Clinical Decision Support for Fall Risk Assessment and Plan of Care

Kay Lytle, DNP, RN-BC; Nancy Short, DrPH, RN; Rachel Richesson, PhD, MHA; Monica Horvath, PhD
Duke University School of Nursing and Duke University Health System

Background
- Falls most frequently reported adverse event
- LOS: 6.3 days higher per patient fall
- Mortality: 50% higher
- Morbidity: injury and increased costs
- Fall rate is nurse-sensitive indicator
- EHRs provide opportunities to implement alerts and reminders to reduce falls

Objectives
1. Improve documentation of fall risk assessment on admission and every 12 hour work shift
2. Improve documentation of fall prevention plan of care for high risk patients
3. Assess nursing staff satisfaction to determine acceptance of computerized fall risk program
4. Improve clinical outcomes by reducing patient falls and falls with injury

Methods
- Setting: 16 adult medical/surgical units at Duke University Hospital
- Clinical decision support (CDS) intervention: 1) admission fall risk assessment reminder, 2) shift fall risk assessment reminder, 3) fall plan of care alert for high-risk patients
- Design: pre/post quasi experimental

Results
- Table: Data Source, Time Period, Measure, Units, Compliance, Test, P
  - Pre-CDS: Oct 2012, Jan 2013, April 2013
  - Post-CDS: Aug 2013, Oct 2013, Jan 2014
  - Fall risk assessment: 16, 1.95% ↑, Mann-Whitney U, 0.05
  - Fall plan of care: 16, 25% ↑, Mann-Whitney U, 0.1
  - Fall risk assessment: 2, 9.32% ↑, Mann-Whitney U, 0.03
  - Fall plan of care: 2, 11.3% ↑, Mann-Whitney U, 0.0

- Retrospective chart review
  - Admission fall risk assessment: 2, 6.13% ↑, χ²(1, N=143) = 3.77, 0.05
  - Shift fall risk assessment: 2, 16.6% ↓, χ²(1, N=100) = 2.51, 0.09
  - Admission fall plan of care: 2, 22% ↓, χ²(1, N=48) = 8.57, 0.00
  - Shift fall plan of care: 2, 14.87% ↓, Mann-Whitney U, 0.01

Discussion & Conclusions
- Improved documentation of fall risk assessment but no change in documentation of admission plan of care
- Decreased documentation of shift plan of care - could be related to changes from paper care plans to electronic care plans
- Satisfaction with tools was adequate
- No change in patient falls/falls with injury rates
- Another study found EHR and no change in fall rates¹ and other reports higher rate of falls in year one of EHR implementation (4.6% to 6.3%, p < .001) and injury falls increased by 16.4% (p < .05)²
- Fall risk assessment had flowsheet row to indicate if plan of care implemented changed to patient at high risk with yes/no
- Fall plan of care alert in admission navigator but not in flowsheets where shift assessment charted – pop-up alert added

References