

# Fall prevention: Applying the evidence

By Kathleen Fowler, MSN, RN, CMSRN  
Quality Improvement Manager  
UPMC St. Margaret, Pittsburgh, Pennsylvania  
As told to Janet Boivin, BSN, RN

**SUCCESSFUL** fall prevention programs use multi-modal interventions, such as detailed fall risk assessments, frequent monitoring by staff, and appropriate use of equipment. Healthcare facilities typically implement best practices in bundles, making it often difficult to determine which interventions are the most effective.

UPMC St. Margaret Hospital in Pittsburgh, Pennsylvania joined the Pennsylvania Hospital Engagement Network (PA HEN) in April 2012 to reduce falls with injury. This set us on a path that resulted in a 75% reduction in falls with serious injuries. (See graph.) Here is how we accomplished this reduction.

## Case study

This case study illustrates our fall team in action.

An 80-year-old female patient with impaired cognitive function and multiple risk factors—including an unsteady gait, impaired vision, and multiple medications—was assessed as a high fall risk when admitted to our facility.

The nursing staff implemented a bed alarm to alert them when the patient was getting up without using the call light. They also moved her closer to the nurse's station and used purposeful rounding to anticipate and attend to her needs. The average response time for alerts with this patient was a rapid 10 seconds. Despite these steps, the patient's bed alarm sounded several times to alert staff, who found her standing beside the bed.

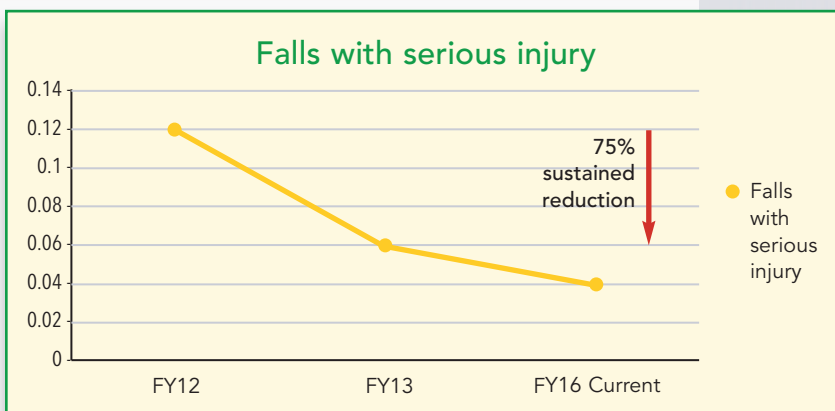
The nurses reached out to the fall team for support.

The team reviewed the bed-alarm settings (three sensitivity settings—low, medium, and high) and simulated alarm time studies with the nursing staff. Their efforts revealed misperceptions in employee understanding of bed-alarm settings. For example, the staff thought the bed alarm would alert them that the patient was off the perimeter of the mattress no matter what the sensitivity setting.

The fall team used simulated bed-alarm scenarios to educate the staff and help to change practice. The nursing staff learned it's not enough to simply engage

the alarm; the alarm also needs to be at the appropriate setting. The staff began using more sensitive settings for patients with impulsive behaviors.

We learned an important lesson: How well employees understand facility equipment, its variations, and how to use it are important considerations when analyzing patient fall events.



## Analysis: Role of data and best practices

After joining PA HEN, we formed a multidisciplinary team tasked with reviewing and investigating all fall events, extracting and analyzing data, and evaluating best practices implemented as a result of root cause analysis.

The multidisciplinary fall team implemented prevalence rounding and post fall debriefing. Despite best practice implementation, we discovered variations and inconsistencies in our practice environment. We found that making sense of the data collected through a revised post-fall debriefing and delivering the information to staff in an easily understood format was the “magic bullet” in our success story.

### Strategy: Debriefing

Debriefing engages staff, patients, and families while providing educational opportunities. Our debriefing process was critical for abstracting usable data. The facilitator who is responsible for debriefing the fall event needs to have expertise in the debriefing process to ensure data integrity. He or she must be objective and promote a nonjudgmental atmosphere of inquiry. The goal is to engage all participants, including the patient and family. At the end of the debriefing, the facilitator determines root causes and shares them with team members. Identifying root causes is invaluable to the debriefing process.

Root causes are then converted into frequency charts, which are useful for analysis and clearly illustrate the variables with the greatest impact on particular outcomes. Our team focused on tangible root causes, such as safety equipment, which proved successful in reducing falls in our facility. (See *Case study*.)

### Strategy: Enhancing equipment use

Commonly used fall prevention equipment includes bed alarms, chair alarms, low beds, floor mats, and nurse call system/alarm integration. Based on its analysis of various types of falls and process-improvement initiatives, the team put interventions in place that essentially resolved identified equipment issues.

The debriefing process identified the following equipment issues:

Issue	Comments
Multiple bed manufacturers and sensitivity variations of bed alarms; lack of standardization	If staff is not familiar with a particular type of bed, they're less likely to use the equipment properly, if at all. We educated staff so they would develop an awareness of variations and use bed alarms correctly.
Insufficient ratio of bed alarms to chair alarms	A patient who needs an alarm when in bed also needs one when sitting in a chair. So we added a chair alarm* in each room to ensure our fall prevention efforts were consistent.
Lack of available or accessible equipment	If equipment is not available or accessible, staff won't use it. We streamlined the process for obtaining equipment. For example, disposable pads used with the chair alarms were stocked in each department.
Variations with the nurse call system bed/chair alarm alerts	The multidisciplinary team collaborated to standardize visual and auditory alerts that resulted in improved alarm response times.

\*Manufactured by Posey

### Outcomes: Falls reduction

In the first year of our initiative, we had a 50% reduction in falls with injuries and won the 2013 Hospital Association of Pennsylvania Achievement Award for Patient Safety.

We've achieved the following reductions over the past 4 years:

- 75% reduction in falls that resulted in serious injuries
- 60% reduction in falls that resulted in injuries
- 25% reduction in all falls.

Our ability to sustain these improvements keeps patients safer during hospitalization.

This is the first in a series of three case studies illustrating success stories in preventing falls and injuries from falls. The series is brought to you by Posey (<http://www.posey.com>). Watch for the next case study in the September issue of *American Nurse Today*.