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Program Evaluation: Enhancing Capacity - Reengineering Fall and Fall Injury Programs: Infrastructure, Capacity and Sustainability

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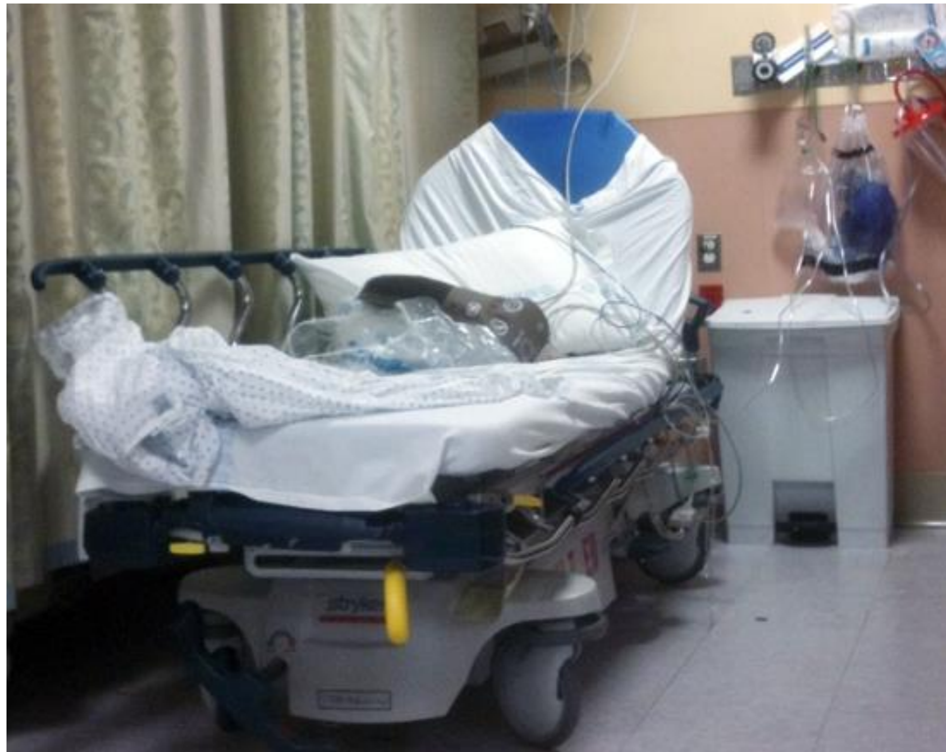
The nurse who won't give up on falls

Dr. Patricia Quigley, is a Nurse Consultant, Nurse Scientist, Retired Associate Director, and VISN 8 Patient Safety Center of Inquiry. She is both a Clinical Nurse Specialist and a Nurse Practitioner in Rehabilitation, and her contributions to patient safety, nursing and rehabilitation are evident at a national level – with emphasis on clinical practice innovations designed to promote elders' independence and safety. She is nationally known for her program of research in patient safety, particularly in fall prevention.

The falls program research agenda continues to drive research efforts across health services and rehabilitation researchers.

Learning Outcomes

- Integrate program evaluation and implementation science.
- Discuss essential elements and guidelines for fall and injury prevention programs.
- Examine expected fall and fall injury program attributes
- Identify opportunities to enhance fall and fall with injury prevention program infrastructure, capacity and how to sustain improvements
- Create action plan while sharing with peers on how to overcome barriers and achieve successes.



The Problem of Falls

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National Guidelines: Shifting

- Reduce individual fall and injury risk factors (Individualized Care)
- Integrate injury risk/history on admission
- Implement universal injury reduction strategies
- Implement population-specific fall injury reduction intervention
- Reduce harm from fFalls

September 28, 2015: TJC #55 Sentinel Event Alert: Preventing Falls and Fall Injuries

- Lead efforts to raise awareness of the need to prevent falls resulting in injury
- Establish an interdisciplinary falls injury prevention team or evaluate the membership of the team in place
- Use a standardized, validated tool to identify risk factors for falls, assess fall and injury risk factors
- Develop an individualized plan of care based on identified fall and injury risks, and implement interventions specific to a patient, population or setting

TJC Sentinel Event Alert 55 continued

- Standardize and apply practices and interventions demonstrated to be effective, including:
  - A standardized hand-off communication process
  - One-to-one education of each patient at the bedside
- Conduct post-fall management, which includes: a post-fall huddle; a system of honest, transparent reporting; trending and analysis of falls which can inform improvement efforts; and reassess the patient
  - Conduct a post-fall huddle
  - Report, aggregate and analyze the contributing factors on an ongoing basis to inform improvement efforts.

Program Evaluation Process

- Process by which individuals work together to improve systems and processes with the intention to improve outcomes.*

*Committee on Assessing the System for Protecting Human Research Participants. *Responsible Research: A Systems Approach to Protecting Research Participants.* Washington, D.C.: The National Academies Press: 2002.

Program Effectiveness: Fall Prevention

- Organizational Level: expert interdisciplinary all team, population-specific fall prevention, leadership, environmental safety, safe patient equipment, post-fall huddles
- Unit Level: education, communication-handoff, universal and population-based fall-prevention approaches
- Patient Level: exercise, medication modification, orthostasis management, assistive mobility aides

Program Effectiveness: Protection from Serious Injury

- Organizational Level: know your population-risk adjust; determine capacity/readiness to protect from injury: available helmets, hip protectors, floor mats, height adjustable beds; elimination of sharp edges
- Staff Level: education, adherence, communication-handoff includes risk for injury
- Patient Level: adherence with hip protector use, helmet use, etc.

Reconsider Overall Falls as Outcome

- If focus on falls, measure preventable falls
- Otherwise, measure effectiveness of interventions to mitigate or eliminate fall risk factors (remember Oliver article, recommendation 2 and 3): Number (and type) of modifiable fall risk factors modified or eliminated upon DC.

Facts – What We Know from the Evidence

- Not all falls are equal
- Universal fall prevention bundles are not effective
- Forced immobility is causing harm
- "Non-compliance" is overused
- Bed alarms cause more harm than good
- Falls are not just a nursing issue
- Medications are the most modifiable risk factor

Facts – What We Know from the Evidence

- Sitters don't prevent falls
- Evidence to support intentional rounding is weak, feasibility for sustainability is uncertain (LeLaurin & Shorr, 2019)
- Patients' own footwear remains safest option for fall prevention (not non-skid socks) (LeLaurin & Shorr)

Nationally Adopted Interventions to Reduce Preventable Falls and Fall-related Injuries

- Identify and address each patient's specific fall and injury risk factors (Lelaurin & Shorr, 2019)
- Integrate new systems and devices (webcams, video tele-sitter technology) that better predict and prevent falls than bed alarms (Lelaurin, et al; Quigley, et al, 2019)
- System-based interventions work: Toileting (i.e. wake em, take em; timed toileting; assist in and out of bed) (Resnick & Boltz, 2019)

Nationally Adopted Interventions to Reduce Preventable Falls and Fall-related Injuries

- Interventions to increase physical activity (motivate and engage patients in activity) increase function and mobility (Resnick & Boltz, 2019)
- Function-focused care – increases physical activity (Resnick & Boltz)
- Frequent medical review minimizes the effects of treatments (ACE units; Acute Care for Elders) (Resnick & Boltz)

Implementation Science

- The evidence supports opportunities to enhance fall and fall with injury prevention program infrastructure
- What will you do to ***Change Practice, Environments***?

That's Implementation Science

- Focus on risk factors
- Focus on preventing injury
- Learn from falls
- Partner with patients and family members

Identifying Risk Factors: Activating Interventions to Address Each Risk Factor

- Medication review
- Urinary catheter or IV discontinuation ASAP
- Mobility aids and assistance with walking
- Scheduled toileting
- Appropriate footwear
- More frequent rounding
- Patient engagement in identifying risks, consequences of a fall and needed safety interventions

Focus on Identifying Risk Factors and Activating Interventions to Address Each Risk Factor

- Identify high risk or vulnerable populations to conduct a multifactorial assessment
  - Patients admitted for a fall
  - High risk for injury – A,B,C,S
  - Known faller
- Complete 65 and older, pre-mobility admission mobility assessment
- Capture known faller status to EMR banner

Focus on Preventing Injuries from Falls

- Use A,B,C,S to screen for populations at injury risk
- Use floor mats, hip protectors, helmets
- Assess and mitigate unsafe environmental hazards: thresholds, sharp edges, hard surfaces, water on floors

Focus on Learning From and Preventing UNASSISTED Falls

- Repurpose alarms as position-sensing devices – set a new goal to increase number of Assisted Bed Exists (new idea!)
- Establish criteria for toileting supervision: arms length, foot in the door, help staff stay on task
- Provide more frequent, purposeful rounding for patients high risk for fall or injury
- Schedule toileting for patients needing assistance ambulating to the toilet. Toilet before pain meds, at bedtime. "I have the time"

Opportunities to enhance fall and fall with injury prevention program infrastructure and capacity

- Select a model
- Set goals
- Conduct baseline assessment
- Identify gap between what is expected and what exists in practice
- Prioritize opportunities for improvement
- Develop a strategic plan
- Develop implementation plan
- Determine feasibility: continue or terminate
- To continue, develop strategies for sustainability and enculturation
- Celebrate success

Preparation Phase

- Assess effectiveness of current team and change membership and/or leadership to bring fresh ideas
- Reinvent the team if needed
- Select unit-based champions for local accountability
- Safe environment checks and opportunity to catch hazards; clutter rounds
- Determine data to be collected and data collection and analysis tools

And much more………

Step 1: Set Goals

- Reduce preventable falls by 50% in 1 year
  - Accidental
  - Anticipated physiological falls
- Reduce fall-related injuries by 60% in 1 year
- 100% completion of post fall huddles in 4 months

Step 2: Baseline Assessment Let's Look at Opportunities

- See the Organizational Assessment Tool
- Find 3 Opportunities
- See My Sample Work Plan

Falls Strategic Plan: Integration Timeline

Last Updated Aug 2019	Sept 19	Oct 19	Nov 19	Dec 19	Jan 20	Feb 20	Mar 20	Apr 20	May 20	Jun 20
Pre-Design Phase (~ 1 month)										
Task Force Co-Chairs meet, develop initial plans										
Create integrated Charter, measures, & communications										
Design Phase (~ 2 months)										
Assess interventions, resources, & requirements										
Falls Program Strategic Plan Kickoff 2-10-2020 2pm EST										
Initial Implementation Phase (~ 4 months)										
Monthly integrated Collaborative meetings										
TF Co-Chairs begin to implement selected interventions										
Sustain & Improve – Reevaluate Plan										
Transition active work, ready for next implementation cycle										

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Accidental Falls Due to Falls from Low Beds

- Structure Goal: develop a safe bed program (height adjustable beds, safe exit side, concave mattresses)
- Outcome Goal: reduce bed-related patient falls by 70 % on rehab unit within 1 year
- Set up your task force

Anticipated Physiological Falls due to Postural Hypotension

- Structural Goal: implement a postural hypotension program (P&P, EMR templates; patient assessment and care management) by 5 months
- Outcome Goal: reduce falls due to OH by 80% in 1 year
- Set up your task force

- Have others that have some knowledge about the change review and comment on its feasibility.
- Test the change on the members of the team that helped developed it before introducing the change to others.
- Conduct the test in one unit / shift or with one group of patients.
- Conduct the test over a short time period.
- Test the change on a small group of volunteers.

Reduce Injurious Falls from Bed

- Structure Goal: implement a floor mat program (product selection, pilot test, P&P development, EMR template, staff education, patient education) by 6 months
- Outcome Goal: within 1 year, 90% of patients who fall from beds will fall on a floor mat
- Set up your task force

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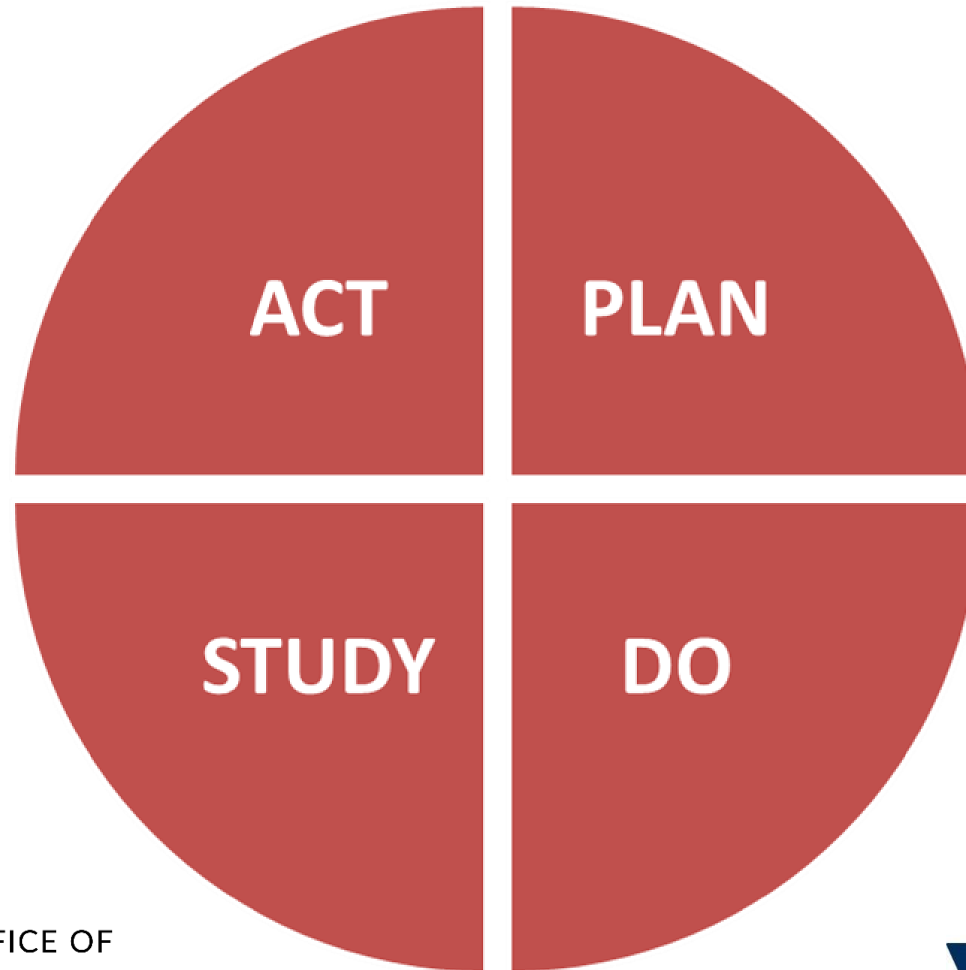
Implement the Post Fall Huddle

- Structure Goal: post fall huddle processes implemented in P&P, education program, and QI
- Outcome Goal: within 4 months, 100% of falls will have a post fall huddle completed
- Set up your task force

Get Ready for Action: PDSA CYCLE



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What are we trying to accomplish?

How will we know that a change is an improvement?

What change can we make that will result in improvement?

A Model for Improvement

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Tips for Measurements

- Seek usefulness, not perfection
- Use sampling. Ex: 10 charts per week
- Don’t wait for the information system
- Report percentages & rates, not absolute numbers
- Take outcome measures at least 1 X/month
- Take process measures at least 2 X/month
- Plot data over time, run charts

Was the Change an Improvement?

Measure Process

Measure Outcome

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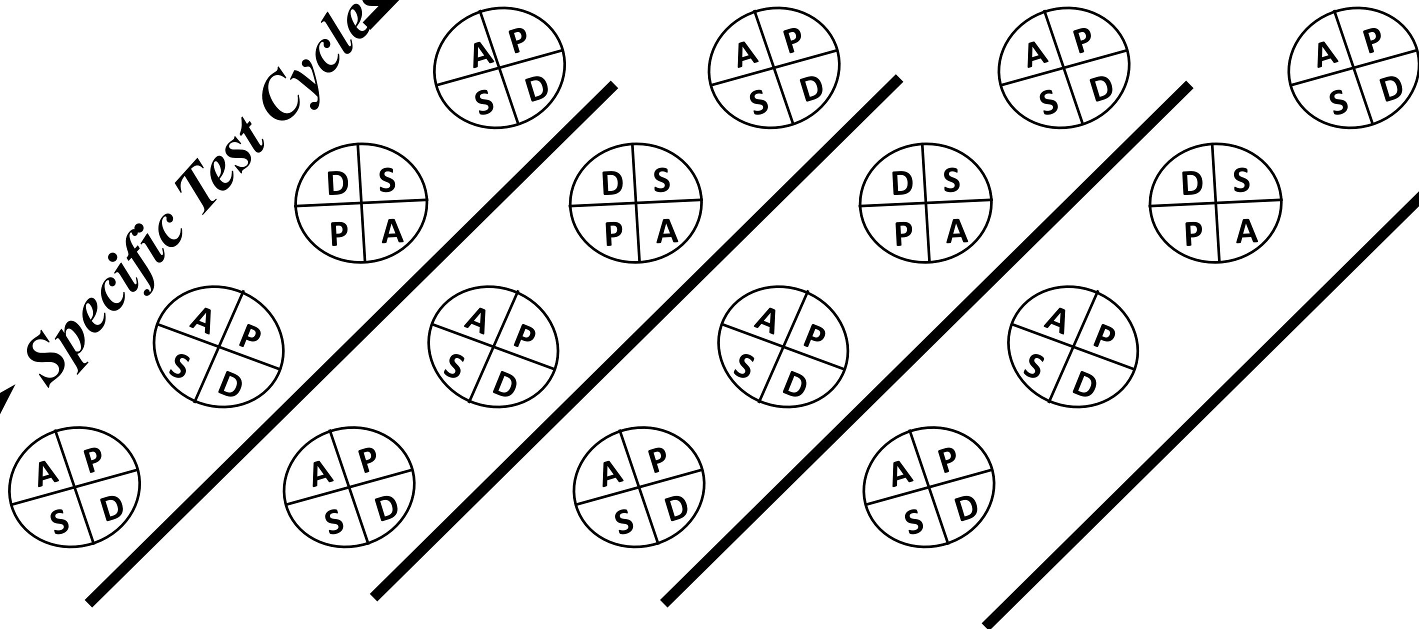
Overall Aim: Decrease Preventable Falls Rate by 50% in 12 months



Develop assess. protocol

Develop Knowledge of falls

Develop Envron.-mental Assess.

Develop specific intervention s for fallers

Staff and Patient Education

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Examples of Process Measures

Percentage of

- Patients at risk for falls and fall related injuries with interventions in place
- Patients $\geq$65 with OH assessed before ambulation
- Observation, chart review

Process measures answer the question: *"Are we doing the things we think will lead to improvement in outcome?"*

Outcome Measures

Major Injury Rate

Preventable Fall Rate

Balancing Measures

Example of Process run chart

% of fall risk patients on diuretics toileted as scheduled

% of fall risk patients receiving intentional rounding

100
90
80
70
60
50
40
30
20
10
0

Jan-11 Feb-11 Mar-11 Apr-11 May-11 Jun-11 Jul-11 Aug-11 Sep-11 Oct-11 Nov-11 Dec-11 Jan-12 Feb-12 Mar-12 Apr-12 May-12 Jun-12 Jul-12 Aug-12 Sep-12

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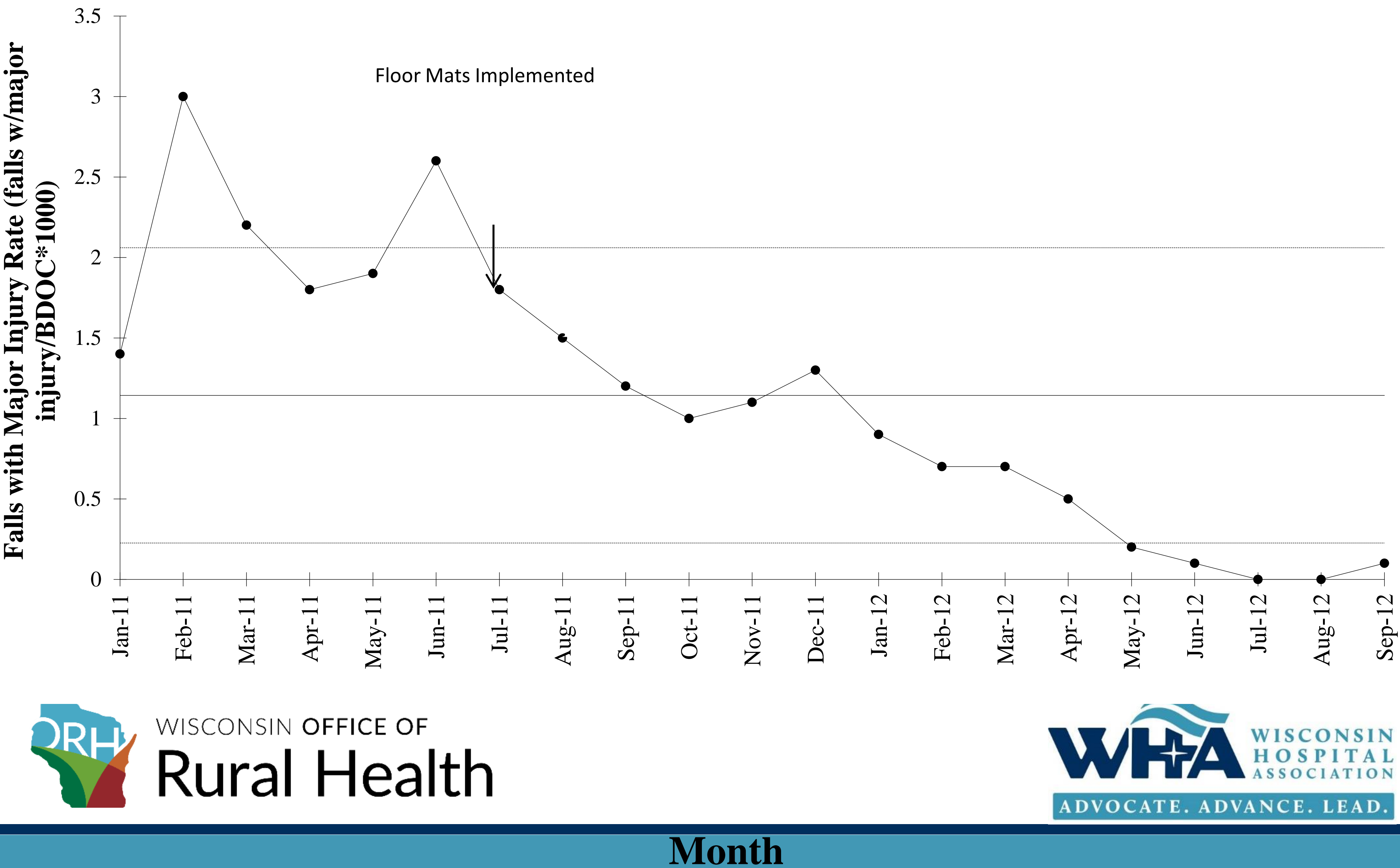
Example of an Outcome Run Chart



Month

Falls per 1000 Patient Days

Fall Rate | UCL | LCL | National Mean

Falls per 1000 Patient Days

8
7
6
5
4
3
2
1
0

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec

2008 **2009**

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Fall Rate by Type of Fall per 1000 Patient Days

Fall Rate | Anticipated Falls | Unanticipated Falls | Accidental Falls | Intentional Falls

Fall Rate per 1000 Patient Days

6
5
4
3
2
1
0

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec

2020 **2021**

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Days Between Serious Injury

Days Between Serious Injury — Average

Date	Days Between Serious Injury
Jan 3 08	49
Feb 2 08	30
Mar 25 08	51
May 1 08	37
May 31 08	30
Jul 7 08	38
Aug 30 08	54
Sep 17 08	18
Nov 23 08	67

Y-axis: Days Between Serious Injury (0–80)

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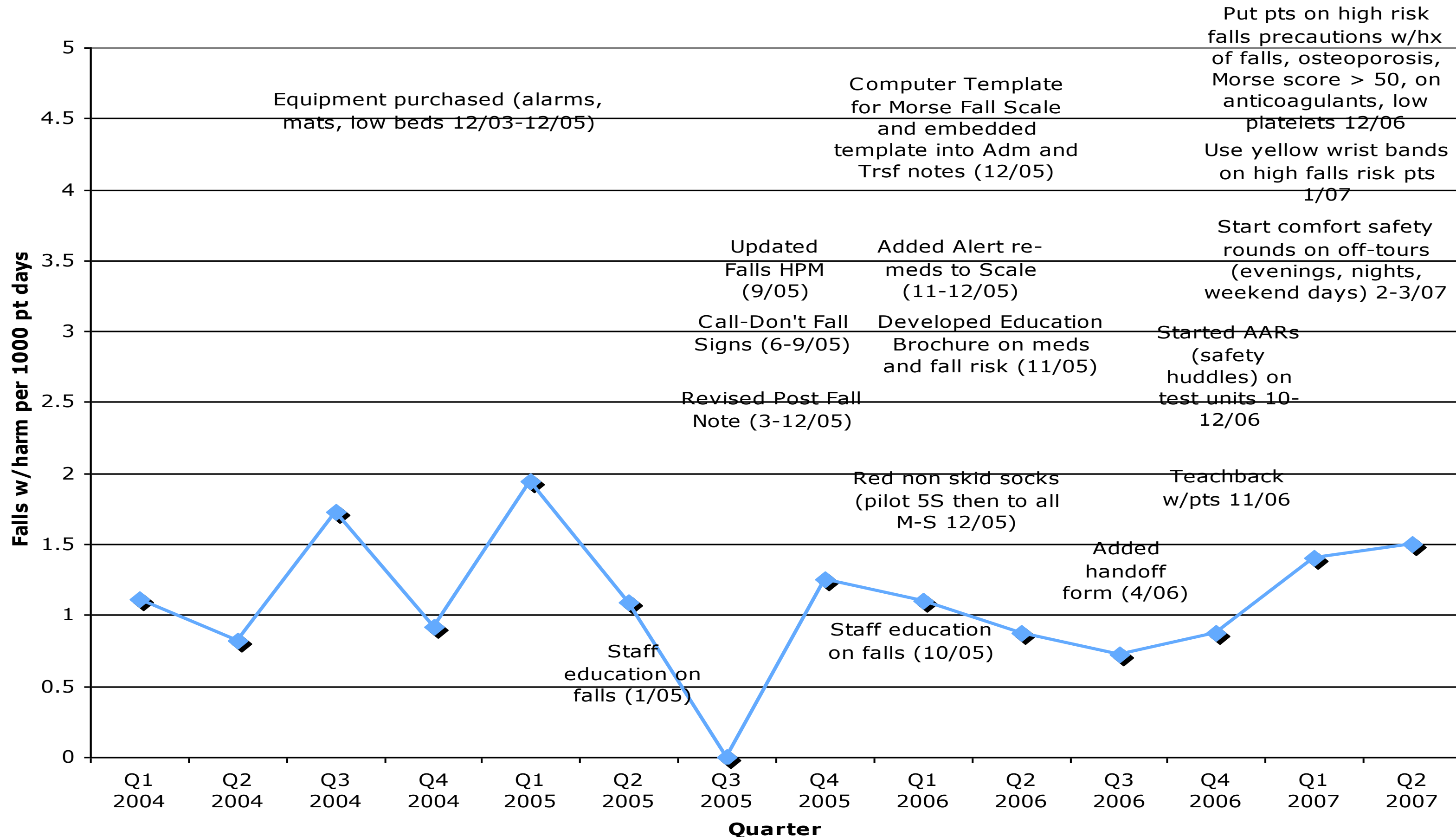
Annotated Run Chart



I am excited for you to Develop Your Action Plan

- Your ideas on how to overcome barriers and achieve successes

Redesign Your Fall Injury Prevention Committee: Action Oriented Toward Goals

- Plan agenda based on strategic plan
- Think quarterly workflow, analysis and support
- Meeting month 1 and month 2: work on the task forces
- Meeting month 3 of the quarter: task force chairs report on progress; evaluate strategic plan

How to Sustain Improvements

- Leader
- Liaison
- Champion Cheer Leader
- Unit-Peer Leaders
- Role Model
- Educator / CNS
- Change Agent
- Develop Story Book of Innovation and Success

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Keep Thinking *Out of the Box*!

- Leadership: culture of safety
- Fall rounds
- Signage
- Frequency of fall risk screening
- Measurements of effectiveness

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Upcoming Schedule

- Coaching Session: October 27
- Review the Organizational Assessment with at least 2 members of your falls team
- Select 2-3 opportunities to go that vary on stage of implementation: 0-1, 1-2, 2-3
- Let's share!

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Thank You and Please Share More!

- Thank you for attending, be a Champion for Change, and keep me posted – I am here for you!
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http://www.hret-hiin.org