

# Post-Implementation Analysis of a Revised Fall Prevention Program at a Magnet Community Hospital

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## INTRODUCTION

Patient falls are inevitable occurrences in healthcare facilities. Falls can result in injuries to patients and prolonged hospital stays. The Joint Commission's National Patient Safety Goal 9 states "reduce the risk of patient harm resulting from falls." More recently, awareness on this patient safety issue has been heightened due to The Centers for Medicare and Medicaid Services' payment reforms for "never events" (2008). As acute care facilities review their fall prevention policy and procedures and staff education, it is prudent to gather and analyze hospital-specific data to inform these processes. In the published literature, research examining acute inpatient fall prevention interventions and staff compliance of interventions is limited.

**Research Question.** Have the revised fall prevention program interventions influenced fall rates, injury rates, types of falls and types of injuries in psychiatric and medical patient populations? Secondly, the research assessed nursing staff knowledge about the revised interventions and how effective staff perceived them to be.

## STUDY DESIGN

### METHODS

- Retrospective design, quantitative and qualitative comparisons
- Comparison data analysis:
  - Phase I - 10/01/05 through 09/30/06
  - Phase II - 10/01/06 through 09/30/07
- Data was collected using the hospital's fall evaluation tool, risk management data, and the medical record database ChartMaxx™
- Descriptive and inferential statistics performed
- Fall rate = number of falls / occupied bed days x 1000
- Injury rate = number of injurious falls / occupied bed days x 1000
- Nursing staff survey: anonymous Zoomerang™ survey to determine awareness and effectiveness of fall prevention interventions

### SAMPLE

- Fall data: 95 occurrences were gathered from adult psychiatric and medical patients hospitalized in Phase II (compared to Phase I - 87 fall occurrences)
- Survey data:
  - 160 nurses and nursing assistants participated
  - 104 participants responded from clinical areas utilizing fall prevention interventions: critical care, telemetry, inpatient rehabilitation, medical, oncology, ortho/neuro, psychiatry and surgical

## DEFINITIONS

Fall Type	Definition
Accidental	Falls caused by patient slipping, tripping, or having some other accident
Anticipated Physiological	Falls that occur with patients identified as fall prone by scoring at or below 10 on the Morse Fall Scale
Unanticipated Physiological	Falls that may be attributed to physiological causes but are not caused by conditions that cannot be predicted before the first ambulation
Saved	A successfully prevented fall, i.e., patient is "caught" and lowered to a chair or the floor breaking the impact of the fall, or patient grabs a handrail and does not fall on floor.

Moore, JM (1993). In: Preventing Patient Falls (pp. 5-8). Thousand Oaks, CA: Sage Publications, Inc.

Injury Classifications*	Definition
None	No evidence of abrasions/bruises and no complaint of pain
Minor	Any bruise/abrasion not requiring medical treatment that will heal unassisted
Moderate	Injury requiring medical treatment not considered major; not requiring sutures, castings or splints; requires treatment, suspended from duty that day; requires no bed rest
Major	Serious injury; any bone fracture, head injury, or wound requiring major suturing

Moore, JM (1993). In: Preventing Patient Falls (pp. 8-14). Thousand Oaks, CA: Sage Publications, Inc.

## SUBJECT FINDINGS & DEMOGRAPHICS

- | Psychiatry Unit  | Medical Unit  |
|--|---|
| <ul style="list-style-type: none"> <li>42 falls occurred</li> <li>48% DECREASE from Phase I</li> <li>19 Anticipated Physiological falls</li> <li>Mental status: Number of alert patients who fell increased from Phase I to II, and no sedated patients fell in Phase II</li> <li>74% of falls involved females</li> <li>Mean age: 58.2 years old</li> <li>42% were ≥ 65 years of age</li> </ul> | <ul style="list-style-type: none"> <li>53 falls occurred</li> <li>112% INCREASE from Phase I</li> <li>40 Anticipated Physiological falls</li> <li>Mental status: Fewer alert patients (22%) fell in Phase II, while confused patients who fell increased by 26%</li> <li>55% of falls involved females</li> <li>Mean age: 65.1 years old</li> <li>57% were ≥ 65 years of age</li> </ul> |

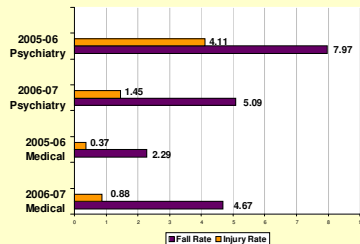
## POLICY INTERVENTIONS NOT IN PLACE PRIOR TO FALL FOR PSYCHIATRY AND MEDICAL INPATIENT FALLS

Fall Prevention Interventions	Psychiatry n=42	Medical n=53
Nonskid slippers*	4	27
Patient care items in reach	1	2
Fall risk indicated on chart (red dot)	1	3
Risk level signs used in rooms	0	3
Patient/Family education completed†	2	6
Fall risk assessment completed within 12 hours	4	0
Bed exit alarm‡	N/A*	15
Medication profile reviewed for medications adding to fall risk†	8	32

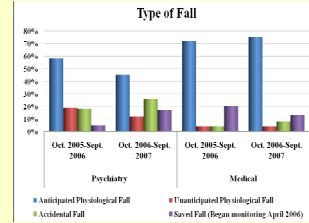
\*New policy interventions after revision  
†Applicable to high risk patients as per policy  
‡Bed exit alarms are not available on psychiatric beds

- 51% of the medical patients who fell were not wearing nonskid slipper socks at the time of fall
- In 28% of the applicable falls, bed was in use, that occurred on medical, the bed exit alarm was not engaged prior to fall
- In 60% of the applicable medical falls, patients identified as high-fall risk, there was no documentation indicating medications were reviewed
- New policy interventions after revision included: nonskid slipper socks, patient/family education and brochure, reviewing of medication profile for high risk patients, use of high fall risk signage when transporting patients within the hospital, and use of Posey® Sitter Select devices when patients forget limitations

## COMPARISON OF FALL & INJURY RATES: PHASE I vs. II



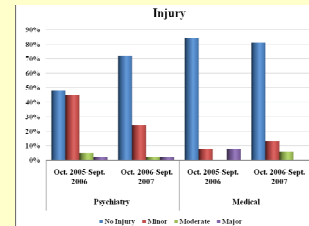
## COMPARISON OF FALL TYPES: PHASE I vs. II



As a percentage of total falls -

- Psychiatry: Anticipated Physiological falls decreased by 13% from Phase I to II, while Saved falls increased by 11%
- Medical: Anticipated Physiological and Accidental falls increased between Phases, and fewer Saved falls were reported

## COMPARISON OF INJURY TYPES: PHASE I vs. II



As a percentage of total falls -

- Psychiatry: Patient falls with no injury increased by 23% and number of minor injuries decreased by 21% between Phases
- Medical: Falls with no injury and major injury decreased from Phase I to Phase II; falls with minor and moderate injuries increased

## CHI-SQUARE ANALYSIS ON THE NUMBER OF FALLS & INJURIES

Chi Square Analysis of Falls Within & Between Study Phases at Q=95%	Type of Fall p value	Type of Injury p value
Phase I Psychiatry Falls versus Medical Falls	< 0.001	< 0.001
Phase II Psychiatry Falls versus Medical Falls	0.007	0.184
Phase I versus Phase II Psychiatry Falls	0.021	0.023
Phase I versus Phase II Medical Falls	0.012	0.002

## SURVEY RESULTS

- >48% of respondents reported not reviewing fall information or fall education brochure with patients as per policy
- Fall interventions used least per respondents: high fall risk signs when transporting patients and patient education
- Effective fall prevention interventions per respondents: Posey® Sitter Select devices (72%) and nonskid gripper socks (97%)

Suggestions & Recommendations from Survey Respondents	
Thematic Category	Specific Suggestions
Education	<ul style="list-style-type: none"> <li>Remind staff of interventions</li> <li>Continuous staff education*</li> <li>Unit-specific education†</li> <li>Provide more in-services/demonstrations‡</li> <li>Hold staff more accountable</li> <li>Make rounds on a routine basis to check interventions</li> </ul>
Equipment	<ul style="list-style-type: none"> <li>More Posey® Sitter Select devices†</li> <li>Utilize more Posey® Sitter Chair Pads†</li> <li>More activity aprons for demented patients</li> <li>Falls alert signs for geriatric clients</li> </ul>
Signage	<ul style="list-style-type: none"> <li>Change the look of the high risk fall sign</li> <li>More signs available†</li> </ul>
Staff/Sitters	<ul style="list-style-type: none"> <li>Increase staffing</li> <li>Provide sitters†</li> </ul>

\*Suggestions were implemented after study  
†Rounding that began January 2008 on telemetry unit; rounding initiative is being expanded to housewide trial

## CONCLUSIONS

- There was a significant decrease in falls that occurred in the psychiatry department and an increase in falls that occurred on the medical unit from Phase I to Phase II.
- Non-compliance with fall policy prevention interventions is likely to have contributed to the increased number of medical falls in Phase II.
- Interestingly, in the nursing staff survey an overwhelming majority of respondents reported that nonskid gripper socks were effective in preventing patient falls; however, nonskid gripper socks were not utilized prior to a patient falling in more than half of Phase II medical falls.

## RESEARCH EVIDENCE USED TO GUIDE PRACTICE

- Outcomes of this study were reported to the Fall Prevention Committee and disseminated throughout the hospital
- Fall Prevention Education was expanded as a result of survey findings in the following areas:
  - Demonstrations on how to use Posey® Sitter Select devices
  - Hospital orientation for new employees
  - Nursing staff annual competency requirements
  - Education offered to employees from multiple disciplines
- During or since this study:
  - Medical unit has implemented the use of Patient Safety Attendants, i.e., sitters (January 2008)
  - Routine rounding by nursing and nursing assistants has been piloted on two inpatient service areas to evaluate effectiveness in reducing patient falls
  - EBP initiative: Rounding education in process, housewide trial set for May 2009

## CONTACT INFORMATION

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