The Effect of Low Bed Usage to Decrease Fall Rates on a Cardiac Step-down Unit

Presented at a Regional Conference by a North Texas Hospital

Abstract

Problem:
Fall Rate continuously higher than the NDNQI benchmark putting patients at risk for injury and increased length of stay.

Evidence:
Evidence suggests that use of low beds can decrease injury of patients, as well as potentially decreased overall fall rate.
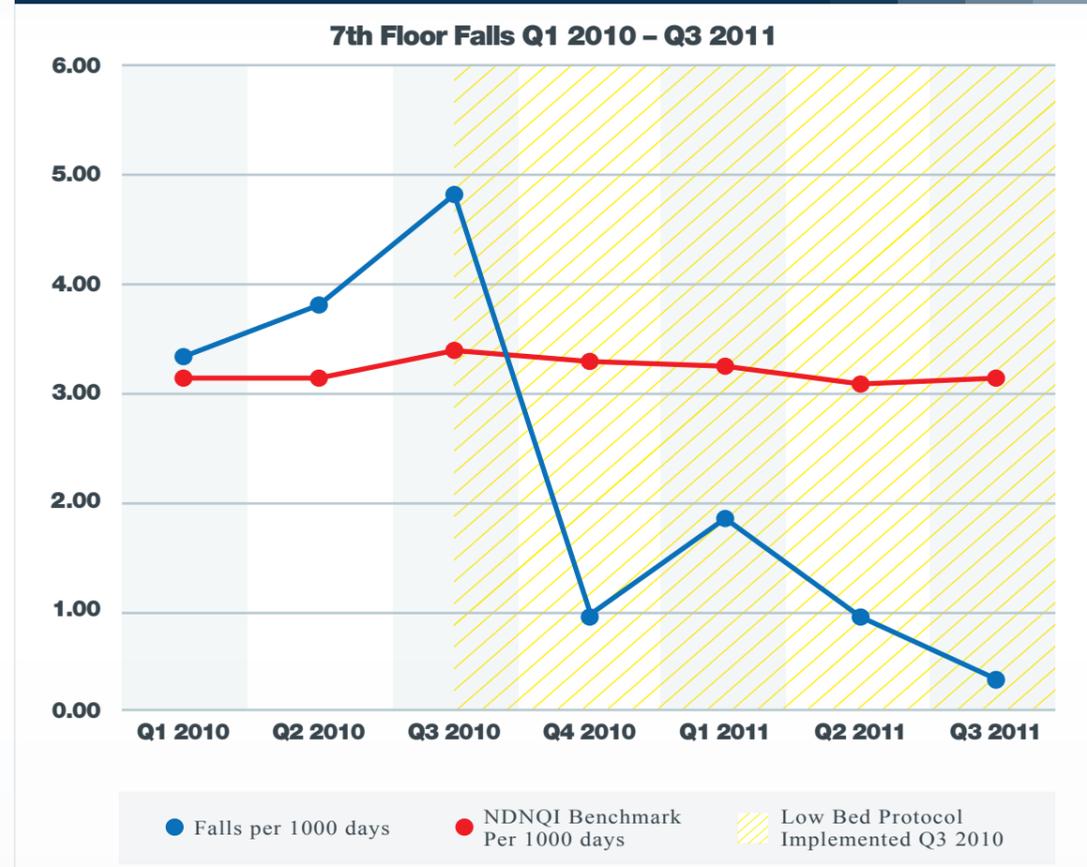
Strategy:
Using the Iowa Model for EBP, the project started with baseline data analysis, review of evidence-based and best-practice and plan for change. The goal was to decrease the number of falls occurring on the Cardiac Step-down unit.

Practice:
Staff education included a new method for identifying patients at high-risk for fall and implementation of fall prevention guidelines. All patients meeting new "High Fall Risk" criteria on the Cardiac Step-down unit were placed on a low bed with a bed exit alarm. Staff rounded at least hourly to ensure the safety of High Fall Risk patients.

Evaluation:
Retrospective data collection included review of 77 patient falls from Q1 2009 through Q3 2010 prior to the implementation of the new Fall Interventions. Data included age, sex, time of fall, medications, prior level of fall risk assessment and fall interventions in place. Continuous data is analyzed monthly and quarterly.

Results:
After implementing new Fall Interventions, a marked decrease in falls were noted.

Outcomes

7th Floor Falls Q1 2010 – Q3 2011

Legend:
- ● Falls per 1000 days
- ● NDNQI Benchmark Per 1000 days
- ▨ Low Bed Protocol Implemented Q3 2010

Data

2011	Q1	Q2	Q3	Q4
Falls per 1000 days	1.9	1.0	0.31	Data not yet available
NDNQI Benchmark Per 1000 days	3.18	3.06	3.11	Data not yet available

2010	Q1	Q2	Q3	Q4
Falls per 1000 days	3.2	3.75	4.8	0.98
NDNQI Benchmark Per 1000 days	3.11	3.1	3.29	3.2

2009	Q1	Q2	Q3	Q4
Falls per 1000 days	5.41	3.11	4.09	4.4
NDNQI Benchmark Per 1000 days	3.22	3.08	3.14	3.45

**Bed Used:
Sizewise Evolution™**

Design

- Baseline data was collected on previous falls and a definition for new "High Fall Risk" patients requiring High Fall Risk Interventions was created.
- Patients requiring high fall risk interventions were previously scored using a computer based risk assessment. Along with the "High Fall Risk" score, any patient with a history of a previous fall, or dementia, Alzheimer's disease, short-term memory loss or at the discretion of the nurse, would be placed on the new High Fall Risk Interventions.
- Previous interventions consisted of: yellow non-slip socks, yellow arm-band, yellow magnet placed on patient's door, "High Fall Risk" sign placed on the wall at the head of the bed.
- New interventions included: use of low beds, bed exit alarms and hourly rounding.
- Cardiac Step-down staff were trained on the new definition of High Fall Risk patients as well as the new High Fall Risk Interventions.
- Staff was trained and new interventions started October 1, 2010.

Findings

- For seven consecutive quarters the average fall rate was eleven per quarter at an average rate of 4.1 falls per 1000 patient days, which exceeded the NDNQI benchmark of 3.19 falls per 1000 patient days.
- After implementation of the low bed approach, the fall rate has dropped to an average of one fall per month, averaging under the NDNQI benchmark for four consecutive quarters.
- The new High Fall Risk Interventions have shown a 74% reduction in the average number of falls per quarter.

Implications

- Using low beds, bed exit alarms, and hourly rounding may be key to decreasing fall rates throughout the hospital.
- A larger team to educate staff and monitor compliance with practice change would have been helpful.
- It takes continual monitoring to ensure that a practice change becomes a routine part of bedside nursing practice.

Conclusion

These outcomes suggest the low beds, bed exit alarms and hourly rounding are useful adjuncts in the management of High Fall Risk patients. Thought the results are limited by only having three months' worth of data from one unit, noted decreases were observed in the Cardiac Step-down's fall rate. Further investigation should include more units and an extended period of time.

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