Designing a Falls Prevention Strategy That Works

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In implementing an evidence-based falls prevention strategy in acute care, planners are frequently pressed to meet organizational targets while allowing staff flexibility to match interventions with patient population needs and clinical realities. We describe the process of how one hospital creatively used evidence, systems change, staff engagement, expert consultation, policy and protocols, staff and patient education, marketing, and celebration to design and implement a falls prevention strategy on 60 clinical units that reduced annual fall rates by 20%. Key words: acute care, best practices, falls, prevention, risk assessment tools, strategy design

Patient falls have been reported to account for at least 40% of all hospital adverse occurrences. Injuries resulting from these falls result in negative patient outcomes, including hip fractures and future disability, and increased hospital costs associated with extended length of stay and liability. In response, Hamilton Health Sciences and other acute care hospitals are increasingly prioritizing the need to identify effective and resource-efficient approaches to implementing falls prevention strategies that meet the needs of a wide variety of patient populations and diverse clinical practice settings in our large, Canadian, multisite, acute care academic teaching hospital. The importance of recognizing the influence of clinical and population-specific contexts and complexity has been identified as an important factor in falls prevention intervention.

A nonexhaustive list of interventions that have been reported to reduce hospital fall rates include (1) routine assessment to identify those patients at highest risk, (2) reassessment of risk and contributing factors after a fall, (3) bedside risk signage, (4) patient and staff education, (5) environmental and equipment changes including bed alarms, (6) frequent observation, (7) reduction in the use of medications known to increase confusion, (8) reduction in the use of physical restraints, (9) engaging nurses and other team members as key members of interprofessional fall risk reduction teams, (10) measures of leg muscle strength, and (11) combining innovations.

In mid-2007, with the aim of reducing patient falls in our hospital, Hamilton Health Sciences used its 2006 designation as a Registered Nurses’ Association of Ontario (RNAO) Best Practice Spotlight Organization (BPSO) candidate to implement a hospital-wide falls...
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prevention strategy as a corporate priority initiative. Spotlight organizations are healthcare organizations selected by the RNAO through a request for proposal process to implement, evaluate, and share lessons learned from their guideline experiences and research findings. The partnership is dynamic and long-term, focusing on making a positive impact on patient care.15

Seven months later, a hospital-wide falls prevention strategy was successfully implemented on more than 60 clinical units. Twelve months after implementation, 92% of clinical staff had participated in falls prevention education. A review of hospital-wide fall rates indicated a reduction of 20% when compared with the previous year. The aim of this article is to share our experience and describe the process taken by our hospital in designing, developing, implementing, and evaluating a successful falls prevention strategy.

STEP 1: SYSTEMS SUPPORT

In 2006, well in advance of the falls prevention strategy design and implementation, support for a proposal to the RNAO for BPSO candidacy was received from the hospital president, vice president of professional affairs, and chief nursing executive, board chair, associate dean of the university school of nursing, and the president of the nurses' union. In approving the application, the implementation of a falls prevention strategy based on the RNAO Best Practice Guideline (BPG), titled “Prevention of Falls and Fall Injuries in the Older Adult,” was also supported.13

In mid-2007, our hospital executive team approved the implementation of a falls prevention strategy as a corporate priority initiative for the 2007–2008 planning cycle. Approval required the project team leadership—chief nursing executive, project leader, and project coordinator—to identify potential synergies with the falls prevention strategy and other hospital priorities. Synergy was identified with an Accreditation Canada–required organizational practice for hospitals to implement fall strategies that year. Accreditation Canada is accredited by the International Society for Quality in Healthcare and provides Canadian hospitals with a peer-reviewed process to assess and improve patient care based on a set of standards of excellence.16

The project team leadership was also required to identify timelines for implementation and milestones for fall rate reduction in the corporate initiative submission. A year 1 milestone was the development of an e-learning module that would be completed by more than 50% of clinical staff. A 2010 target for a 25% reduction in fall rates was also identified.

STEP 2: DESIGN AND DEVELOPMENT

The process used in the development of the falls prevention strategy was informed by lessons learned in implementing another RNAO BPG in the previous year. At year end, site-based teams, challenged with meeting multiple hospital priorities and limited resources, reported a lack of capacity to implement the RNAO BPG on falls prevention on clinical units without additional support.13 In response, the project team leadership made the decision to support the development of a basic, organizational falls prevention strategy to recognize the identified challenges of staff, facilitate timely clinical implementation, and meet corporate initiative milestones.

Early consultation with interprofessional clinical experts in elder care and falls prevention cautioned us that in taking a “top-down” organizational approach, our strategy would need to both reflect the formal guideline evidence and be flexible enough for point-of-care staff to customize it to match the needs of specific patient populations and clinical realities. These experts formed the basis of an interprofessional falls working group (FWG) that was recruited to independently review the evidence and develop a falls prevention policy and protocol strategy, educational materials, and screening and assessment tools that would assist staff members in their implementation at the point of care.
The educational materials and screening and assessment tools developed would form collectively the components of the corporate Don’t Fall For It strategy. These supports would facilitate interventions by staff at the point of care found to reduce fall rates: (1) routine patient risk screening; (2) reassessment of risk and contributing factors after a fall or any significant change in patient condition; (3) bedside risk signage; (4) patient, family, and staff education; (5) environmental and equipment intervention, including bed alarms; (6) frequent observation; and (7) interventions of nurses and other team members as key members of interprofessional fall risk reduction teams.6,7,11,13,14

STEP 3: FALLS WORKING GROUP

The recruitment of a FWG not only enhanced productivity within tight time lines but also allowed committee members to use their expertise in identified areas. Membership included 4 advanced practice nurses working in seniors' health, a clinical manager, 2 educators, an occupational therapist, a physiotherapist, a pharmacist, 2 general staff nurses including an RNAO fellow, a BPSO project coordinator, and a chief of nursing practice project leader.

Over a 7-month period, the FWG attended 2-hour, biweekly, action-oriented meetings. Priorities of the FWG were to identify existing falls prevention practices and materials and a basic set of fall risk screening indicators that would provide a foundation for clinical staff members to develop fall risk assessment tools tailored to their specific patient populations and clinical practice settings.

Subgroups of the FWG were formed to develop other priorities: (1) a falls prevention policy and protocol strategy and (2) staff, patient, and family educational materials. These groups worked in parallel over the next 7 months. Marketing was a shared responsibility between FWG members and our public relations group as we approached “rollout” across the organization. Regular subgroup reporting to the larger group ensured that there was ongoing communication and that all work remained aligned to the agreed-upon approach.

STEP 4: LITERATURE REVIEW TO IDENTIFY FALL RISK ASSESSMENT TOOL

The first task of the FWG was to review the evidence with a goal of identifying a valid and reliable fall risk assessment tool that would separate prospectively those patients at risk from those who were not and be efficient and easy to administer at the point of care. The findings from the literature review were our first indicator that a “one size fits all” fall risk assessment resource would not be available.

Oliver et al17 conducted a systematic review of the literature by Cochrane methodology to identify clinical risk assessment tools or individual clinical risk factors predictive of falls in order to inform the design of effective falls prevention strategies. Of 47 studies meeting inclusion criteria, only 2 were validated in 2 or more patient cohorts. While recognizing these limitations, several statistically significant fall risk factors were identified: gait instability, agitated confusion, urinary incontinence/frequency, history of falls, and prescription of medications described as “culprit drugs,” especially sedatives and hypnotics.17

Other studies have further evaluated the strengths and limitations of individual standardized fall risk assessment, including the widely utilized British, evidence-based St. Thomas’s Risk Assessment Tool in Falling Elderly Inpatients (STRATIFY) in predicting falls in hospital practice settings.18 Statistically significant variables including history of falls prior to admission, mental status (confused, disoriented, or agitated), toileting difficulties, and transfer/mobility difficulties predicted falls. However, when intercorrelations were controlled for, only mental status remained a significant predictor.19 This and other studies reviewed indicated that the primary nurses’ clinical judgment of patient fall risk compared favorably with the use of standardized risk assessment tools when they were applied to a variety of patient populations.19–22
This evidence informed our conclusion that no one fall risk assessment tool maintained strong predictive validity across a variety of patient populations and practice settings. In addition, the low specificity demonstrated by many tools limited their clinical utility. However, 3 risk factor predictor themes were found to be common to many tools reviewed: (1) altered cognition or confusion, (2) a recent fall, and (3) the judgment of the primary clinical nurse. Cognition and a recent fall were consistent with the 2 fall indicators incorporated in the Health Outcomes for Better Information and Care (HOBIC) measure. HOBIC is a system that collects standardized patient health outcomes, staffing, and quality of work life information reflecting a variety of disciplines including nursing. The 2-item information regarding fall risk (fallen previously and confusion) and other assessment data are collected at the bedside, exported to a provincial database for analysis, and returned electronically to point-of-care providers to inform planning and evaluation of care.

STEP 5: DEVELOPMENT OF BASIC FALL RISK SCREENING TOOL

On the basis of the findings from the literature review, a decision was made by the FWG that a simple risk screening tool containing a basic set of indicators including patient history of falls, cognitive deficits, and the judgment of the primary clinical nurse would form the foundation of our falls prevention strategy. We would encourage staff members to adopt the basic fall risk screening criteria at the outset and, over time, develop and test additional fall risk criteria in their specific patient populations and clinical practice settings. This basic fall risk data set would serve to form the basis of all fall strategy implementation resources that the group would develop. These resources would facilitate and enhance point-of-care staff’s screening for risk, identify the need for a more comprehensive assessment of risk, and inform care planning, intervention, and evaluation to prevent falls.

STEP 6: POLICY AND PROTOCOL STRATEGY

The policy and procedure subgroup took several steps to achieve its mandate within time lines and ensure the work was aligned with corporate expectations and standards. In consultation with the office of document management, hospital guidelines on policy and procedure development were reviewed. In conjunction with the literature review previously conducted, a survey to identify falls prevention policy and procedure in use at other hospitals was distributed. When the group determined a fit among these evidences and the agreed-upon elements of our fall strategy, they were incorporated into the policy and protocol strategy.

The policy and protocol strategy that was produced and approved provided a minimum standard of adult falls prevention care. It highlighted that all patients are considered at risk for falls; therefore, universal falls precautions were adopted that included a requirement for the clinical team to screen all patients for fall risk and ensure that the environment was assessed for safety. To ensure consistency, the accountability for the documented admission screening for risk was assigned to the primary nurse who completes the nursing history. The policy requires documentation of the initial fall risk screening including responses to the following cues:

1. Has the patient fallen in the past 90 days?
2. Does the patient have cognitive impairment or a change in mental status?
3. In the nurse’s clinical judgment, is the patient at risk for falls?

If the answer to all of these cues is “no,” staff are instructed to continue to follow the universal precautions protocol. If the answer to any of the above is “yes,” the interprofessional team is directed to conduct a broader assessment of risk by using a list of risk factors for older adults and/or those that have been identified at the unit level to meet other population needs and follow high risk for falls precautions. These include (1) orientation of patient and family to the falls prevention plan.
of care, (2) placing fall risk signage at the bedside and flagging risk on chart spines and other centralized documentation, (3) communication of risk at each transfer of accountability, (4) encouraging increased family involvement, (5) pharmacy conducting a medication review, (6) evaluating gait, (7) assisting with transfers and ambulation, (8) environmental modifications (bed exit alarms, relocation of patient for closer observation), and (9) referral to other members of the team as specific risk factors are identified.

Document approval in a large healthcare facility can be a lengthy process. The vice president of professional affairs and chief nursing executive provided temporary executive approval for the policy and protocol strategy to be placed online in draft form pending full stakeholder approval. Expedient approval facilitated a smooth bridge to the education and implementation phases of the project and ensured that time lines and milestones were met.

**STEP 7: STAFF, PATIENT, AND FAMILY EDUCATION**

The first step in developing a falls prevention educational strategy was for this subgroup to consult with the broader educator group to identify existing resources and establish the level of education that had previously occurred in the organization. Good work that had been done was reviewed, revised, and incorporated into the plan to recognize individual and group contributions as well as gain their support for the strategy.

A survey of other hospitals and another review of the literature identified little in the way of educational strategies that would fit with our strategy design. Many of the materials focused on staff training in the use of standardized fall risk assessment tools. As such, they lacked alignment with our agreed-upon approach to provide professional and support staff with general falls prevention education including a basic risk screening approach that could be adapted or expanded upon to meet the needs of specific patient populations and practice settings.

A particular challenge was the variability of the educational needs of a wide variety of staff. Interprofessional clinical teams in our hospital are made up of general and advanced practice classifications of nurses, physicians, social workers, physical therapists, occupational therapists, speech-language pathologists, pharmacists, dietitians, healthcare aides, housekeepers, clerical staff, students, and a variety of support services including porters and laboratory and diagnostic technicians. Within these groups, individual team members perform a variety of specialty roles. To simplify the educational planning process, 2 staff groups made up of nonprofessional clinical and service (support staff) and professional clinical staff were identified for the purpose of educational planning. The educational needs of both groups employed in both inpatient and outpatient areas were included in the plan.

The generic education package that was developed for the nonprofessional clinical and service staff group highlighted universal fall precautions, basic fall risk screening, fall risk signage, and personal responsibility expectations. This content was supplemented for professional staff with information and expectations including (1) how to differentiate intrinsic (patient) and extrinsic (environmental) risk factors, (2) a fall risk screening and assessment framework, and (3) expectations for follow-up care planning, intervention, and evaluation.

In some cases, the basic content of the education plan had to be modified to meet the needs of specific patient populations. For example, the children’s hospital adapted the content of the adult falls prevention educational package to reflect the broader injury prevention needs of its patient population. This flexibility allowed for the recognition of the education needs of staff and patients in specialty areas as well as the need to meet the hospital’s time lines and milestones.

A multimodal educational approach with an emphasis on e-learning was chosen to engage
all staff members and accommodate multi-generational learning styles, varied staffing schedules, and the availability of diverse clinical teams at multiple hospital sites. The e-learning approaches were supplemented with online presentations, question and answer fact sheets, medication room posters, a self-learning test, and a patient impact video.

Existing patient and family educational materials were reviewed, updated, and distributed by educators and unit-based best practice champions and posted on the hospital intranet. These and other strategy materials have since been freely shared with external healthcare providers and professional organizations.

As a corporate initiative, falls prevention education was given clear milestones and expectations for a 6-month level of staff participation to exceed 50%. Accurate reporting of participation was facilitated by electronic reports of e-learning participation. Other reporting included manual records of other educational participation provided by educators.

**STEP 8: COMMUNICATION AND MARKETING**

The launch of the falls prevention strategy was facilitated by videoconferencing to multiple hospital sites by using a combination of central presentations and on-site demonstrations to ensure the attendance of as many staff as possible. A plan outlined multiple approaches to communication of the event that included personal invitations followed by telephone calls to clinical managers. Hospital public relations staff developed a variety of materials including colorful graphics that illustrated our Don’t Fall For It strategy brand. The launch was sponsored by professional affairs and facilitated by staff nurse members of the Nursing Education and Development Committee of the Nursing Advisory Committee.

The time needed for busy clinical staff to accept and integrate the minimum fall risk screening indicators into practice was recognized by the FWG as a potential barrier to meeting fall strategy time lines and milestones. As a marketing tool and memory aid, an easy-to-remember mnemonic was developed. The 2 basic criteria of previous fall and losses in cognition were supplemented with 3 additional indicators trigger all staff members to conduct a routine screening for both patient and environmental risk factors: fallen previously, age (>65 years), losses in cognition, lots of obstacles in the way, and slips and pills. The influence of cluttered clinical environments and specific prescribed medications was included in the mnemonic to profile the need for staff to be aware of environmental or extrinsic risk factors.27 Figure 1 illustrates the tent cards that were printed with the falls prevention risk screening mnemonic and Don’t Fall For It strategy logo and placed on all cafeteria tables and at all nursing stations during launch week.

At the launch, a presentation by a local geriatrician, well known in the field of falls prevention, provided staff with an overview of the evidence and built a case for change while recognizing the past work of individual units in falls prevention. Members of the FWG produced a video for the event. The video appealed to the broad audience at both emotional and professional levels in sharing the experience of a fall from both patient and staff perspectives. The video also reinforced the need for staff members to be vigilant in assessing their clinical environments for factors that could contribute to patient fall risk.

Combined with opportunities to network and socialize at the event, staff members attending were encouraged to participate in three interactive sessions. In the first session, a Don’t Fall For It room provided staff with the opportunity to simulate fall risk screening and intervention techniques in a prepared high risk for falls bedside setting scenario. The second session gave staff members the patient experience of being at risk for falls by limiting their senses (sight, hearing) in a disorganized clinical environment. The third session provided staff members with the opportunity to test their skills in setting exit
alarms and other safety features of newly purchased clinical beds.

The 250 staff members who attended the launch exceeded our capacity and several repeat launches were held at sites and on individual units. The event was also well attended by invited leadership of other local hospitals and health agencies. As an added benefit, our public relations department negotiated invitations for staff to be guests on 2 popular local radio programs, allowing an opportunity to market our strategy to our broader community.

To meet the needs of those staff members unable to attend the launch, fact sheets were circulated that emphasized what the strategy would mean to their practice or work. For example, the vice president medical distributed a fact sheet electronically that informed physicians of the expectation to work with clinical teams to conduct a medication review if a patient was identified at high risk or had fallen.
Communication did not end with the launch. Over the next 12 months, regular electronic updates were provided to clinical managers and other leadership reminding them of new resources and approaching implementation time lines. Other communication venues included the hospital newspaper, patient safety newsletters, intranet, and regularly scheduled project leadership team reporting at standing committee meetings at the corporate, site, and unit-based levels.

STEP 8: TOOL KIT STRATEGY—IMPLEMENTATION

Once most staff members had received education, the project leader and the coordinator hand-delivered tool kits containing all the materials developed to clinical managers. This ensured consistent and coordinated implementation by clinical managers and point-of-care teams across the organization. Included in the kit was a fall risk signage to be installed at each bedside on all inpatient units. If risk was identified, the universal fall risk emblem on the sign was to be exposed; if not, the blank side of the sign was shown. In some cases, clinical units customized the signage to meet patient population needs and clinical routines. For example, rehabilitation units created risk signage sized for wheelchairs. Other items included in the tool kit included the policy and protocols; patient, family, and staff educational materials; Don’t Fall For It posters; laminated medication room posters identifying “culprit” medications that may contribute to falls; and stores codes to facilitate the ordering of nonslip patient footwear.

STEP 9: EVALUATION

Year 1 targets for the falls prevention strategy were achieved. A working group had been recruited and a falls prevention strategy had been developed and implemented. Ninety-two percent of clinical staff had participated in falls prevention education within the first 6 months of implementation, exceeding the target of 50%. The results of random audits conducted at baseline and at 6 months postimplementation on 193 patient medical records on 15 medical-surgical units indicated a 13% improvement in documentation of fall risk. Fall risk screening requirements had been incorporated into a soon to be implemented electronic health record.

Patient fall data are obtained from electronic occurrence reporting data and included in quarterly reports to program management. A calculation of fall rates per 1000 patient-days for the implementation year 2008 indicated a reduction of 20% when compared with a 2007 baseline rate.

Planned corporate evaluation of the falls prevention strategy in the next year includes ongoing monitoring of our hospital’s fall rates with an emphasis on identifying specific units that may require additional support. In addition, managers and their clinical teams are trialing a template for annual falls prevention sustainability planning reporting. In completing the template, managers and their team report on their progress on each strategy component and any adaptations made. In addition, they select from an open-ended menu of unit-based evaluation and sustainability options. These plans will be used by project leadership to track and evaluate unit-specific implementation progress and adaptations of the basic strategy made by clinical teams over time.

DISCUSSION

Faced with the need to implement a strategy to meet multiple organizational needs, the identification of a basic approach to risk assessment provided a foundation for a falls prevention strategy that could be successfully implemented within set time lines. In addition, the approach recognized the need for experienced clinical staff to adapt basic risk screening tools and further test and develop them over time to meet the needs of specific patient populations and reflect clinical practice setting realities.

Our falls prevention strategy included components of evaluation, systems change, staff inclusion in decision making, marketing, and
staff, patient, and family education. Catalysts for organizational change and support included a successful application for RNAO BPSO candidacy and an Accreditation Canada patient safety requirement.15,16 As a corporate priority initiative, all levels of leadership and staff members understood the goals, objectives, and milestones and their part in the process. A marketing strategy ensured consistent communication to all corners of our large and diverse hospital. A hospital-wide launch provided all staff members with the opportunity to share ownership in and celebrate the initiation of best practices in falls prevention in their hospital. The provision of a multimodal staff, patient, and family educational strategy recognized and supported the learning needs of individuals and groups. The setting of organizational targets for both the process and outcomes kept the project leadership focused and heightened awareness.

Reflecting on the process, acknowledging and acting upon the challenges reported by clinical teams in implementing a major clinical practice change were the most important factors in our early success. Engaging formal and informal leaders who understood both the need to include formal evidence and recognize the expertise and realities of point-of-care staff in an FWG who developed and implemented the strategy was also critical to our success. As local experts, these staff members continue to champion and monitor the implementation of the strategy across our hospital and remain invested in sustaining our gains.

Our next steps include developing and testing constructive and consistent processes to provide staff members with regular feedback on their falls prevention efforts and the identification of areas requiring additional resources. In addition, as units provide sustainability planning data, we will monitor how clinical teams have tailored the basic falls prevention strategy elements to meet the needs of specific patient populations and clinical practice setting realities.

CONCLUSION

Our experience in implementing a falls prevention strategy suggests that the development of a multifaceted, although basic, falls prevention strategy was effective in (1) engaging a wide range and number of clinical staff (92%) in education, (2) reducing fall rates (20%), and (3) meeting corporate time lines and milestones in the complex environment of a Canadian, multisite, academic teaching hospital. Our strategy was designed to meet organizational needs, while encouraging and supporting its adaptation to match patient population needs and the clinical realities of staff.

REFERENCES


