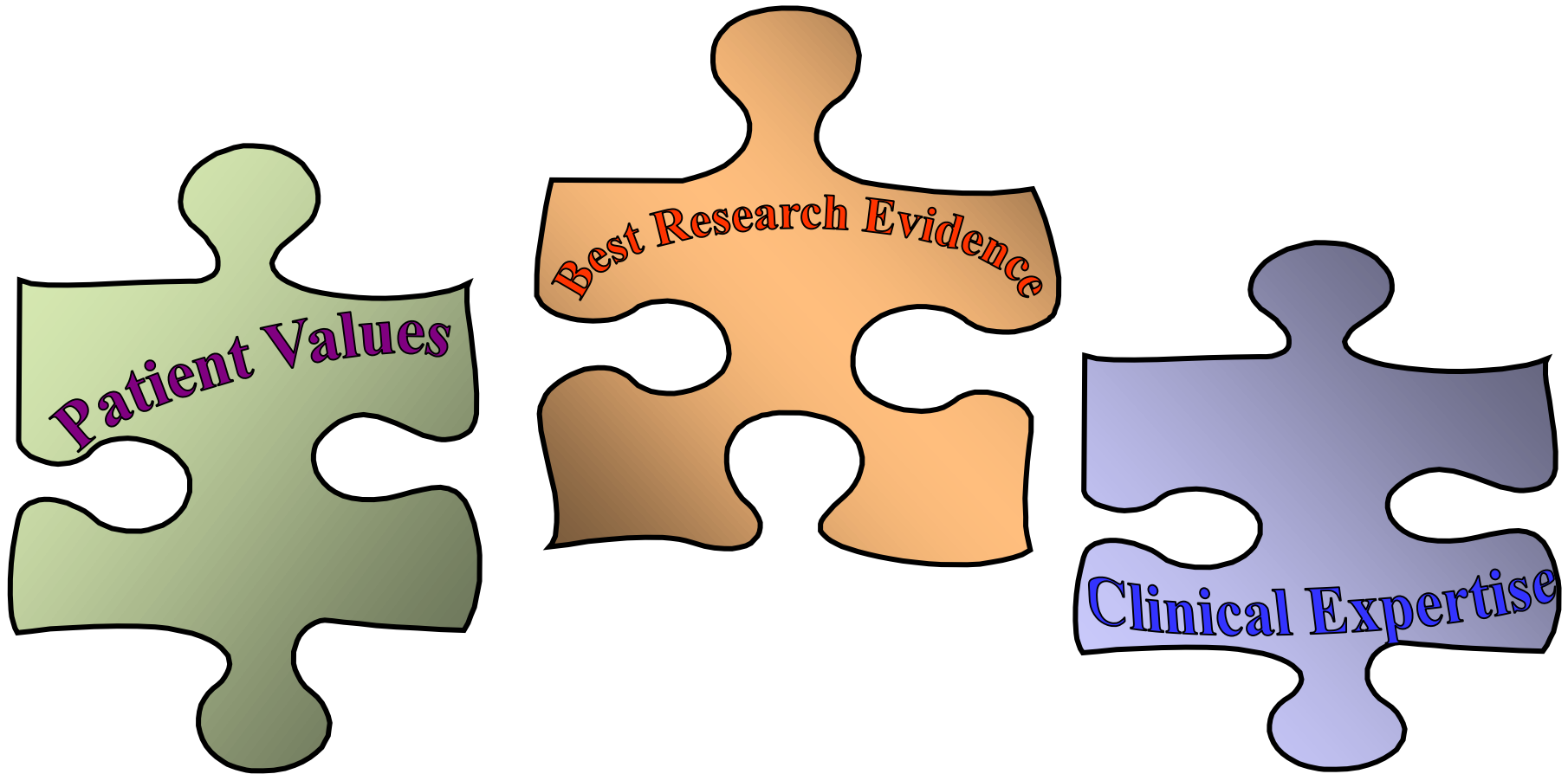
"The integration of best research evidence with clinical expertise and patient values"

-Sackett et al., 2000, p.1

Donabedian's Framework to Assess Quality

- Quality occurs within the context of patient care:
  - Structure: infrastructure in place to support care provision (human resources, policy/procedures, equipment, environment)

  - Process: actions taken to reduce fall risk (follow policy/procedures for fall risk reduction program, prevention interventions, staff/patient education)

  - Outcome: fall rate/1000 patient days; injury fall rate/1000 patient days

Structure	→	Process	→	Outcomes

(Donabedian, 1980)

2011 Falls Survey in NE Hospitals

- Examined structures-processes-outcomes related to fall risk reduction.

- 70 of 83 general community hospitals in NE responded (84%)
  - 47 of 65 CAHs (72%)
  - 13 of 18 non-CAHs (72%)

Definition of Fall / Fall Risk

- A fall is any unplanned descent to the floor with or without injury (NDNQI, 2012).

- Injury levels can range from minor (bruising) to major (fracture, death).
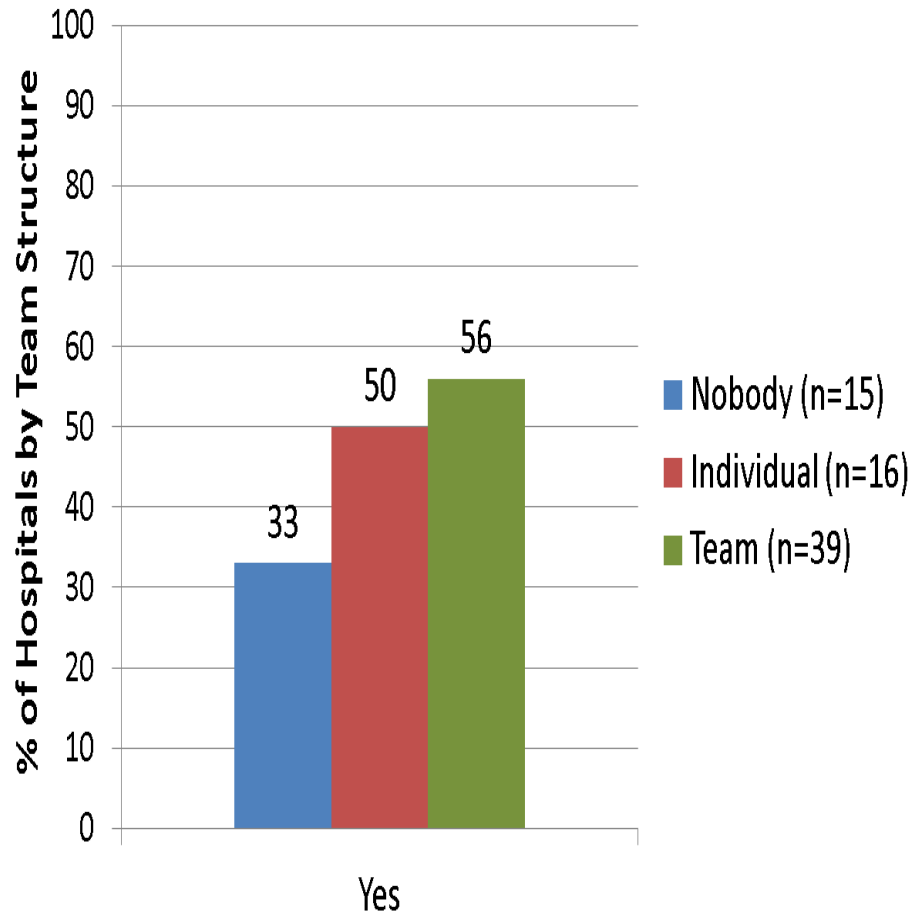
- What is fall risk?

- Hospitals with a fall risk reduction team had the lowest fall and injury fall rates compared to hospitals where one person or no one was accountable for implementing a fall risk reduction program.

- 39% (N=22) of critical access hospitals (CAHs) ($\leq$25 beds) that responded to the survey had either one individual or no one accountable for implementing a fall risk reduction program in their hospital.

Do you use a validated, unmodified tool to assess fall risk?

Legend:
- Nobody (n=15)
- Individual (n=16)
- Team (n=39)

Chart values: 33, 50, 56 (Yes)

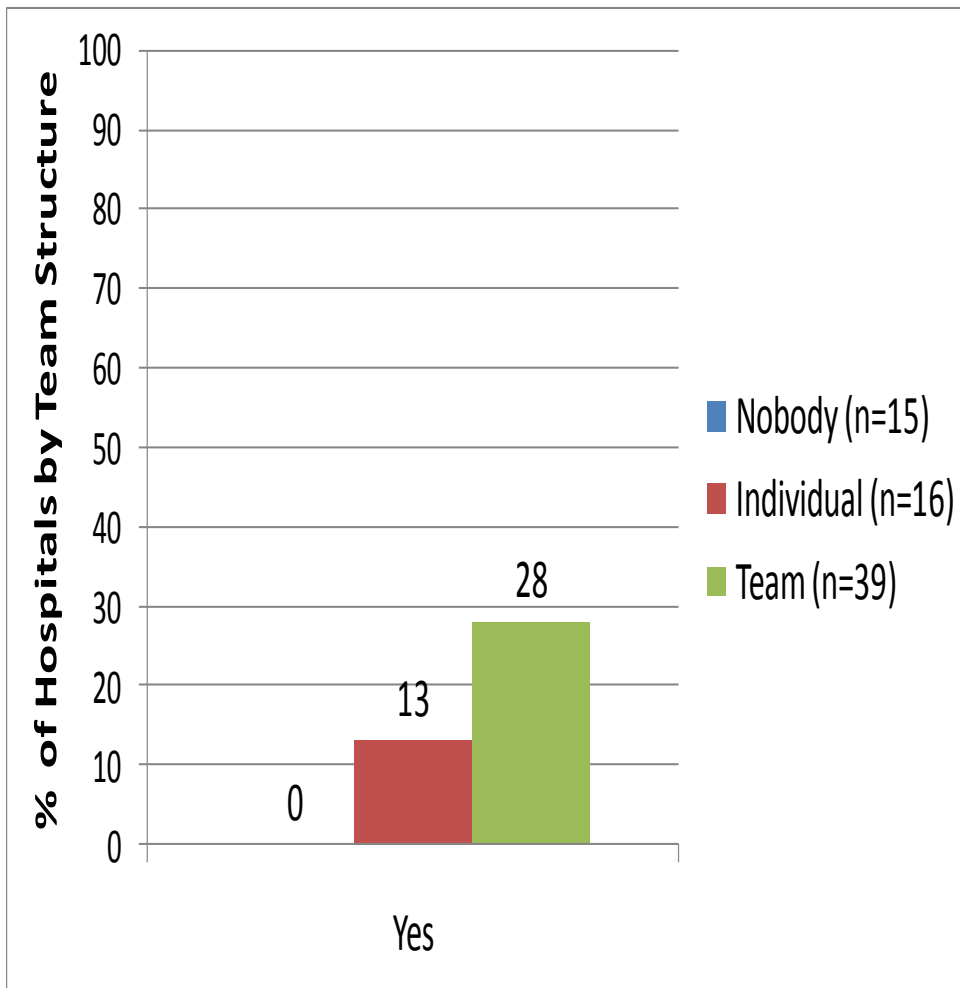Y-axis: % of Hospitals by Team Structure

- Of 15 hospitals with no one accountable for Fall Reduction, 33% (5) used a valid tool.

- Of 16 hospitals with one individual accountable, 50% (8) used a valid tool.

- Of 39 hospitals with a team accountable, 56% (22) used a valid tool.

Does your team provide fall risk reduction education to staff via annual competency training and new employee education?

% of Hospitals by Team Structure

- Nobody (n=15)
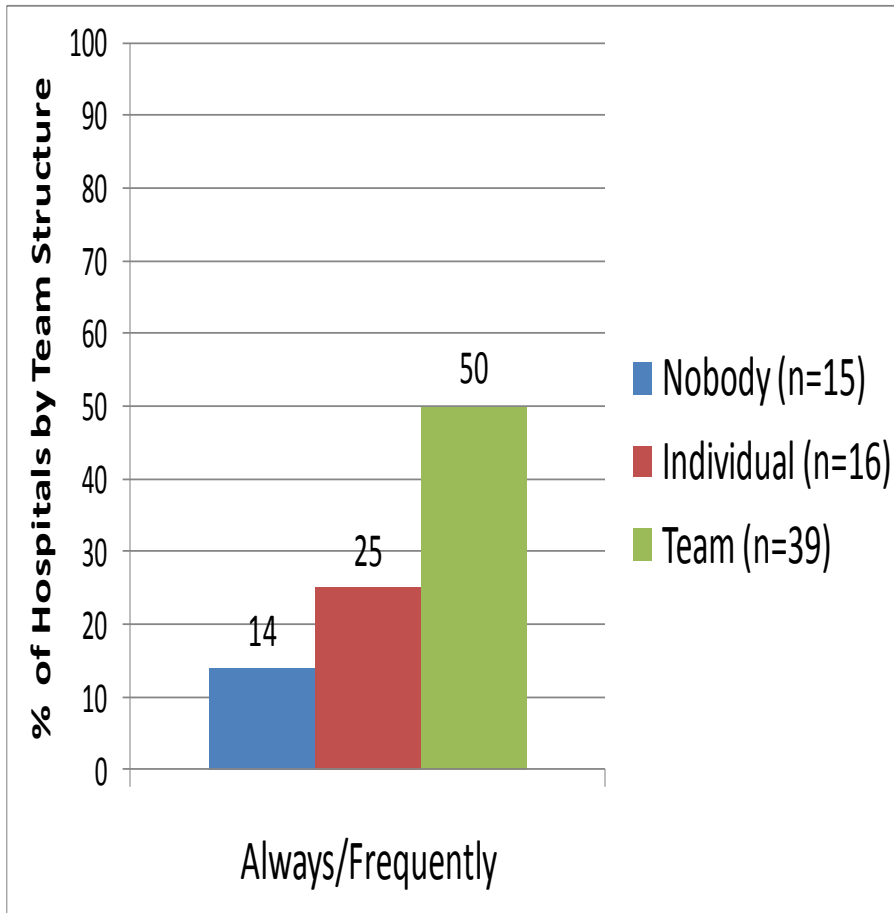- Individual (n=16)
- Team (n=39)

Yes

- Of 15 hospitals with no one accountable for Fall Reduction, 0% provided education.

- Of 16 hospitals with one individual accountable, 13% (2) provided education.

- Of 39 hospitals with a team accountable, 28% (11) provided education.

Discussing Fall Risk in Daily Care

Do patient care staff from multiple disciplines discuss patients' fall risk in the context of daily care?

Chart: % of Hospitals by Team Structure — Always/Frequently. Nobody (n=15): 14; Individual (n=16): 25; Team (n=39): 50.
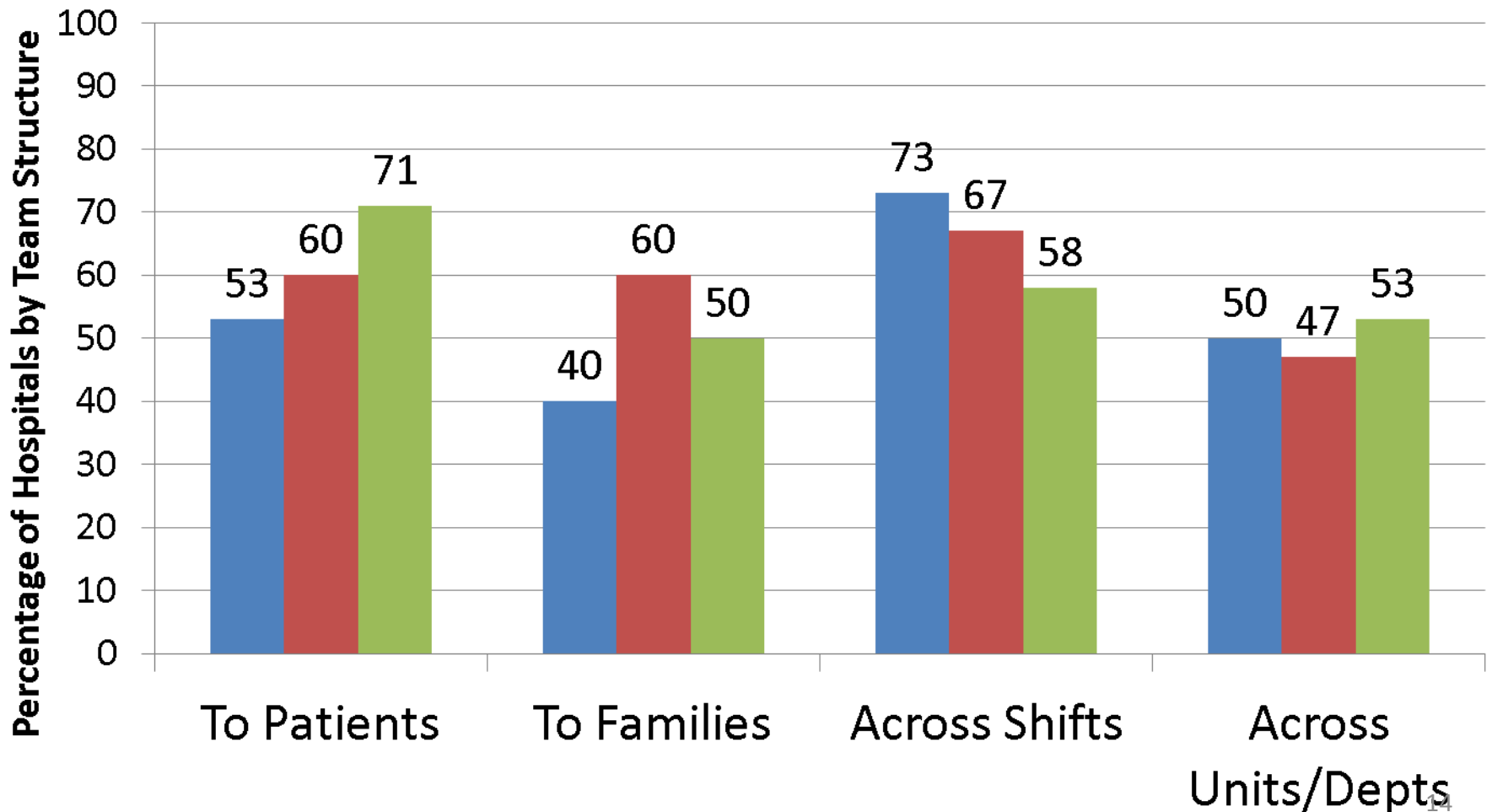
- Of 15 hospitals with no one accountable for Fall Reduction, 14% (2) discussed fall risk.

- Of 16 hospitals with one individual accountable, 25% (4) discussed fall risk.

- Of 39 hospitals with a team accountable, 50% (19) discussed fall risk.

Role of Communication

Do you communicate fall risk status……?

Legend: ■ Nobody (n=15) ■ Individual (n=16) ■ Team (n=39)

Y-axis: Percentage of Hospitals by Team Structure

Category	Nobody	Individual	Team
To Patients	53	60	71
To Families	40	60	50
Across Shifts	73	67	58
Across Units/Depts	50	47	53

Do nurses assess a patient's fall risk at the following time points?

1) On admission
2) Every shift

3) After a fall
4) When status changes
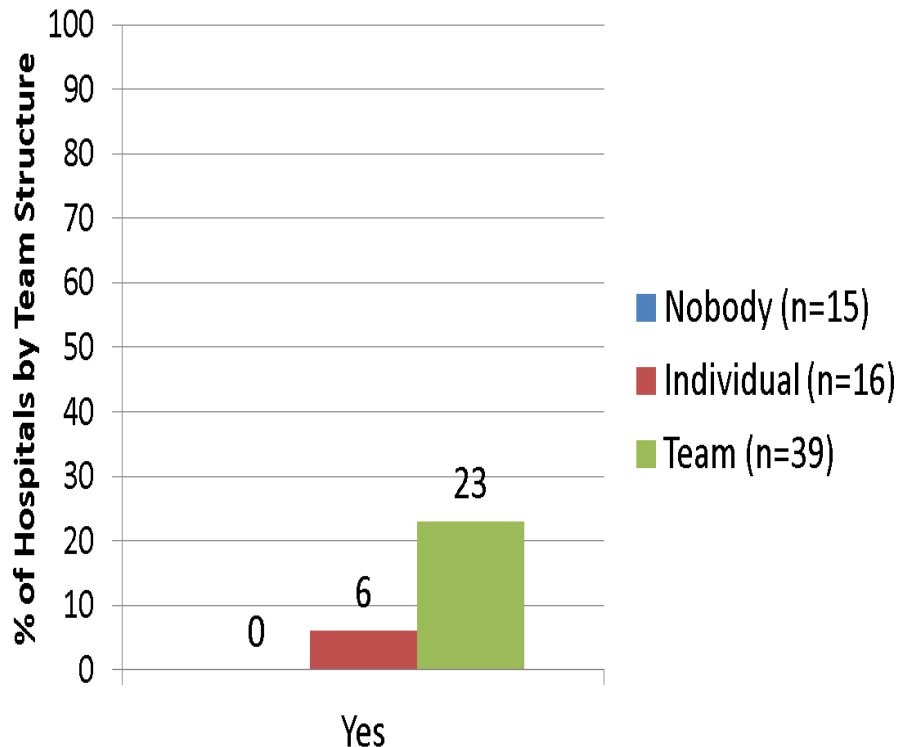
- Of the 15 hospitals with no one accountable, 0 performed risk assessments at these frequencies.

- Of the 16 hospitals with one person accountable, 6% (1) performed risk assessments at these frequencies.

- Of the 39 hospitals with a team accountable, 23% (9) performed risk assessments at these frequencies.

Best Practices for Assessing Fall Risk in the Hospitalized Patient

Assessing Fall Risk

- Fall risk assessment tools
  - Published or home grown?
  - Team approach to risk assessment
    - Nursing-focused risk assessment tools
    - PT-focused risk assessment tools
- Determining best tool for your hospital
  - Sensitivity
  - Specificity
- Frequency of assessing patient fall risk
- Documenting patient's fall risk status

What to assess for fall risk?

- Evidence demonstrates patient variables that increase a patient's risk for falling:
  - Age (over age 65)
  - Mentation
    - Cognitive dysfunction, delirium, dementia
  - Weak or Impaired mobility
  - Assistance with toileting needs
  - Medications
    - Polypharmacy (4 or more drugs)
    - Anticonvulsants, antipsychotics, benzodiazepines, antidepressants, Class IA antiarrythmics, opiates, sedatives, diuretics

What to assess for fall risk?

- Evidence demonstrates environmental variables that increase a patient's risk for falling:
  - Equipment
    - IV pole
    - Urinary catheter
  - Physical hazards in room
    - Poor lighting
    - Lack of handrails in bathroom
    - Poorly anchored rugs
    - Clutter

Injurious Falls

- In the next 15 seconds, an older adult will be treated in a hospital emergency department for injuries related to a fall.

- In the next 29 minutes, an older adult will die from injuries sustained in a fall.

- Injurious falls are one of the most common adverse patient events in acute care.

NCOA and CDC (2012)

Targeting Patients at
Risk for Falls and Injury

+ Risk for Fall	-- No risk Injury
+ Risk for Fall	+ Risk for injury
-- No risk for Fall	-- No risk for injury
-- No risk for Fall	+ Risk for Injury

Risk for Injury-ABCs

Does the patient meet any of the ABCs?

Age 85+

Brittle bones (osteoporosis)

Coagulation meds

Surgical post-op

Quigley, (2009)

Fall Risk Assessment Tool Selection

- Which tool should we choose?

- How will I know it is the right tool for our hospital?

- What fall risk factors is the tool assessing?
  - Patient variables
  - Environmental variables

Fall Risk Assessment Tools
Used by Participating Hospitals

Nursing-based Fall Risk Assessment Tool	# Hospitals	% Hospitals
Morse Fall Scale	29	41.4%
Morse Fall Scale – Modified	8	11.4%
Hendrich Fall Risk Assessment	5	7.1%
Hendrich Fall Risk Assessment - Modified	2	2.9%
Briggs Fall Risk Assessment	2	2.9%
Conley Scale	1	1.4%
Schmid Fall Risk Assessment	1	1.4%
Schmid Fall Risk Assessment - Modified	1	1.4%

- Sensitivity is the ability of a fall risk assessment tool to correctly identify a fall risk patient

  – Tells you how well the tool can correctly identify patients truly at risk for falling.

- Specificity is the ability of a fall risk assessment tool to screen out patients who are NOT at risk for falling.

  – Tells you how well the tool correctly identifies patients NOT at risk for falling.

Sensitivity & Specificity of Selected Published Fall Risk Assessment Tools

Tool	Author	Sample/Size/Setting	Sensitivity	Specificity
Hendrich II Fall Risk Model	Hendrich et al, 2003	355 fallers inpatient and 780 controls general hospital population	74.9% 86% in elders (12)	73.9% 43% in elders (12)
Morse Fall Scale	Morse et al., 1989	100, inpatient fallers/100 controls med/surg/neruo/ ortho/geri	78	83
Schmid	No data available			
Johns Hopkins Fall Risk Assessment Tool	Poe et al.. 2007	Academic medical center, 179 medical patients, 17 psychiatric patients	None provided	None provided

Hendrich II Fall Risk Model

Confusion Disorientation Impulsivity		4	
Symptomatic Depression		2	
Altered Elimination		1	
Dizziness Vertigo		1	
Male Gender		1	
Any Administered Antiepileptics		2	
Any Administered Benzodiazepines		1	
Get Up & Go Test			
Able to rise in a single movement – No loss of balance with steps		0	
Pushes up, successful in one attempt		1	
Multiple attempts, but successful		3	
Unable to rise without assistance during test (OR if a medical order states the same and/or complete bed rest is ordered) *If unable to assess, document this on the patient chart with the date and time		4	
A Score of 5 of Greater = High Risk		**Total Score**	

Morse Fall Risk Assessment

(From Morse, J. M. (1997). Preventing Patient Falls. Thousand Oaks: Sage.)

Risk Factor	Scale	Points	Patient's Score
History of Falls	Yes	25	
	No	0	
Secondary Diagnosis (Two or more medical Diagnoses)	Yes	15	
	No	0	
Ambulatory Aid	Furniture	30	
	Crutches/Walker/Cane	15	
	None/Bedrest/Wheelchair/Nurse	0	
IV/Saline Lock	Yes	20	
	No	0	
Gait/Transferring	Impaired	20	
	Weak	10	
	Normal/Bed Rest/ Immobile	0	
Mental Status	Forgets limitations	15	
	Oriented to own ability	0	

High Risk = 45 and higher
Moderate Risk = 25-44
Low Risk = 0-24

Total Score _____

Johns Hopkins Fall Risk Assessment Tool

Complete the following and calculate fall risk score.	Points
Age (Single select) 60-69 years **(1 point)** 70-79 years **(2points)** ≥ 80 years **(3 points)**	
Fall History (Single select) One fall within 67 months before admission **(5 points)**	
Elimination, Bowel and Urine (Single select) Incontinence **(2 points)** Urgency or frequency **(2 points)** Urgency/frequency and incontinence **(4 points)**	
Medications: Includes PCA/opiates, anti-convulsants, anti-hypertensives, diuretics, hypnotics, laxatives, sedatives, and psychotropics (Single select) On 1 high fall risk drug **(3 points)** On 2 or more high fall risk drugs **(5 points)** Sedated procedure within past 24 hours **(7 points)**	
Patient Care Equipment: Any equipment that tethers patient (e.g., IV infusion, chest tube, indwelling catheters, SCDs, etc) (Single select) 1 present **(1 point)** 2 present **(2 points)** 3 or more present **(3 points)**	
Mobility (Multi-select, choose all that apply and add points together) Requires assistance or supervision for mobility, transfer, or ambulation **(2points)** Unsteady gait **(2points)** Visual or auditory impairment affecting mobility **(2 points)**	
Cognition (Multi-select, choose all that apply and add points together) Altered awareness of immediate physical environment **(1 point)** Impulsive **(2 points)** Lack of understanding of one's physical and cognitive limitations **(4 points)**	
Total Points (Moderate risk = 6-13 Total Points, High risk > 13 Total Points)	

Schmid Fall Risk Assessment Tool

*Select only one indicator for each category	Score
Mobility	
(0) Ambulates with no gait disturbance	
(1) Ambulates or transfers with assistive devices	
(1) Ambulates with unsteady gait and no assistance	
(0) Unable to ambulate or transfer	
Mentation	
(0) Alert, oriented x 3	
(1) Periodic confusion	
(1) Confusion at all times	
(0) Comatose / unresponsive	
Elimination	
(0) Independent in elimination	
(1) Independent, with frequency or diarrhea	
(1) Needs assistance with toileting	
(1) Incontinence	
Prior Fall History (within past 6 months)	
(1) Yes – Before admission (Home or previous inpatient care)	
(2) Yes – During this admission	
(0) No	
(0) Unknown	
Current Medications	
(1) A score of 1 is given if the patient is on 1 or more of the following medications: Anti-convulsants / sedatives or psychotropics / hypnotics (consider all medication side effects and role in fall risk.)	
Score of 3 or more: Patient is at risk for falls and fall prevention interventions should be implemented. **Total Score:**	

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  – Tells you how well the tool can correctly identify patients truly at risk for falling.

- Specificity is the ability of a fall risk assessment tool to screen out patients who are NOT at risk for falling.

  – Tells you how well the tool correctly identifies patients NOT at risk for falling.

- Predictive Value is the probability of a fall after a fall risk assessment score is known.

- Positive Predictive Value is the proportion of patients with a positive result (identified as a fall risk) who falls.

- Negative Predictive Value is the proportion of patients with a negative result (identified as NOT being a fall risk) who DO NOT fall.

  – Influenced by other variables, not just risk score alone.

So, Does the Tool Work Here?

- How many of your patients who fall were identified as at risk for falling?

- How many who fell were identified as NOT at risk?

- We need a tool that's sensitive to detecting fall risk AND specific enough so that it screens out patients who are NOT at risk.

- No <u>perfect</u> tool exists! No tool is 100% specific and 100% sensitive.

Looking at Predictive Value

	At Risk	Not at Risk
Fall	True Positive (Positive Predictive Value)	False positive
No Fall	False Negative	True Negative (Negative Predictive Value)

- We want to have as many true positives as possible and as many true negatives as possible.

We don't want falls – but we want our risk assessment tool to accurately predict fall risk!

Determining Sensitivity of a Tool

- Retrospectively examine all falls that occurred over the past 2-3 years (aim for sample size of between 30 and 50 –the higher the better).

- Using the risk assessment tool(s) under consideration, assess faller's risk score to determine sensitivity (positive predictive value).

  – Did they score as a fall risk patient?

Determining Specificity

- Need random sample of same number of patients in hospital at same time as fallers who DID NOT fall, to serve as control to determine specificity (negative predictive value).

- Whichever tool yields highest results from sensitivity/specificity testing = best fit for your hospital.

- Need to trial the selected tool prospectively moving forward to examine its performance.
  - Tracking whether fall risk patients are the ones who fall and those not at risk do not fall.

Fall Risk Tool and Cut-off Score

- Once a tool has been selected and the specificity and sensitivity of the tool has been determined, the next step is to identify the cut-off score for your institution.

One example in acute care:

- The Morse Fall Scale (MFS) was selected for ease of use, based on evidence, ability for developing it within the electronic medical record and the opportunity to determine the best cut-off score for the institution.

- A specificity and sensitivity study was conducted (n=1000 patients on three separate medical surgical and progressive care units in two hospitals).

- During the specificity and sensitivity study all patients who had a MFS score of ≥ 60 fell.

- Therefore, an additional category to capture those at "greatest" risk of falling was identified and called **Severe Risk.**

- Patients with a MFS of ≥ 60 are classified at **Severe Risk** for falls.

- Targeted **Severe Risk** interventions are then developed and implemented for this category, because they are at the 'greatest" risk of falling.

- Best practice evidence recommends assessing every patient's risk for falling frequently throughout the hospitalization – NOT just those patients found to be at risk.
  - Upon admission – consider 1st assessment in ED and communicating fall risk status to receiving unit for determining most appropriate room assignment
  - Every shift
  - After a fall
  - After any change in patient condition

Selecting Fall Risk Assessment Tool

- Sensitivity/specificity.

- Ease of use.

- Cost, training, nursing time required to complete the assessment.

- Do nursing staff know what to do with the results?

Best Practices for Communicating Fall Risk Status in the Hospitalized Patient

Communicating Fall Risk

- To patient/family
  - Education
  - Signage: socks, wristband, magnet
- To staff
  - During shift
  - Shift to shift report
  - Documentation in patient record
- Within unit/across units
  - Hand off communication tool to report patient's fall risk
- To receiving facility upon hospital discharge

Summary

- Team structure – not hospital size – significantly predicts rate of falls and injuries.

- Best practices in fall risk assessment include:

  – Consistent use of valid risk assessment tool

    - Assesses patient characteristics that increase likelihood of patient fall

    - Testing tool in your setting to see if it works for your patients/staff

  – COMMUNICATION of fall risk status to the patient/family, all team members within unit, across units/departments and across facilities

    - And interventions in place to reduce the patient's risk of falling

Questions?

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Web site where tools are posted

www.unmc.edu/rural/patient-safety

Fall Prevention Resources

- Institute for Healthcare Improvement: Falls Prevention http://www.ihi.org/offerings/MembershipsNetworks/MentorHospitalRegistry/Pages/FallsPrevention.aspx

- VA National Center for Patient Safety: Falls Toolkit: www.patientsafety.gov

- Centers for Disease Control and Prevention: Falls-Older Adults http://www.cdc.gov/HomeandRecreationalSafety/Falls/pubs.html

- The American Geriatrics Society (search Falls within website for resources) www.americangeriatrics.org or igeriatrics app

- Institute for Clinical Systems Improvement: Prevention of Falls (Acute Care) http://www.icsi.org/falls   acute care   prevention of   protocol /falls   acute care   prevention of   protocol 24255.html

Fall Prevention Resources

- Agency for Healthcare Research & Quality National Guidelines Clearinghouse: Preventing falls in acute care www.guideline.gov

- Hill-Rom: Safe Patient Handling and Fall Prevention www.hill-rom.com

- Registered Nurses Association of Ontario Clinical Practice Guidelines http://rnao.ca/sites/rnao-ca/files/Prevention_of_Falls_and_Fall_Injuries_in_the_Older_Adult.pdf

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