Protecting Your Patients from Injurious Falls

Kayla DeVincentis, CHES, Project Coordinator, has worked at IHI since 2009, starting as an intern in the Event Planning department. Since then, Kayla has contributed to the STAAR Initiative, the IHI Summer Immersion Program, and the Expeditions. Kayla obtained her Bachelor’s in Health Science from Northeastern University and brings her interest in health education and wellness to IHI’s Work-Life Wellness Team.
Welcome to today’s session!
Please use chat to “All Participants” for questions
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When Chatting...
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Chat Time!

What is your goal for participating in this Expedition?

Join Passport to:

- **Get unlimited access to Expeditions**, two- to four-month, interactive, web-based programs designed to help front-line teams make rapid improvements.
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To enroll, call 617-301-4800 or email improvementmap@ihi.org.
What is an Expedition?

**ex·pe·di·tion (noun)**
1. an excursion, journey, or voyage made for some specific purpose
2. the group of persons engaged in such an activity
3. promptness or speed in accomplishing something

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Expedition Support

- All sessions are recorded
- Materials are sent one day in advance
- Listserv address for session communications: FallsExpedition@ls.ihi.org
  - To add colleagues, email us at info@ihi.org
Expedition Director

Kathy D. Duncan, RN, Faculty, Institute for Healthcare Improvement (IHI), co-leads IHI’s National Learning Network and manages the 24 IHI Improvement Map support care processes. Ms. Duncan also directs IHI Expeditions, manages IHI’s work in rural settings, and provides in-depth expertise to Project JOINTS. Previously, she co-led the 5 Million Lives Campaign National Field Team and was faculty for the Improving Outcomes for High Risk and Critically Ill Patients Innovation Community. She also served as the content lead for the Campaign’s Prevention of Pressure Ulcers and Deployment of Rapid Response Teams areas. She is a member of the Scientific Advisory Board for the AHA NRCPR, NQF’s Coordination of Care Advisory Panel, and NDNQI’s Pressure Ulcer Advisory Committee. Prior to joining IHI, Ms. Duncan led initiatives to decrease ICU mortality and morbidity as the director of critical care for a large community hospital.
Today’s Agenda

- Ground Rules & Introductions
- Patient Falls and Injuries
- IHI’s Model for Improvement
- Homework for next session

Ground Rules

- We learn from one another – “All teach, all learn”
- Why reinvent the wheel? - Steal shamelessly
- This is a transparent learning environment
- All ideas/feedback are welcome and encouraged!
Overall Program Aim

To provide you, your teams and organization with tools and strategies to reduce preventable falls incidence, injury from falls, and outline the key components of sustaining and spreading successfully.

Expedition Objectives

At the end of the Expedition each participant will be able to:

- Differentiate types of falls as a basis for analysis of program effectiveness
- Integrate injury prevention into existing fall prevention programs
- Inventory tests of change in fall and injury prevention interventions
- Summarize successes ready for adoption and spread
- Plan small tests of change they can test throughout the Expedition
Schedule of Calls

Session 1 – Introduction to Preventing Patient Falls and Injury from Falls
Date: Wednesday, January 30, 12:30 PM – 2:00 PM ET

Session 2 – Injury Risk Assessment and Communication of Risk
Date: Wednesday, February 13, 1:00 PM – 2:00 PM ET

Session 3 – Interventions to Reduce Falls and Falls Harm Part I
Date: Wednesday, February 27, 1:00 PM – 2:00 PM ET

Session 4 – Interventions to Reduce Falls and Falls Harm Part II
Date: Wednesday, March 13, 1:00 PM – 2:00 PM ET

Session 5 – Preventing Falls with Injury Assessment Tool and Patient Education Resources
Date: Wednesday, March 27, 1:00 PM – 2:00 PM ET

Session 6 – How to Sustain and Spread Improvements in Reducing Falls and Injury from Falls
Date: Wednesday, April 10, 1:00 PM – 2:00 PM ET

Session 7 – Accomplishments, Barriers, and Next Steps
Date: Wednesday, April 24, 1:00 – 2:00 PM ET

Faculty

Patricia Quigley, PhD, MPH, ARNP, CRRN, FAAN, FAANP, Associate Director, VISN 8 Patient Safety Center of Inquiry, is both a Clinical Nurse Specialist and a Nurse Practitioner in Rehabilitation. As Associate Chief of Nursing for Research, she is also a funded researcher with the Research Center of Excellence: Maximizing Rehabilitation Outcomes, jointly funded by HSR&D and RR&D. 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.
Session Design

- Welcome and Share Innovations
- Report of Assignments from prior Session
- New Learning Time
- Questions and Answers
- Assignments for Next Session

Patient Falls and Injuries

State of the Science: Overview of current body of knowledge about reducing falls and fall injuries in hospitals

Special Recognition: Robert Wood Johnson Foundation Funding

This material is the result of work supported with resources and the use of facilities at the James A. Haley Veterans’ Hospital.
Session 1: Introduction to Preventing Patient Falls and Injury from Falls

- Introduce you to a community of learning to both analyze and shift fall prevention programs to protect patients from injury.
- Provide an overview of the state of science in fall prevention and injury protection, along with limits of the science, will set the stage for new tests of change for clinical practice, patient education, and environmental safety.

Session 1: Introduction to Preventing Patient Falls and Injury from Falls

- Learn strategies to gain precision in fall prevention program interventions and evaluation.
- Review the depth and breadth of this expedition will be reviewed, followed by assistance with aim setting and aim sharing.
Must Reads:

- Clinics in Geriatric Medicine, Nov. 2010.


Preventing Falls: Call for Action

- Transform healthcare for frailty associated with old age.
- Prevent falls identified as an effective strategy.
- BUT, major area for improvement in routine practice.
  - 2003: IOM: Priority areas for national action: transforming health care quality
- Multifaceted and individualized fall prevention programs used inside and outside hospital setting.
- Thorough review of the strategies revealed they lack strong empirical evidence.
Hospital Falls:

- 80% - 90% are unwitnessed
- 50%-70% occur from bed, bedside chair or transferring between the two; whereas in mental health units, falls occur while walking
- Falls result in Increased LOS, higher rates of DC to institutional care, and greater amounts of healthcare resource use

Falls Rates (Oliver, et al., 2010)

- Acute Hospitals:
  - Range 1.3-8.9 falls per 1000 OBDs (single observational studies in hospitals)
  - Range 3-5 falls per 1000 OBDs (multihospital studies)
- Mental Health Units
  - Range 2 – 4 falls per 1000 OBDs
  - Psychogeriatric units 17-67 falls per 1000 OBDs
- Rates are the best way of facilitating comparisons between hospitals of different sizes
- Represent well over 1000 falls each year in a large acute hospital
- Perhaps as many as 1 million falls in hospitals per year
Injuries from Falls

- 30% to 51% of falls result with some injury
- Proportion of falls resulting in any fracture range 1%-3%
- Hip Fractures are 1.1%-2%
- Proximal femoral fractures due to falls in hospitals result in poorer health outcomes than those that occur in the community
- Even soft tissue injuries or minor fractures cause significant functional impairment, pain and distress
- Minor or no injuries from falls can mark beginning of negative cycle – FOF, Debility

Hospitals (Oliver, et al., 2010)

- Recommended appropriate approach to fall and injury prevention based on systematic reviews, recent research, and clinical and ethical decisions
- Patient-specific factors: intrinsic risk factors, the physical environment, and riskiness of a person’s own behavior
- Recent fall (fallers); muscle weakness; behavioral disturbance, agitation, or confusion; urinary incontinence or frequency; prescription “culprit” drugs; postural hypotension or syncope.
- Risk increases with advanced age, w/ the highest rates seen in the “oldest old”, older than 85 yoa
Ability to Predict Falls

- Risk screening vs. Risk assessment
- Type of Fall
- In-depth tool validity analysis by Oliver, et al., 2010, suggested need for Comprehensive Fall Risk Assessment to identify modifiable and nonmodifiable risk factors

Hospital Environments

- Majority of hospital beds in developed nations are occupied by older people, many of whom are admitted because of mobility problems, falls or injury from falls (Oliver, et al., 2007)
- Unfamiliar environment
- Poor lighting
- Trip and slip hazards
- Suboptimal chair and bed heights
- Availability of mobility equipment
- Staff availability and attitude
Empiric Evidence for Fall and Injury Prevention in Hospitals

- **Multifactorial components** with **multiprofessional input**
  mostly seen in successful trials (note * no two trials bundle the same interventions)
  - Post fall review, patient education, staff education, footwear advice, toileting
- A couple of trials included medication review and prevention and detection of delirium
- Patients themselves favored multifactorial approach reviewed by a health professional

Multi-Professional Involvement is Essential

- No hospitals trials that focused solely on changing nursing practice succeeded in reducing falls or injuries, as is also the case in care home settings
Single Interventions in Hospitals

- Exercise or Additional PT (RCTs insufficiently powered to detect effect in reducing falls)
- Increased observation or assistance – intuitive sense but anecdotal
- Patient Education – multimedia education with trained health professional follow-up has promise to be beneficial in preventing falls
- Specialist Support to Manage Dementia – only 1 trial, no difference
- Cal / Vit D: effect determined after discharge
- Hip Protectors (no trials in acute care; adherence issues in hospitals)
- Flooring to reduce impact: promising
- Medication Review and Adjustment: requires specialist pharmacist
- Prevention and Management of Delirium
- Reducing sedative and hypnotic medications

Single Interventions without Empiric Evidence

- Continence management or promotion
- Education and training for staff or relatives
- Correction of visual impairment
- Recognition or management of dizziness, syncope, pre-syncope, or postural hypotension
- Attention to footwear
- Environmental modifications (including flooring materials) to prevent falls or injuries
NQF’s Safe Practices (2010)

- Falls occur frequently in hospitalized patients and LTC residents and are the leading cause of injury-related death for individuals over 65 yoa (CDC, 2006)
- Patients in LTC and hospitals fall 3 times more than the community dwelling persons age 65 and older
- All ages of patients are admitted to oncology, critical care, and infectious disease units are at risk for falls
- In 2009, The Joint Commission reported falls at the 6th most commonly reported sentinel event
- Death occurs in 15% of elderly who fall in the hospital and 33% do not survive beyond one year of fall

Conclusion

- No conclusive medical evidence that multifactorial prevention programs in the acute hospital settings are effective.
- No studies demonstrating statistically significant evidence that any of the individual measures used in the hospital that are often considered to be effective in reducing fall risks are effective, with the exception of addressing delirium
- Most current recommendations are based on expert opinion.
- Most current recommendations do not increase harm or fall risk, and thus may be safely continued
- Outside the hospital, multimodal fall prevention programs that include exercise programs, nutrition, and vision care, along with home evaluations for high risk patients, have been shown to be effective.
- Need further investigations, esp. RCTs, in hospitals.
Where is the evidence?

- In the hospital setting, approximately 3%-20% of inpatients fall at least once during their stay (translates into 4-12 falls per 1000 bed days of care)
- Multifaceted and individualized programs have been created to prevent falls in the elderly.
- Many of these interventions are based on expert opinion and statistical trends.
- Their review of the literature revealed that the risk of fall is only slightly greater in the hospital environment than in the home.
- There is no medical evidence that evidence-based guidelines are effective in fall prevention.

Limits to Science

- Research methodology Issues: design and conduct of studies
- Lack of control for effectiveness analysis
- Over generalizing fall as the outcome (fall vs. non-fall)
- Interventions based on category of risk (not specific risk factors)
- Fall prevention is usually a complex intervention
- Falls are rare outcome (affects sample size and power)
Inconclusive Evidence

- 2010 Cochrane Review on hospital fall prevention interventions: Inconclusive, provided no recommendations regarding fall prevention interventions in the hospital setting (Cameron, I., et al., 2010. Intervention for preventing falls in older people in nursing facilities and hospitals. Cochrane Database for Systematic Reviews 1, Art. No.: CD005465.)

Clinical Judgment

- Evidence-based Practice
  - Vs
- Results of Scientific Inquiry
New Tests of Change

- Clinical Practice
- Patient Education
- Environmental Safety

VA's Patient Safety Center Studies

- Basic universal fall precautions for all pts
- Assessment for risk for falling
- Culture of safety
- Hospital protocol for fall prevention
- Enhanced communication of risk for injury from a fall
- Customized interventions for those at risk for fall-related injury
- Adjusting bed height, use of floor mats and hip protectors

Mills, Nalley, Quigley, 2005; Nalley, Howard, Quigley/Mills, 2005; Applegarth, et al., 2009; Bowers, et al., 2008; Bulat, et al., 2008
Strategies to Gain Precision

- Fall Prevention Program Interventions
- Fall Program Evaluation

Clinical Practice

- Differentiate Fall Risk Screening from Assessment
- Identify Modifiable vs. Non-Modifiable Fall Risk Factors
- Treat Modifiable Fall Risk Factors
- Design Individualized Plans of Care
- Implement Population – Specific Prevention Strategies
- Implement Population-Specific Protection Strategies
AGS Guidelines 2010

Assessment

1. Obtain relevant medical history, physical examination, cognitive and functional assessment
2. Determine multifactorial fall risk:
   a. History of falls
   b. Medications
   c. Gait, balance, and mobility
   d. Visual acuity
   e. Other neurological impairments
   f. Muscle strength
   g. Heart rate and rhythm
   h. Postural hypotension
   i. Feet and footwear
   j. Environmental hazards

Interventions

Initiate multifactorial/multicomponent intervention to address identified risk(s) and prevent falls:

1. Minimize medications
2. Provide individually tailored exercise program
3. Treat vision impairment (including cataract)
4. Manage postural hypotension
5. Manage heart rate and rhythm abnormalities
6. Supplement vitamin D
7. Manage foot and footwear problems
8. Modify the home environment
9. Provide education and information

Major Risk Factors

- **Intrinsic**
  - Age
  - Fear of falling (W/ or w/o History of falls)
  - Impaired mobility: balance, sway, abnormal gait
  - Impaired cognition
  - Sensory perceptual deficit
  - Medical diagnoses
  - Problem with elimination

- **Extrinsic and Environmental**
  - Medications: Hypertension, psychotropic, sleeping pills, narcotics
  - Insecure conditions:
    - Physical: mechanical, light, temperature, noise.
    - Clothing: ill-fitting/lack of prescription or wear of eye glasses.
Evaluate Your Patient

Critical for Individualized Fall Prevention Plan of Care – Protection!

Falls Risk Factors: Implications

- Falls occur for numerous reasons; they are often multi-factorial in nature.
- Multi-disciplinary Falls Team Assessments are often most successful at identifying individualized interactions of multiple factors which lead to falls.
- Evaluate which initial interventions need to be discontinued, modified, added.
- Document / Communicate New / Revised Plan of Care – Evaluate new plan – DO NOT Wait for the next fall to occur.
Think Out of the Box

Limits to Science

- Failure to Differentiate Type of Fall
  - Accidental
  - Anticipated Physiological
  - Unanticipated Physiological (Morse 1997)

- Failure to Link Assessment with Intervention
Types of Falls

- Accidental falls
- Environmental factors
  - slipping
  - tripping
- Person making errors of judgment
  - misjudging the safety of physical environment
  - losing balance while ambulating

Types of Falls (cont.)

- Anticipated Physiological Falls
- Related to age and functional ability
- Disease(s)
- Previous fall(s)
- Weak or impaired gait
- Lack of realistic assessment of their own ability
**Types of Falls (cont.)**

- **Unanticipated Physiological Falls**: May be attributed to physiological causes but created by conditions that cannot be predicted
- **Pattern falls**: disorder of balance in older elderly
- **Premonitory falls**: acute illness as MI, CVA, GI bleed
- **Long lie**: a fallen lies more than one hour after the fall
- **Cluster falls**: series of fall occurring preceding death

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**Precision In Program Evaluation**

Analysis of Outcomes

- Fall Rates: Overall, Type of Fall
- Repeat Fall Rate
- % of Patients who Fall
- Injury Rate
- Injury Rate by Severity
- % of Injuries that are Moderate-Serious
- % of Patients who sustain injury
Additional Measurement: Program

- Formative and Summative Evaluation
  - Formative: Processes:
    - Tests of Change
    - Staff Engagement
  - Summative: Outcomes
    - Change in Organizational Assessment
    - Attainment of Aims

IHI RWJF 2006

Transforming Care at the Bedside How-to Guide:
Reducing Patient Injuries from Falls (2008)

- Updated 2012
How to Guide: Revision
6 Steps (2012)

- Screen risk for anticipated physiological falls on admission and
- Screen risk for injury (history of FRI) on admission
- Complete multifactorial fall risk assessment
- Assess Multifactorial Risk Factors for Anticipated Physiological Falling with members of the interdisciplinary team, and Risk for a Serious or Major Injury from a Fall
- Communicate and Educate About Patients’ Fall and Injury Risk
- Implement Universal Fall and Injury Prevention Interventions for Patients at Risk for Injury

Questions?

Raise your hand
Use the Chat
Tips for Creating Aim Statements

- State the aims clearly (What do you want to accomplish? How good, by when?)
- Define location or population
- Set stretch goals
- Include numerical goals/targets

A test of change should answer a specific question. A test of change requires a theory and prediction. Test on a small scale. Collect data over time. Build knowledge sequentially with multiple PDSA cycles for each change idea. Include a wide range of conditions in the sequence of tests.
Repeated Use of the PDSA Cycle

Sequential building of knowledge under a wide range of conditions

Hunches, Theories, Ideas

Very Small Scale Test

Follow-up Tests

Wide-Scale Tests of Change

Implementation of Change

Spread

Changes That Result in Improvement

Aim: Implement Rapid Response Team on non-ICU unit

Cycle 1: ICU nurse responds to rapid response team calls on one unit, one shift for one day

Cycle 2: Repeat cycle 1 for three days

Cycle 3: Have Respiratory Therapist attend rapid response calls with ICU Nurse

Cycle 4: Expand coverage of RRT on unit to one unit for one shift for five days

Cycle 5: Have Nurse Practitioner respond to calls in addition to RT and RN

Cycle 6: Expand rounds to one unit for one shift seven days a week
## Worksheet For Testing Change

**Aim:** (Overall goal you would like to reach)

Every goal will require multiple smaller steps of change

<table>
<thead>
<tr>
<th>Describe your first (or next) step of change</th>
<th>Person Responsible</th>
<th>Where to be done</th>
<th>When to be done</th>
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<tbody>
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**Plan**

List the tasks needed to set up this step of change

<table>
<thead>
<tr>
<th>Person Responsible</th>
<th>Where to be done</th>
<th>When to be done</th>
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<tr>
<th>Predict what will happen when the test is carried out</th>
<th>Measures to determine if prediction succeeds</th>
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<td>1.</td>
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<td>2.</td>
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<td>3.</td>
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<td>4.</td>
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</tbody>
</table>

**Do**

Describe what actually happened when you ran the test.

**Study**

Describe the measured results and how they compared to the predictions.

**Act**

Describe what modifications to the plan will be made for the next cycle from what you learned.

## Questions?

Raise your hand

Use the Chat
Assignments for Session 2

- Declare an Aim Statement
  - Identify which risk assessment tool you will use
- Identify at least one gap between current performance and stated aim
- Complete the Injurious Fall Prevention Organizational Self-Assessment with your team
- Complete the Injurious Fall Data Collection Tool for 5 patients

Prepare for Self Assessment: Preventing Falls with Injury

- VISN 8 PSCI: Organizational Self Assessment Tool – Infrastructure and Capacity
- IHI Injurious Fall Data Collection Tool
- Let’s review these tools!
Injurious Fall Prevention Organizational Self-Assessment

Hospital Name: ______________________
Unit Type: ______________________

The purpose of this Injurious Fall Prevention Organizational Self-Assessment questionnaire is to determine the implementation level of key fall injury program attributes within your hospital and the inpatient psychiatry unit that you work on. Thus, we are seeking information from administrative, advanced practice and direct care staff who currently practice in inpatient psychiatry units.

Our program objectives are to:
1. Determine the level of implementation of fall and injury prevention attributes at organizational and unit level within your hospital and within VISHN;
2. Identify opportunities for fall injury program development and expansion as part of our strategic planning;
and,
3. Implement a learning community to assist with program implementation, spread and sustainability. To meet these objectives, we first need your input.

Thus, we are asking you to complete the sections of this self-assessment based on your role. Section 1: Administrative staff or advanced practice providers, and Section 2: Unit staff.

Section 1: To be completed by administrative staff (i.e. Service Chiefs/Assistant Chiefs, Unit/Program Supervisory, Nurse Managers) or advance practice providers (NP, CNS, etc.)

Demographics
1. What is your role in the organization (Please circle)?
   a. Member of quadrant (e.g. Hospital Director, Associate Director, etc.)
   b. Nurse Manager
   c. Program Director, specify program ______________________
   d. Patient Safety Manager
   e. Advanced practice provider
   f. Other, specify ______________________

2. Please complete the following sections:
Aim Setting

- What will be done
- Within what timeframe
- Outcome that is measureable
- Ex: By the completion of this Expedition, the following program changes will be ready for spread: Types of Falls; Selection of Population-based Injury Prevention; A Strategic Plan will be started.

Volunteers?
Questions?

- Raise your hand
- Use the Chat

Expedition Communications

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  - To add colleagues, email us at info@ihi.org
- Pose questions, share resources, discuss barriers or successes
Next Session

Wednesday, February 13, 1:00 PM – 2:00 PM ET
Session 2 – Injury Risk Assessment and Communication of Risk