



# Staff-led innovations reduce falls in high-acuity patients

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axton St. Luke's Healthcare (FSLH) is a community-based, not-for-profit hospital located at the foothills of the Adirondack Mountains in Utica, N.Y. The designated stroke unit for the hospital, Allen-Calder Third Floor (AC 3), is a 34-bed medical-surgical unit with the capacity to increase to 51 during high census times. The unit staffing is composed of bachelor's- and associate degree-prepared RNs, care attendants, and unit secretaries. Thirty-eight percent of the unit's RNs are bachelor's prepared. AC 3 provides care for hemorrhagic and ischemic stroke patients, as well as medical patients with various diagnoses and comorbidities, including various stages of renal disease and diabetes-related issues. Stroke patients often have impaired judgment, hemi-inattention, impulsive behavior, and personality changes, subsequently making falls prevention challenging. Due to the complexity of the patients served on this unit, falls are a major focus and concern of the AC 3 team.

In evaluating our falls data, it was noted that our medical-surgical units had the highest incidences of falls. Specifically, AC 3's fall rate per 1,000 patient days was 25% higher than the other medical-surgical units. Initially, this was attributed to the complex nature of the patient population and it was unknown if we could impact the fall rate due to the neurologic patients on this unit. The team determined that a reduction in falls on AC 3 would provide the greatest



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impact for our patients and the overall fall rate for the organization.

### Deep impact

A minor fall (without injury) can be frightening and embarrassing, leading to self-doubt and tentativeness. However, the effect of a serious fall can be devastating and life-altering, impacting not only the patient, but his or her loved ones, the staff involved in the patient's care, and the organization.

### Patients

For patients, falls can lead to harm, including increased morbidity and length of stay (LOS). Furthermore, falls can cause our patients to experience decreased satisfaction, mobility, and quality of life, and they may require rehabilitative services or skilled nursing care. Even when a physical injury isn't present, the psychological fear of falling can impact the quality of a patient's life. Falls can also lead to or contribute to a patient's decreased life expectancy and even death. For example, it has been estimated that individuals have a 10% to 15% decrease in life expectancy and a decline in quality of life after a hip fracture.<sup>1</sup>

### Family members

For patients' family members, falls create a lack of trust in staff members' ability to care for their loved one. Recently, a family member of a patient who fell expressed to the staff that they were fearful to leave their loved one and, as a result, experienced increased stress, fatigue, and guilt leaving the patient.

### Staff

During a Discovery and Action Dialogue, AC 3 employees stated that after a patient fall, they felt sad, disappointed, stressed, and worried about the patient. Nurses feel

responsible for falls, which may be partly because falls have been identified as a nursing-sensitive indicator—meaning that nurses have an impact on patient safety and quality.<sup>2</sup>

### The organization

For the organization, there's a business case for eliminating falls, which can lead to greater healthcare utilization, increased LOS, liability, and poor public image. The most frequently reported incidents in adult inpatient units are falls, with a rate of 1.7 to 25 falls per 1,000 patient days. Older adult psychiatry patients are at the highest risk for falls.<sup>3</sup> The Centers for Medicare and Medicaid Services made falls a hospital-acquired condition, meaning that hospitals won't receive payment for treating injuries caused by falls that occur during the patient's hospital stay.<sup>4</sup>

### Relationship-based care

FSLH has embraced the principles of relationship-based care (RBC), engaging the entire organization for 9 years. This patient care delivery system requires significant investments in infrastructure, including a design where each unit or department in the hospital has a practice council, enabling staff members to have a voice in decision making. These councils serve as a two-way communication vehicle to cascade messages through a communication tree, as well as a process for the executive team to receive messages and recommendations from staff. Alignment is created by sharing corporate goals annually and asking the practice councils to report their metrics. Goals are measured and process management methodologies are offered to the councils to remove barriers to advancing and achieving the collective corporate goals.

Each month a meeting is held with all 75 practice council leaders,

with senior leaders in attendance. Goals are discussed openly. An open culture enables this level of sharing, including posting quality, satisfaction, and financial data on public bulletin boards throughout the hospital. This process was born as a result of the RBC infrastructure. Transparent interdisciplinary discussion allows for sharing of ideas and successful strategies employed to prevent adverse events.

### Formulating a plan

In accordance with our quality management system, the Six Sigma Define, Measure, Analyze, Improve, and Control, or DMAIC, improvement methodology was applied to understand the many complex issues and root causes related to falls. Common components of successful performance improvement teams include leadership support and an executive sponsor, frontline staff engagement, a consistent and timely data feedback loop, and a multidisciplinary approach.

### Define

This project was selected for AC 3 because patient falls and fall-related injuries were identified as being high volume and problematic for this unit. Data revealed that the fall rate had changed very little since 2008. (See *Figure 1* and *2*.)

A Theory of Inventive Problem Solving, or TRIZ, exercise was conducted on AC 3. Through an innovative, systematic view, a TRIZ exercise helps individuals create a new design idea using contradictions to solve problems.<sup>5</sup> Contradictions are viewed as the root problems and solutions are realized by destroying these contradictions. A TRIZ exercise involves designing a perfectly adverse system through the use of contradictions to make space for innovation by inviting creative destruction of the

contradictions. During the TRIZ exercise, employees were asked, “How can we create a system where 100% of the time, all patients would have a catastrophic fall?”

As a result of the TRIZ exercise, several staff member suggestions were initiated on the unit. The core team researched and trialed different bedside nightlight solutions for patients. Their goal was to better illuminate the floor to help prevent falls, but not to disturb patients’ sleep. Initially, generic, home-grade nightlights were trialed in a specific patient room; however, the illumination level of these nightlights wasn’t adjustable and failed to provide adequate lighting. Ultimately, the product selected was of hospital-grade standards with adjustable illumination levels (both duration and intensity) and the ability to lie flush to the wall. This proved to meet the perceived needs of the patients as reported by staff.

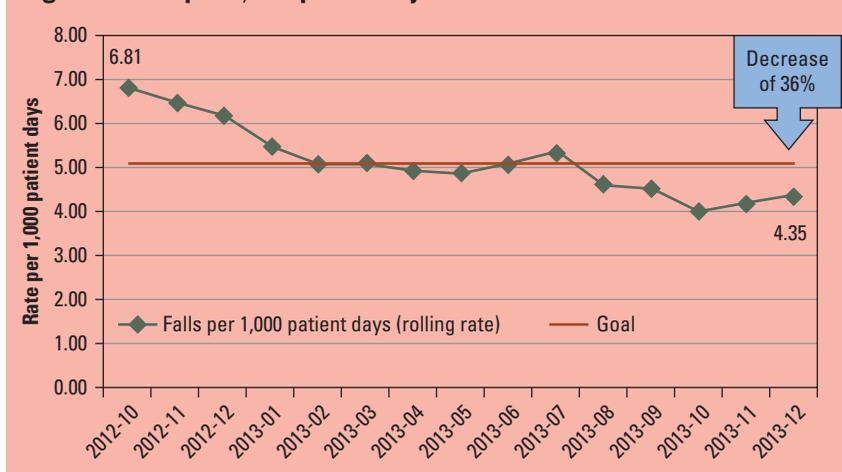
#### Measure

The team’s goal was to reduce the instances of harm related to patient falls, as well as reduce the overall risk of falls, leading to safer care and improved patient outcomes. Furthermore, the team’s improvement objective was to reduce the incidence of falls and falls with injury, respectively, by a minimum of 25% within 15 months (from October 2012 to December 2013).

#### Analyze

When analyzing our data, we found a trend related to toileting. Falls related to toileting include any activity in the room preparing for toileting or returning from toileting and tend to be associated with a previous fall.<sup>6</sup> Our falls data compare similarly with other U.S. hospitals, with 80% of falls occurring in the room and 45% related to toileting. Fall assess-

**Figure 1: Falls per 1,000 patient days**



ments and prevention initiatives need to focus on these and other pertinent risk factors. Using the Liberating Structures frameworks, staff members were encouraged to develop new ideas or initiatives to reduce falls.<sup>7</sup>

#### Improve

Since September 2012, the AC 3 team has been participating in initiatives to decrease the number of falls by utilizing Liberating Structures. Through the foundation of staff engagement, these concepts change the way staff interact, address issues, solve problems, identify opportunities, and formulate solutions. Recognizing our knowledge experts at the bedside and embracing the improvement ideas generated through Liberating Structures helped create a culture for change. No single solution will put an end to patient falls, but the culmination of multiple solutions generated by an engaged staff has positively impacted the overall fall rate.

Several exercises were conducted to assist staff in developing theories to identify the possible root cause(s) of falls. Theories were developed as to possible root cause(s), the theories were then confirmed with data, and

final root cause(s) were identified.

Staff members participated in a Liberating Structures 1-2-All discussion on falls prevention as it related to their context (time/place/people). Three questions were posed for discussion. First, staff members answered individually and then in a group of two. Lastly, each group of two selected a spokesperson and discussed key points with the entire group. For example: (1) “What’s the biggest barrier for preventing falls?” (2) “What do we do best for falls?” (3) “What can we improve?”

Outcomes included a greater sense of understanding different safety perspectives among attendees and some quality improvement actions tied to falls. These included identifying what the solution looks like and key measures of success. To achieve this, discussion around the following questions took place: (1) “What’s it like for everyone involved when a serious fall occurs on your unit?” (2) “What do you do to prevent patients from falling?” (3) “What prevents you from doing this or taking these actions all of the time?” (4) “Is there anyone you know who’s able to frequently overcome these challenges?”

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- (5) “Do you have any ideas?”
- (6) “What needs to be done to make it happen? Any volunteers?”
- (7) “Who else needs to be involved?”

On the patient unit, a staff member laid in a bed as a patient needing to go to the bathroom. Several other staff members passed by her with a number of reasons they couldn't help but stated that they would get someone. After the patient with no call light and several ignored requests climbed out of bed and landed on the floor, the staff members discussed how realistic the scenario was and how proactive rounding, attentive staff, call light in reach, and teamwork are all key factors in preventing falls.

The unit of focus is a designated stroke unit, giving this group an extra challenge in relation to fall risk. This project has opened a continual discussion about the possibilities for better results, even with the challenging patient population. We're looking to change fall numbers into patient stories so that the urgency of prevention is built into the culture.

The unit charge nurse and/or the clinical nurse led informal debriefings after a fall in which fall details were gathered through interviews

with the involved staff, as well as the patient and/or other witnesses.

Patient-specific falls data were collected on every fall occurrence. Data were aggregated periodically and used to identify trends based on items such as location, time, and type of fall, and patient age, mental status, and fall risk level. The information was then shared with unit staff for input as to potential causes. For example: (1) “What was the patient doing when he or she fell?” (2) “Was the fall related to toileting needs?”

Staff members agreed that communication relative to the frequency of fall occurrences would increase awareness and stimulate conversations on falls prevention. Subsequently, a dry erase board was developed and posted to track the days since the last fall on the unit. We also kept track of the highest number of days without a fall because this was a number that staff members were striving to beat.

The combination of data with knowledge and experience was used to pinpoint the source of a problem. The results speak for themselves: increased staff engagement and awareness of patient falls, a decrease in the rate of falls from 6.81 (October

2012) to 4.35 (December 2013)—a 36% reduction—and a decrease in the rate of falls with injury from 1.55 (October 2012) to 0.89 (December 2013)—a 43% reduction.

### Control

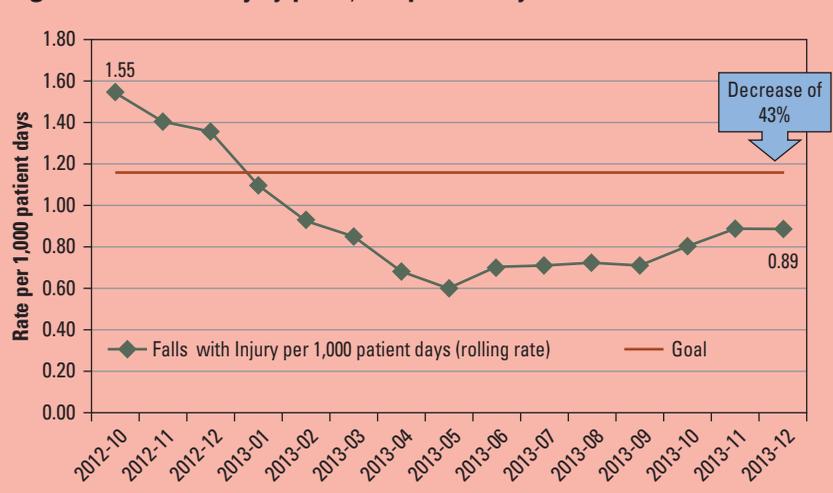
With so many new and competing priorities each day, there must be a system to keep the topic of falls prevention in everyday conversations. Our efforts to sustain the gains included concurrent monitoring, real-time data feedback to staff, and reporting that data to the fall committee monthly. The reporting of falls (by departments) through the quality excellence council ensured that falls had the constant attention of each manager. Corrective action requests were submitted for quarterly variances from established goals/planned benchmarks. At the beginning of the journey, staff members completed a safety culture survey and social network mapping survey. The safety survey allowed us to measure a change in culture surrounding the perception of fall risk and staff impact at the end of the initiative.

The social networking map allowed us to visually demonstrate how staff members communicated with each other as part of the falls prevention team. FSLH policy states that falls are everyone's responsibility. The social networking map demonstrated that the network core is primarily made up of RNs. There was a support services cluster and physicians tended to be on the periphery, showing they weren't well integrated into the network. Through the aforementioned exercises, physicians and other ancillary staff were invited to participate in chipping away the barriers to falls prevention and keeping staff engaged.

### Changes for the better

It's important to recognize that one size doesn't fit all. What worked for

**Figure 2: Falls with injury per 1,000 patient days**



this unit won't automatically work for other units in the hospital because the root cause(s) of falls may vary depending on the patient population. However, the Liberating Structures frameworks and staff engagement are two techniques that can be used throughout the organization.

With increased staff awareness of patient falls and staff-driven ideas being considered and implemented, morale improved on the unit. Through the use of Liberating Structures, staff members became engaged in the process to decrease falls and were recognized for their knowledge and expertise, thus creating a culture of change. **NM**

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