

Interventions to Reduce Patient Falls in Acute Care Hospitals

LeeAnna Spiva, PhD, RN, PLNC & Patricia Hart, PhD, RN
WellStar Health System and Kennesaw State University

SIGNIFICANCE

- Falls are the most frequently reported safety event among hospitalized patients in the United States,¹ with rates between four to 12 falls per 1,000 patient days occurring each year.^{2,3}
- Falls are associated with increased risk of mortality & morbidity^{4,5} & an estimated cost of \$20 billion a year.⁶
- By 2020, the Centers for Disease Control estimated that the annual direct & indirect costs of falls will reach \$54.9 billion.⁶
- The Agency for Healthcare Research & Quality (AHRQ), the National Quality Forum (NQF), the Institute for Health Improvement (IHI), the Joint Commission, & the Centers for Medicare and Medicaid Services (CMS) have taken action to prevent hospital acquired falls & reduce fall-related injuries.
- Falls that occur in the hospital & consist of a fracture, dislocation, intracranial injury, or result in death are reasonably preventable by following evidence-based guidelines. CMS will no longer reimburse hospitals for treatment related to these conditions.⁷
- There are numerous studies about falls risk factors,⁸ interventions to reduce falls,^{3,9,10} guidelines & systematic reviews for prevention of falls in hospitalized adults.^{11,12,13,14,15}

PURPOSE

The quality improvement (QI) initiative purpose was to assess the effectiveness of a falls prevention program using education & a fall prevention kit on falls reduction.

METHODS

Setting

The QI initiative was conducted from August 2011 to March 2012 in an integrated healthcare system located in a southeastern state. The integrated healthcare system consists of four community hospitals, a long-term care facility, physician practice groups, and outpatient services. Eight nursing units were identified based on NDNQI@¹⁶ falls rates from the four community hospitals.

Methods of Evaluation and Analysis

Falls rates were monitored weekly & monthly for each unit. Fall rate calculation methodology was congruent with NDNQI@.¹⁶ Falls were tracked using the hospital's internal electronic falls database and the NDNQI@¹⁶ quarterly falls report that included falls risk assessment scores, fall characteristics, & nursing process for falls prevention.

An eight-item online evaluation with two free-text questions was developed. The items were rated on a five-point Likert scale from 1 (*Disagree Strongly*) to 5 (*Agree Strongly*). The mean score was calculated for the evaluation. The Cronbach's alpha was 0.83 for the evaluation.

Data were analyzed with descriptive and inferential statistics using SPSS for Windows Release 18.0. Descriptive statistics (means and standard deviations) and inferential statistics paired samples *t*-tests were used. A *p* value of $\leq .05$ was considered statistically significant.

INTERVENTION

An in-depth falls assessment was conducted & opportunities included: identification of a reliable & valid falls risk assessment tool; identification of a falls champion from each hospital; formation of a multidisciplinary falls team; revision of the falls policy; development of a falls plan of care, post-falls documentation, & falls prevention education that were all included in the electronic medical record; partnership with pharmacy to monitor high-risk medications prescribed to patients; revision of the online event reporting system to collect fall specific data; lift equipment inventory; & partnership with Medline Industries, Inc. to trial a falls prevention program.

- Online educational modules for staff- objectives included: identification of high risk fall patients, fall risk factors, hourly rounding benefits, falls team, defined education for patients & families & a post-falls debriefing tool
- Leadership training- rounding on nursing units to speak with staff about falls prevention interventions, ensuring that a post-falls debriefing occurred immediately after the patient was stabilized & celebrations
- Environmental falls risk assessments
- Implementation of immediate safety huddles post-fall
- Improved collaboration and communication among the hospitals (bi-monthly web/telephone conferences)
- Increased frequency (every one to two hours) of rounds (staff to check patients for toileting needs, pain, and overall condition)
- Integration of the instructional technique called *teach back*- asking the patient/family to repeat what was just taught
- Implementation of a falls prevention tool kit- a non-reusable package: yellow wristband, yellow non-skid slippers, gait belt, glow-in-the-dark portable urinal for male patients, yellow patient gowns, & signage included : yellow dot placed outside the patient door, "reset bed alarm" sign placed at the head of the patient's bed, & "please call don't fall" sign displayed in front of the patient's bed as a reminder to patient/family/visitors/staff that the patient was a fall risk.

FINDINGS

Pre-intervention (February-August 2011) units had 146 falls & 110 falls post-intervention (September 2011-March 2012) (Table 1). Fall rates decreased but not significantly post-intervention ($M = 2.65, SD = 1.29$) compared to pre-intervention ($M = 3.62, SD = 1.44$) ($t = 1.70, p = .134$).

73 staff (30% response rate) completed an online evaluation. A majority responded to the evaluation questions as *agree* to *strongly agree*. Average mean ratings ranged from 3.39 to 3.65.

Staff liked having all the falls prevention tool kit interventions available in one package to use for each patient, the yellow gowns, the glow-in-the-dark portable urinal, the bed alarm reminder sign & large lettering "call don't fall" signs posted in the patient room. Staff suggested modifying the sign adhesive and changing the patient gown to a soft yellow.

Post-fall huddle forms findings included intrinsic factors: prior fall, unsteady gait, musculoskeletal weakness/illness impacting balance and posture, confusion, & advanced age. Extrinsic factors included: patient not screened as high fall risk, multiple high-risk medications (ranging from anticoagulation to narcotic/anesthetics), bed alarm not re-activated, bathroom toileting & one patient refused to wear yellow socks.

Environmental assessments were conducted at two hospitals. Findings indicated that hospitals implemented necessary fall prevention strategies.

CONCLUSION

Fall rates decreased for all units except for the neurology unit & this may have resulted in a majority of patients having periodic confusion, multiple high-risk medications, & patients limited mobility.

Completing an in-depth falls assessment allowed the organization to identify opportunities & implement appropriate interventions to reduce falls. Training staff and leaders in the organization to provide fall prevention awareness, prevention, and response is extremely important.

CONTACT

For more information, please contact LeeAnna Spiva at leeanna.eaton@wellstar.org

Table 1: Pilot Nursing Units: Pre-Post Mean Fall Rates (Falls per 1,000 Patient Days) and Actual Falls

	Pre-Fall Rates	Pre-Actual Falls	Post-Fall Rates	Post-Actual Falls
Orthopedic (hospital 1)	3.39	17	2.65	14
Neurology (hospital 1)	3.86	23	3.71	22
Neurology (hospital 2)	3.65	21	4.75	25
Behavioral Health & Medical (hospital 2)	3.19	16	3.20	16
Oncology (hospital 2)	6.27	28	2.04	9
Orthopedic (hospital 3)	1.18	3	0.37	1
Cardiac Telemetry (hospital 3)	4.46	27	2.29	14
Medical-Surgical (hospital 4)	2.95	11	2.23	9
Totals	3.62	146	2.65	110