JOHNS HOPKINS
NURSING

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Clinical Evidence in Practice

The Johns Hopkins Fall Risk Assessment Tool

Objectives

- Describe trends in clinical outcomes related to falls
- Discuss the evidence-based approach to fall and fall-injury prevention at Hopkins
- Share lessons learned in implementing and evaluating our program

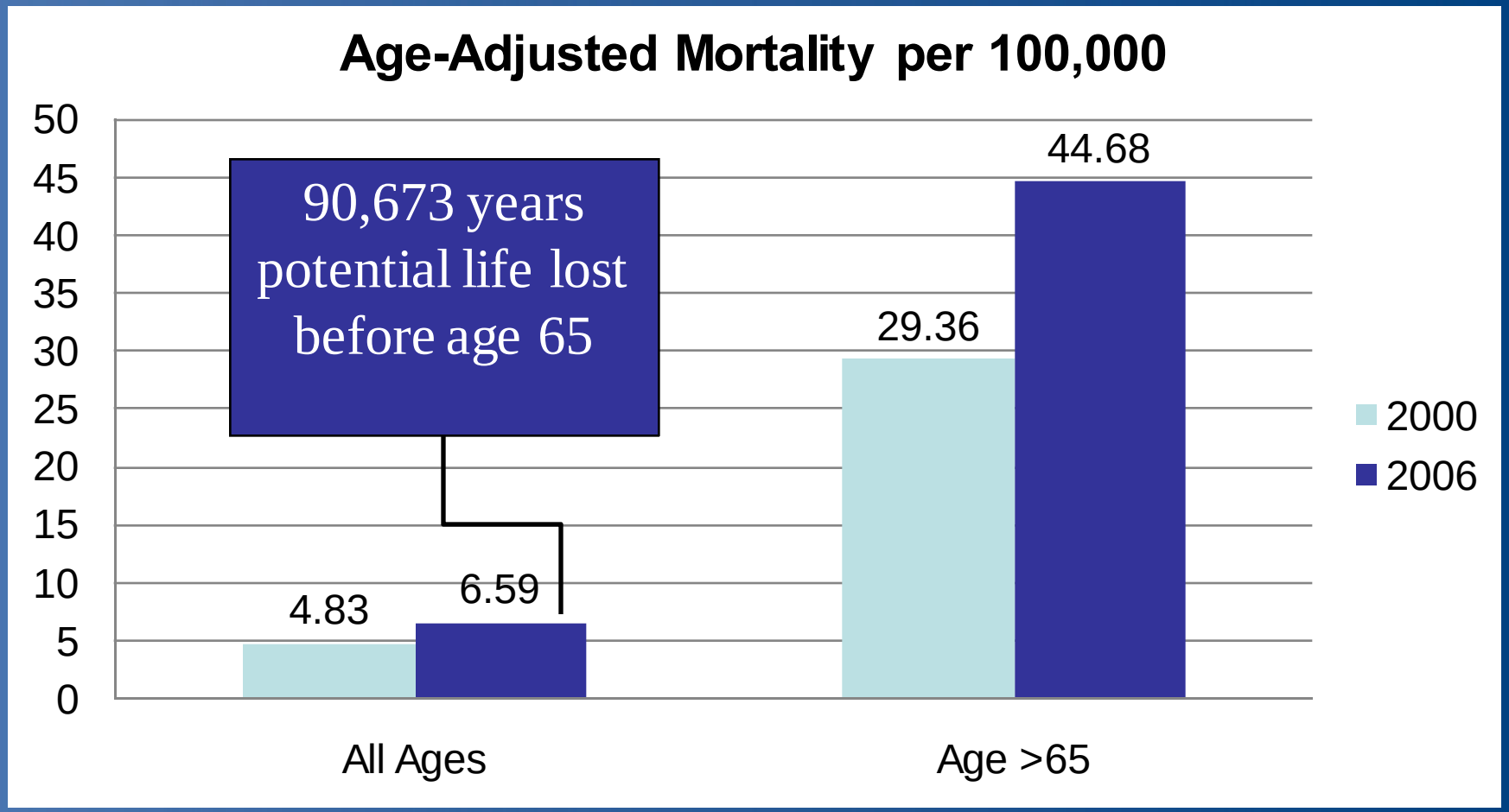
Facts and Components

Johns Hopkins Hospital (2009)

- Beds:
  - 1,038 licensed, 918 staffed
  - 83.9% occupancy, ALOS 5.8
- Volume:
  - Inpatient discharges: 47,226
  - Patient days: 278,866
  - OR cases: 55,956
  - Deliveries: 2,078
  - ED visits: 86,050
  - Outpatient visits: 353,419

www.hopkinsmedicine.org

Fall-Related Mortality



CDC, 2010

Fall-Related Morbidity

- Leading cause of nonfatal injuries treated in Emergency Departments
  - all age groups (except 15-24, where it ranked #2),
  - accounted for 8M ED visits in 2007
- Leading cause of injury-related hospitalizations
  - affected over 700,000 people in 2008
  - 69% were aged 65 and older
- Elderly falls often result in long-term care needs

CDC, 2010

Rising Direct Medical Costs

- 1996 estimates: $17M by 2020

  (Englander et al, 1996)

- 2000 actual costs, older adults: fatalities=$0.2B, non-fatalities=$19B
  - –$12B hospitalizations
  - –$4B ED
  - –$3B ambulatory care

  (Stevens et al, 2006)

- Shrinking reimbursement: CMS will not pay for hospital-acquired conditions

Other Adverse Outcomes

Indemnity costs

Resource utilization

Delay in throughput & access

Loss of trust & sense of safety

Falls in Acute Care

"With changes in the complexity of inpatient admissions, the possibility of falls and fall-related injuries in acute care settings has increased over time."

Unruh, 2002

Falls in Acute Care

Inpatient fall rates range from 1.7 to 25 falls per 1000 patient days.

Extrapolated risk: Falls occur during

~ 1.9 to 3% of all hospitalizations.

At ~ 37M hospitalizations per year, hospital falls could reach over 1M per year.

Currie, 2008

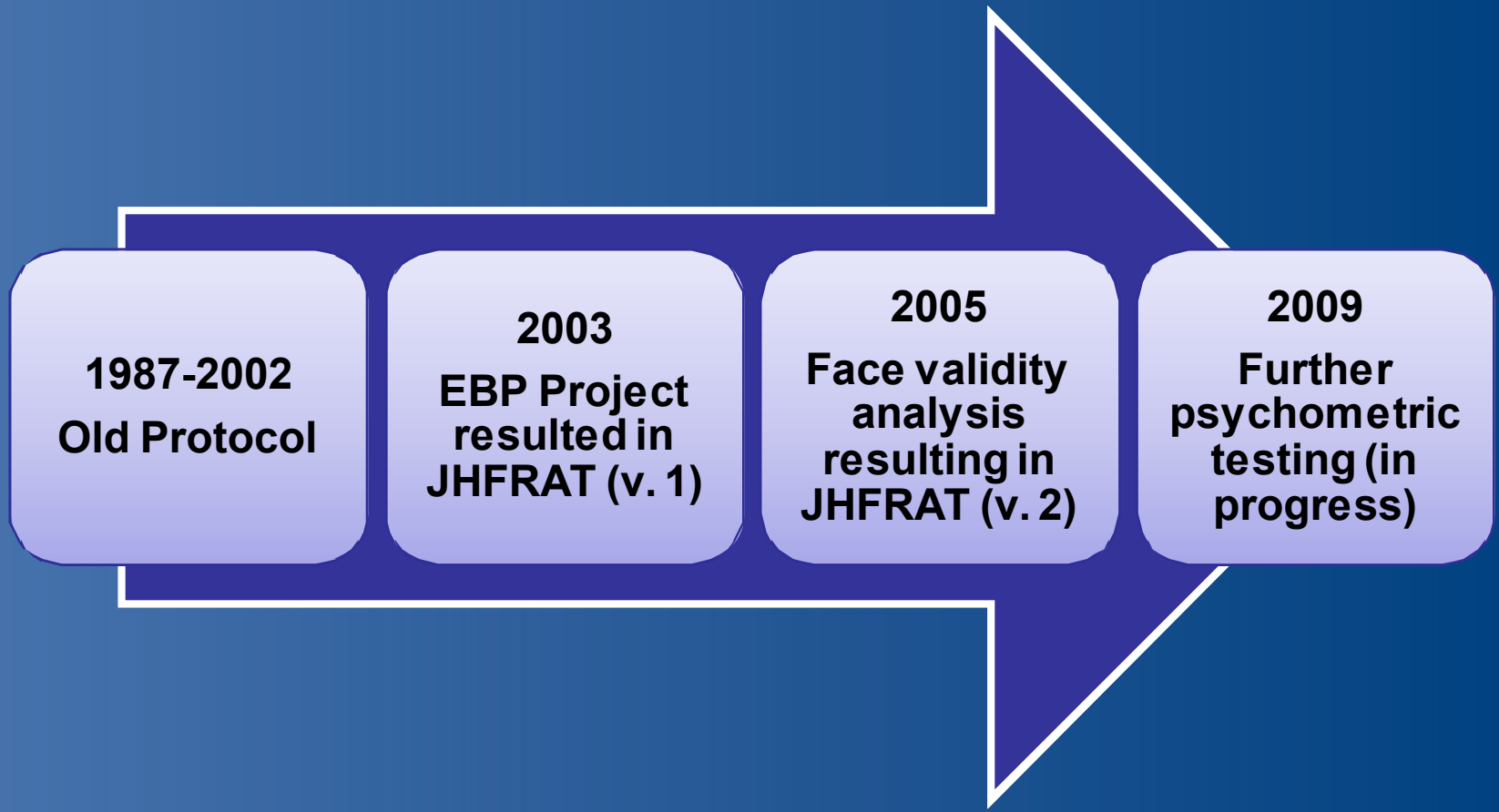
Clinical Evidence in Practice

PATH TO EXCELLENCE IN FALL PREVENTION

The Johns Hopkins Hospital

- Longstanding commitment to patient safety and fall prevention
- Fall and fall-injury rates reported to the Board of Trustees
- Nurses champion fall safety

Evolution of Johns Hopkins Fall Risk Assessment Tool (JHFRAT)



Evolution of Johns Hopkins Fall Risk Assessment Tool (JHFRAT)

2002 Protocol

- Out-dated
- Not evidence-based
- Did not differentiate risk levels

Fall Safety Task Force

- Nursing quality coordinator
- Selected department educators
- Nurse managers & staff nurses
- Ad hoc members, e.g., clinical pharmacist & physical therapist

- Updated protocol based on evidence
- Incorporated structured risk assessment and risk-based interventions

Fall Evidence-Based Review

Reviewed over 100 published articles, community standards, guidelines, and commentaries

Narrowed down to 65 for evidence-based review

Graded evidence related to fall risk and prevention strategies

Risk Assessment Tool Review

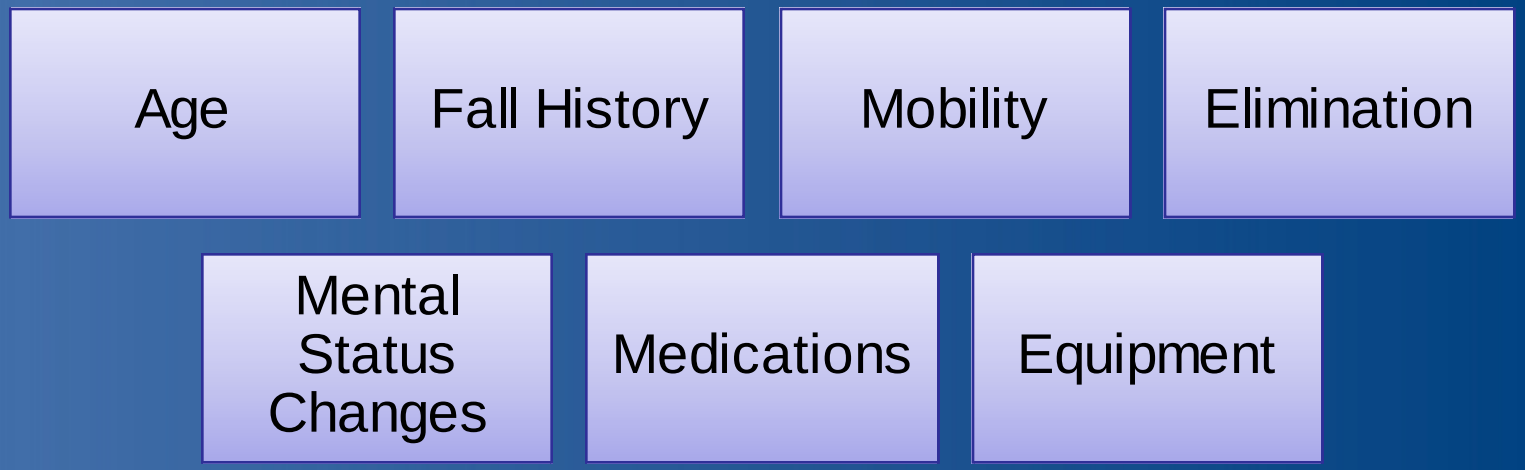
Reviewed 15 published tools, reliability/validity

Narrowed down to 4 tools

Graded evidence related to identified risk assessment data elements

Risk Tool Development

- Developed JHFRAT v.1
  - Kept only evidence-based assessments
  - Identified 7 key screening areas
  - Developed a risk-stratified rating scheme



Evolution of Johns Hopkins Fall Risk Assessment Tool (JHFRAT)

2005 Protocol

- Review and analyze the tool's performance
- "Murder board" content review

Murder Board

- Four of the original tool developers
- Five other current users of the tool
- Wide-range of experience and areas of expertise

- Identified alternative language for risk identification choices
- Clearer and more consistent interpretation across clinical areas

Protocol Revision

Risk Level	Key Interventions
Low Risk (0-5)	Standard environmental, patient equipment, and patient instruction precautions
Moderate Risk (6-10)	Standard precautions plus initiate patient - specific prevention items as needed (bed alarms, toileting schedules, increased levels of supervision and assistance)
High Risk (>10)	Standard precautions plus appropriate equipment, alarms, and more resource-intense interventions (frequent observations & patient safety attendants)

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Evolution of Johns Hopkins Fall Risk Assessment Tool (JHFRAT)

2009 Protocol

- Collaborative research study of tool's performance

JHFRAT Study Team

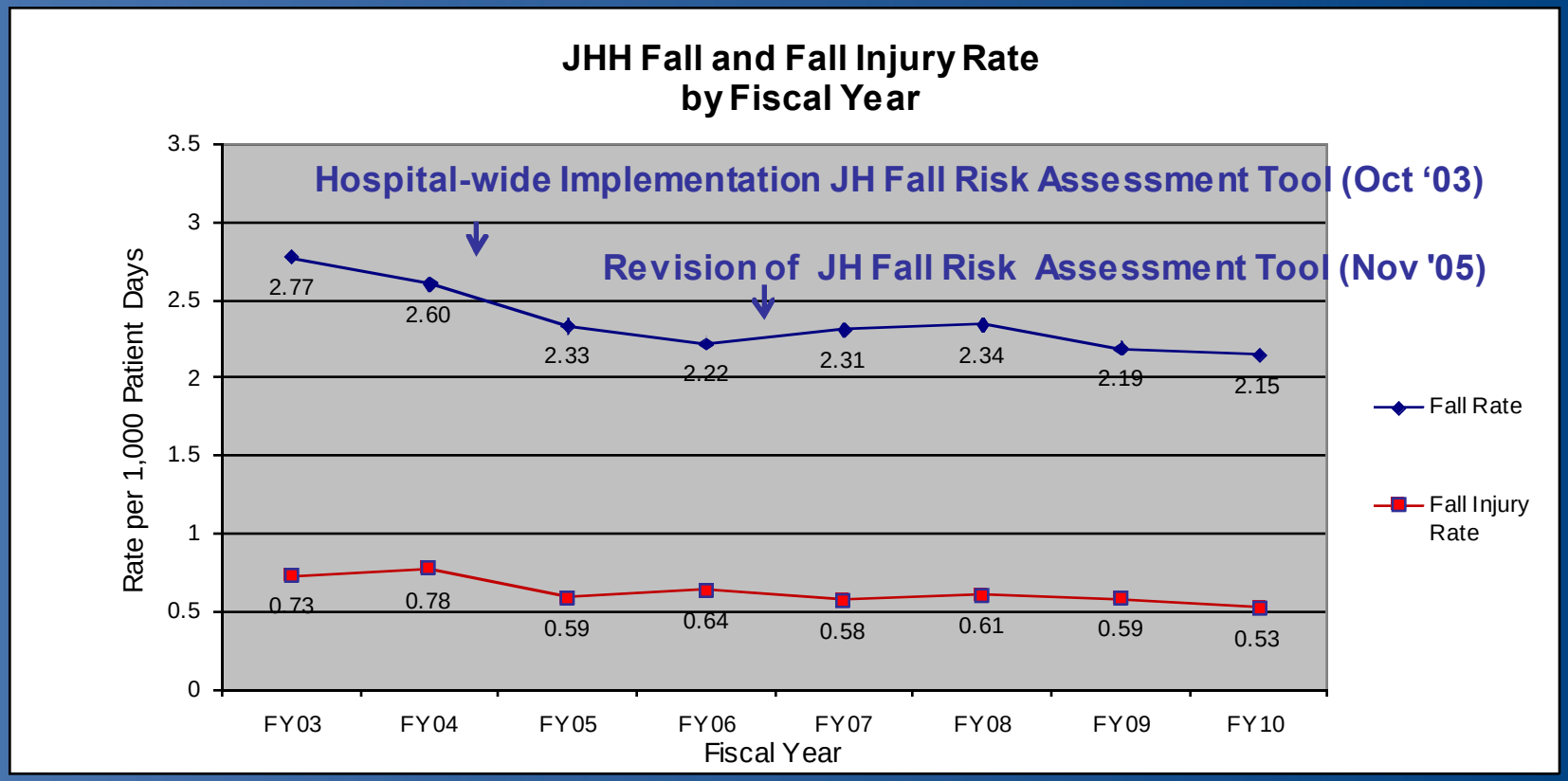
- Faculty at JHU SON
- Quality program nurses and four inpatient unit nurse champions
- Physical Therapist

- Evaluate the consistency of JHFRAT measurement across populations

JHFRAT Study

- Overall and within-unit interrater agreement among and between scale items and scale total
- Sensitivity and specificity in predicting fall events
- Construct validity when correlated with the Morse Fall Scale

Impact of Fall Risk Assessment Tool Implementation



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LESSONS LEARNED

Experiences to Share

- Collaborative for best practice sharing
- Safety and quality at the unit-level
- Examining fall-injury risk factors

MCIC Vermont, Inc. Collaborative

- Share best practices and identify pilot projects
  - Patient assessment and education
  - Fall prevention intervention
  - Post-fall investigation and documentation
- Review fall outcomes for partner hospitals

Fall Prevention Best Practices

Chart stickers

Non-slip footwear

Nightlights

Motion alarms

Safety Observers

Hip protectors

Low beds

Educational Signs

Hourly Rounds

FALL DEBRIEFING

Medication Review

Trauma Teams

Diversionary Kits

Motion Detectors

Floor Mats

Bucket Chairs

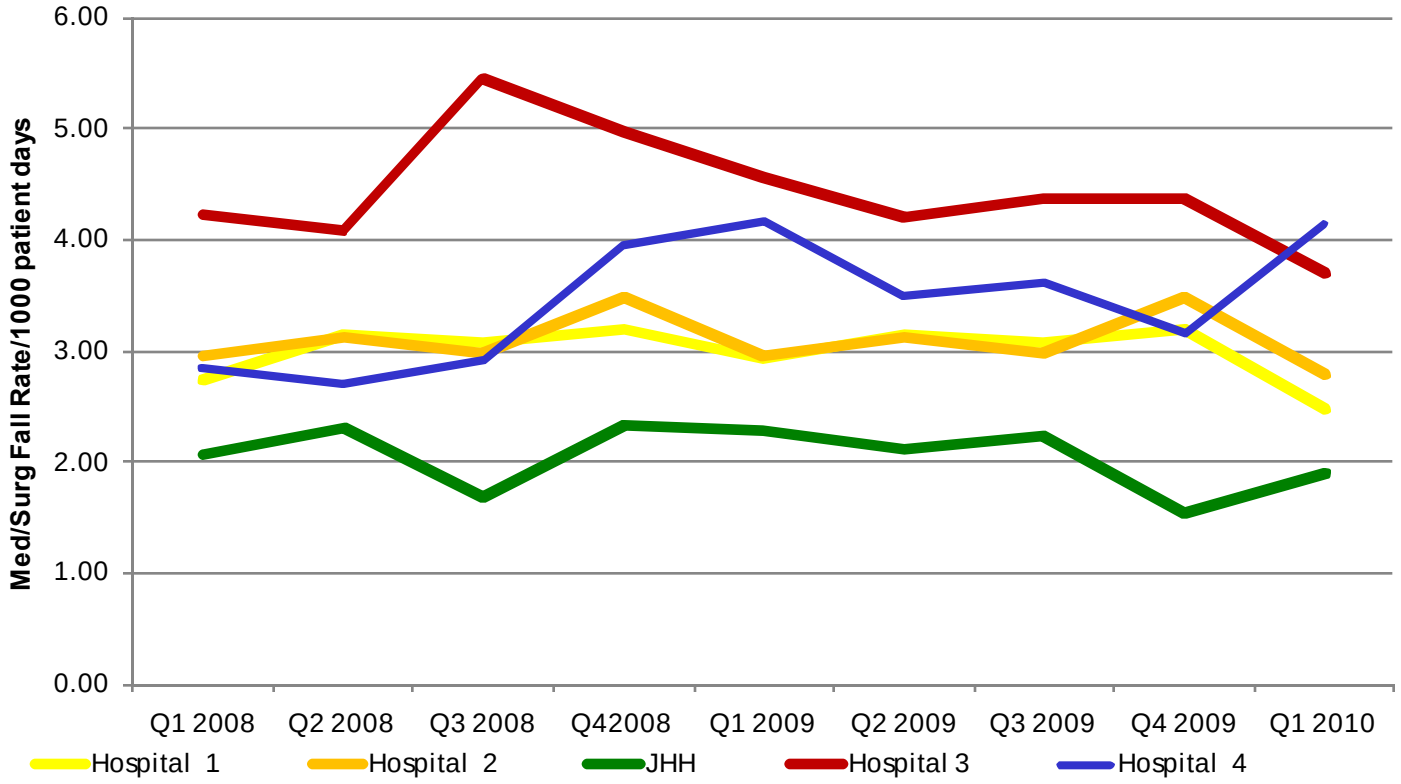
Handrails/grab bars

Delirium Screening

Strength & Balance Exercise

Traffic Light System

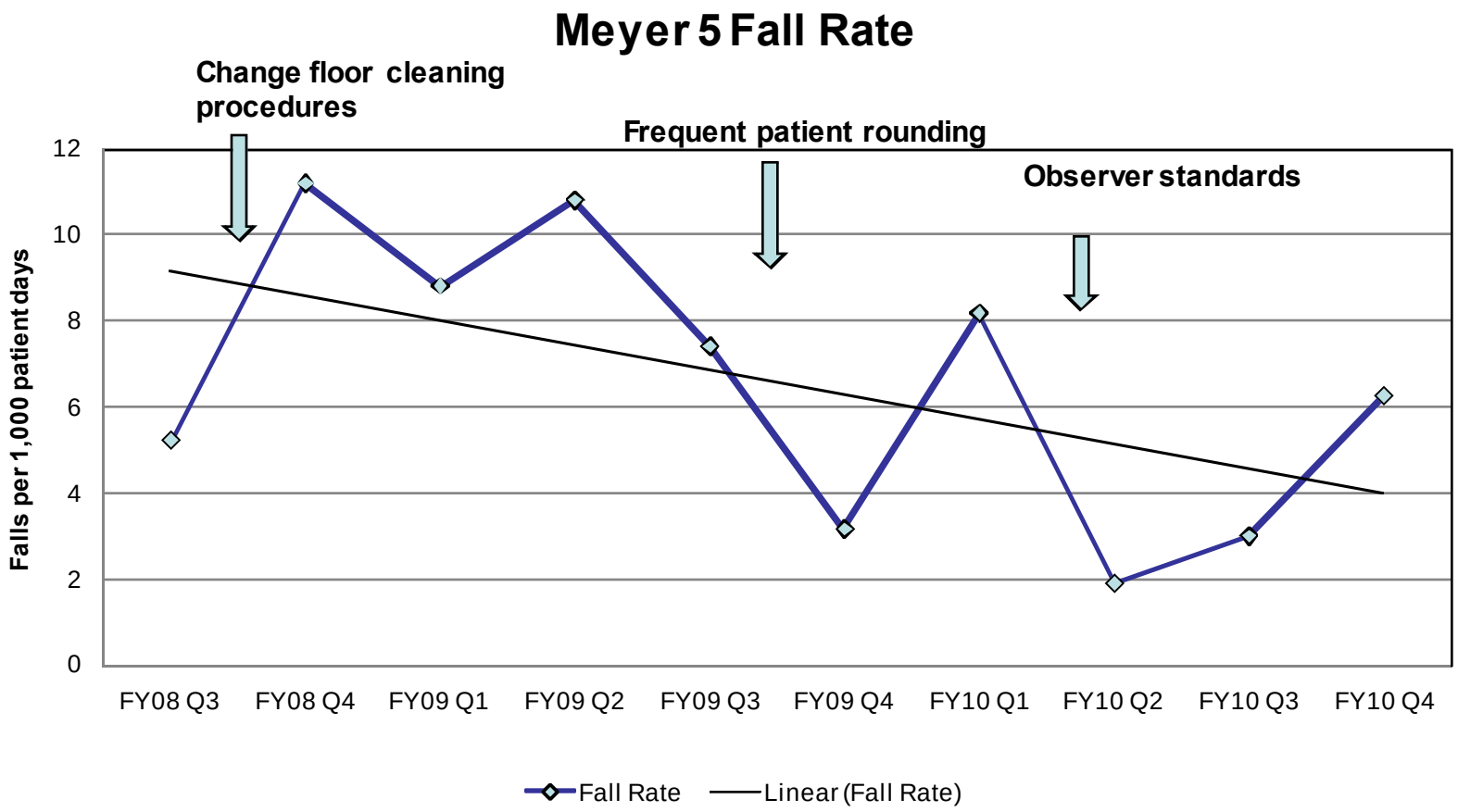
Partner Outcomes: Medical /Surgical Fall Rate



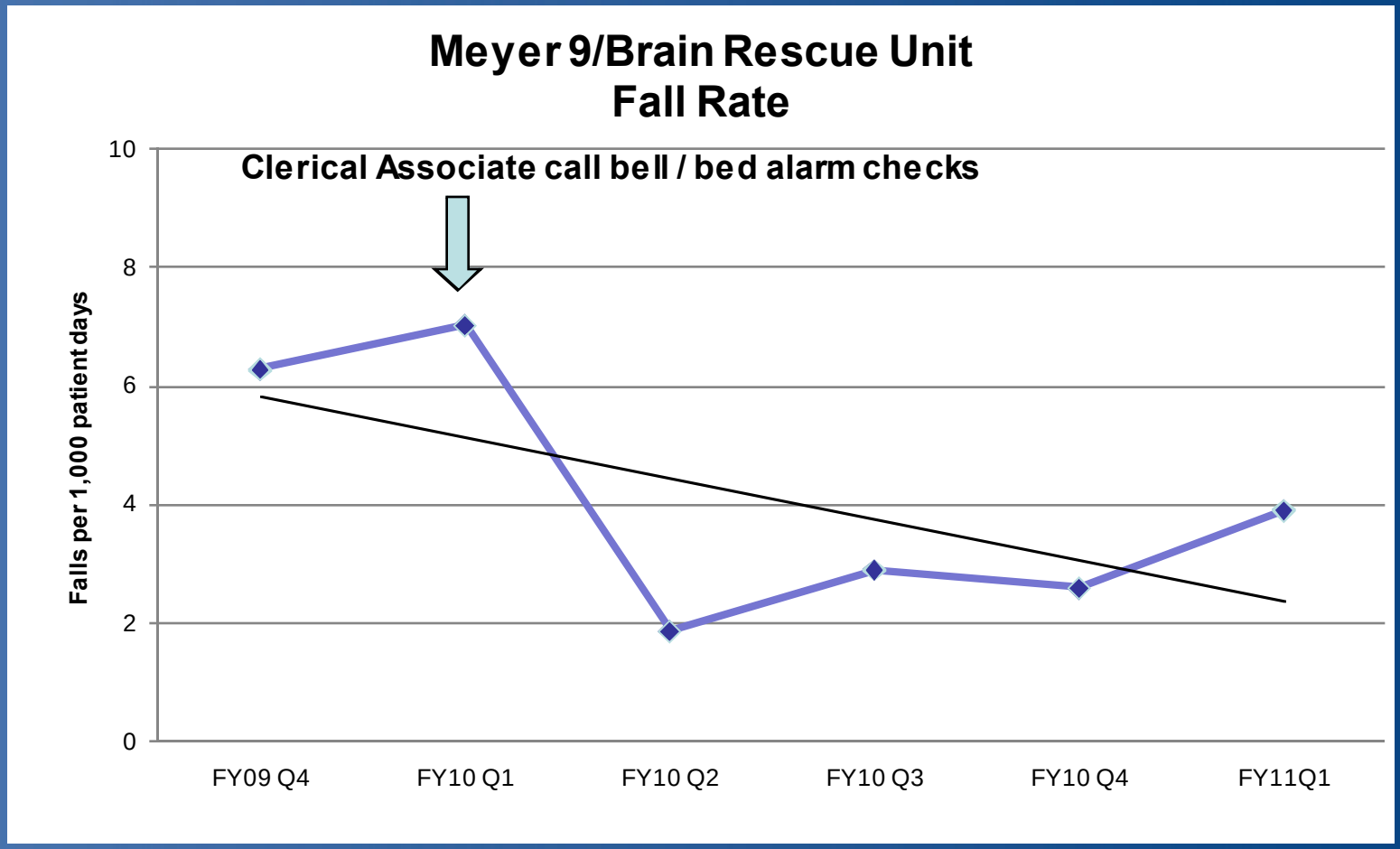
Lessons Learned

- Fall prevention requires constant attention on safety threats
- Engage all team members in prevention activities
- Develop unit-based fall “champions” to get ideas from the nursing team

Unit Safety Projects: Psychiatry Inpatient Unit



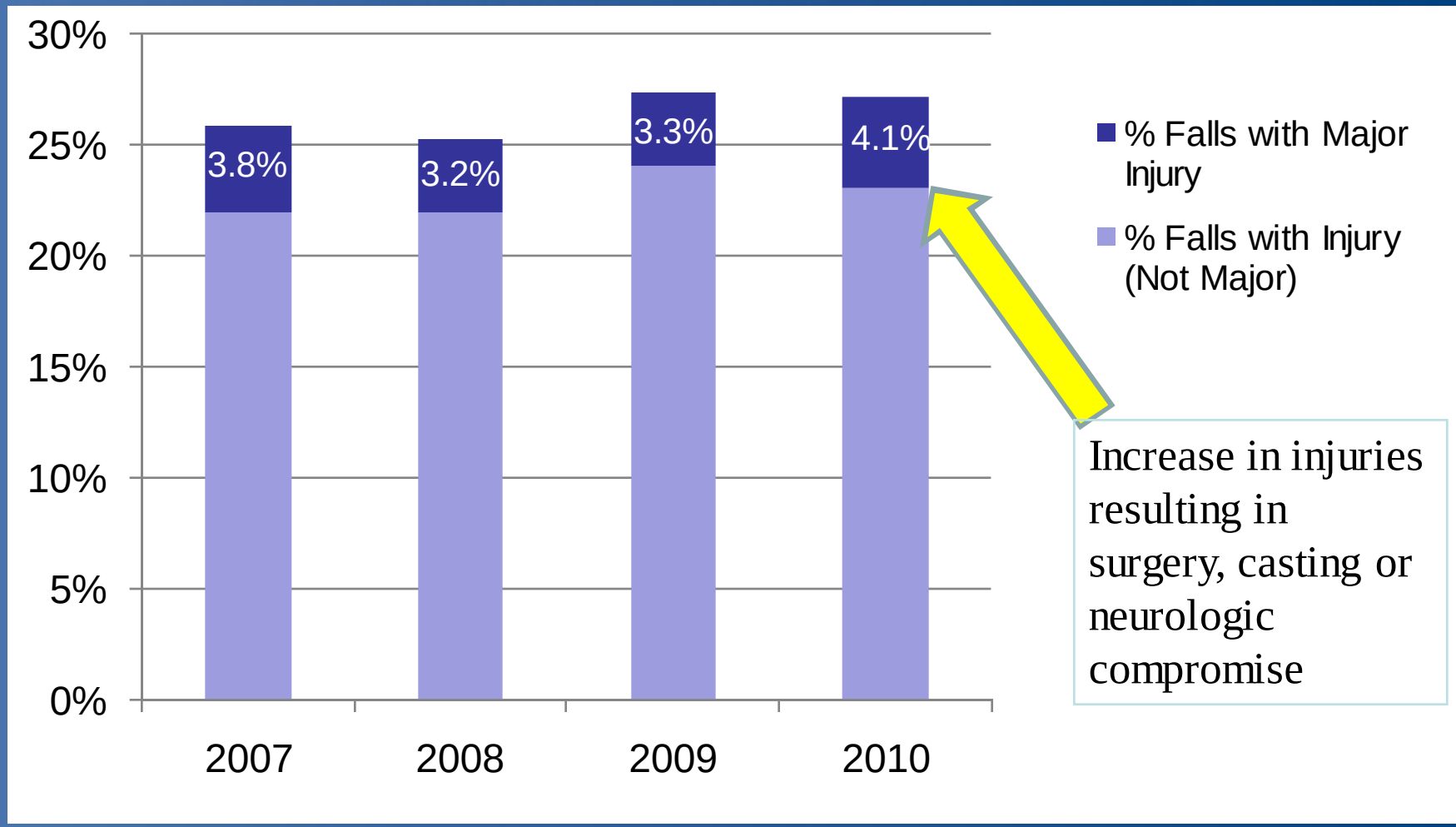
Team Rounding: Neuroscience Unit



Ideas from Nursing Team

- Review of modifiable environmental issues (floor finish, door handles, floor thresholds, day-room chairs)
- Balance & strengthening exercise program
- Delirium assessment for oncology patients
- Fall banners to mark the number of fall-free days

Fall Injury Trends



But…
We already do a fall risk assessment?

Risk of fall ≠ Risk of fall-related injury

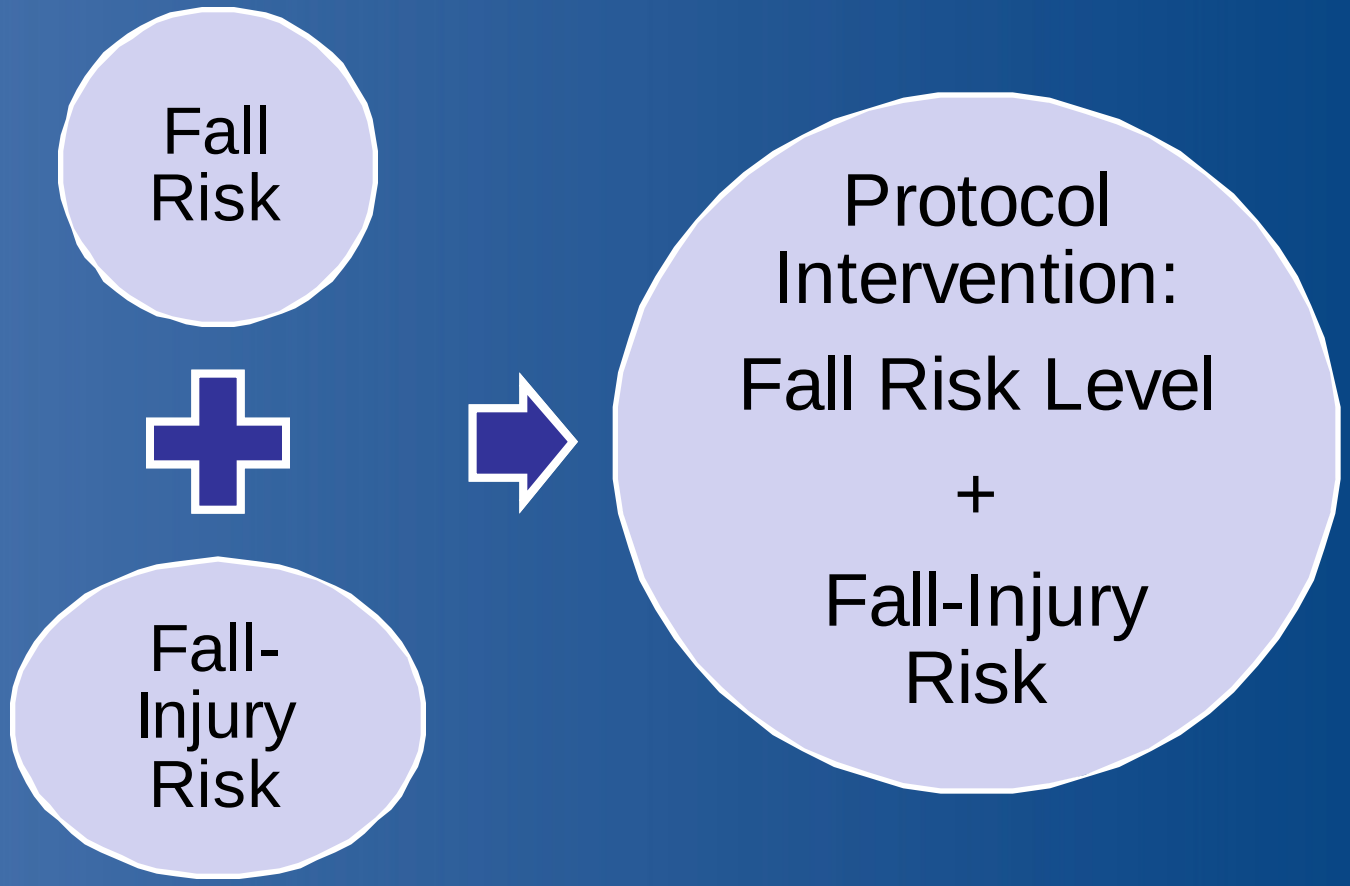
Patients with the same risk of falling can have very different risks of injury, if they experience a fall.

Fall Injury Risk

What does the evidence say?

- Fall-injury risk factors:
  - Age >80
  - Bleeding risk
    - e.g., patients on Bleeding Precautions Protocol or those receiving anti-platelet medications.
  - Fracture risk
    - e.g., patients with osteoporosis, metastatic bone disease, Vitamin D deficiency, or BMI <22 (frail)

How will we use this information?



Changes in protocol interventions

LOW FALL RISK	MODERATE FALL RISK	HIGH FALL RISK
• **Educate** about fall risk & prevention plan.	• **Evaluate need** for either bed-alarm or CARE rounds.	• **Activate** bed alarm.
LOW FALL RISK WITH + INJURY RISK	**MODERATE FALL RISK WITH + INJURY RISK**	**HIGH FALL RISK WITH + INJURY RISK**
• **Educate** about **fall-injury risk factors** & prevention plan.	• **Implement** either bed alarm or CARE rounds.	• CARE rounds and activated bed alarm • **Evaluate need** for constant observer.

Pilot Evaluation

- Documentation process
  - Fall and fall-injury risk documented = 79%
    - Appropriate selection of risk category = 86%
- RN survey
  - Added time to assess & document = 82% (as 2 minutes or less)
  - Injury risk added value to planning = 54%
  - Suggestions focused on streamlined choices and documentation

Pilot Evaluation (cont'd)

- Fall events
  - Nelson 6
    - Pre-pilot- 0
    - Pilot - 0
  - Nelson 7
    - Pre-pilot- 6 (3 – no injury, 1 minor, 2 moderate)
    - Pilot- 2 (1 minor, 1 moderate)

Fall Injury Risk: Next Steps

- Plan to add fall–injury risk assessment
  - Update EBP review of bleeding risk criteria
  - Present the risk and injury risk assessment with the protocol selection
  - Streamline interventions categories from 6 to 3
    - Highlight interventions recommended for positive injury risk

Translation of Evidence into Practice

"We transitioned from the Hendrich II to the JH fall risk assessment tool approximately 7 months ago…

Our 2009 fall data was greatly improved from years previous…

We had a great deal of organization focus on various process improvements over the past year yet feel strongly that the JH tool helped us in our endeavor.

Our weekly Fall University case review consistently validates that our actual falls were anticipated based on the JH numeric rating."

Clinical Evidence in Practice:

The Johns Hopkins Fall Risk Assessment Tool

QUESTIONS?