CE

Creating a Culture of Safety for Safe Patient Handling

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Healthcare workers who handle patients have little guidance to help them identify when to use the existing equipment for moving patients. Manual lifting of patients and healthcare worker injuries continue despite equipment installation and training. The purpose of this project was to decrease the number and severity of healthcare worker injuries by implementing a culture of safety for safe patient handling. A multicomponent safe patient handling program was deployed on one inpatient unit at a Midwest academic acute care hospital. There was a 36% decrease in the number of patient handling injuries, a 71% reduction in the number of lost work days, and a 60% reduction in costs in 1 year related to patient handling injuries. The RN Satisfaction Survey question regarding having enough help to lift/move on last shift improved from 41% presurvey to 69% postsurvey.

Musculoskeletal disorders in healthcare workers are a result of the continual manual lifting of patients (Waters, Collins, Galinsky, & Caruso, 2006). Healthcare workers at the University of Wisconsin Hospital and Clinics (UWHC) who handle patients had little guidance to help them identify when to use the existing equipment for moving patients. Manual lifting of patients continued despite equipment installation and training. As a result, healthcare workers on the inpatient care units continued to be injured from patient handling tasks. UWHC workers' compensation claim costs related to patient handling injuries ranged from $114,000 to $814,000 per year from 2006 to 2010 per review of information from the organizations insurance carrier.

The UWHC had 203 ceiling lifts installed in inpatient areas as of April 2011. In addition, there were seven portable lifts, three sit-to-stand devices, and six friction-reducing lateral transfer devices for 566 inpatient beds. The ceiling lifts were installed in phases beginning in 2003. Whereas costs of injuries decreased temporarily with the installation of the ceiling lifts, costs of injuries continued to rise in 2009 and 2010. Seventeen of the 23 inpatient units reported not using the ceiling lifts, and only two of the 23 inpatient units required staff to complete an annual checklist to demonstrate the proper use of the equipment as part of 2009 annual review.

The environment in which registered nurses work in acute care settings is both physically and cognitively demanding (Kalish & Aebersold, 2010; Trinkoff et al., 2008). Musculoskeletal injuries and disorders are costly and prevalent in nursing and healthcare workers (Nelson et al., 2006). Research over the years has determined that there is no safe way to manually lift a patient (Marras, Davis, Kirking, & Bertsche, 1999; Waters, 2007). Programs developed using manual lifts to mobilize patients have been termed "Safe Patient Handling Programs" (Nelson, Collins, Siddharthan, Matz, & Waters, 2008). These programs involve analyzing high-risk patient care activities, assessing and planning for patient need for assistance in movement, and using the appropriate equipment to move patients on the basis of the assessment.

Attaining and maintaining a culture of safety for safe patient handling are challenging. Providing equipment and training only on the equipment does not ensure that healthcare workers will use the equipment (Pellino, Owen, Knapp, & Noack, 2006). Program outcomes such as healthcare worker injury rates for safe patient handling programs are enhanced when multifaceted approaches are included in program implementation (Collins, Wolf, Bell, & Evanoff, 2004; Evanoff, Wolf, Aton, Canos, & Collings, 2003; Nelson et al., 2006; Yassi et al., 2004). Multifaceted approaches to program implementation continue to demonstrate a reduced incidence of employee injury, even though self-reporting of compliance with the minimal lift policy 1 year after implementation was 42.8% at the Children's Hospital and Clinics of Minnesota (Haglund, Kyle, & Finkelstein, 2010).

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Documented components of a culture of safe patient handling include visible support from leadership, accountability for safety, unit-based program champions, focus on system barriers, providing after action event reviews, and using data to analyze effectiveness of the program (Dugan, 2010; Hignett, 2003). Properties identified in the literature to create and sustain a culture of safety include leadership, teamwork, speaking up on the behalf of patients, learning from mistakes, a just culture that recognizes the contribution of system failures in addition to individual accountability, and focus on patient-centered care (Sammer, Lykens, Singh, Mains, & Lackan, 2010).

One general medical unit at the UWHC provided education to unit staff in March 2010 on how to use patient handling equipment. After the education, the unit staff was asked to complete a survey to determine whether equipment was being used and barriers to equipment use. The amount of time to locate the equipment and accessories was the biggest barrier for nurses not to use mechanical lifts (67%), followed by isolation status (60%) and perception of having enough staff to manually lift the patient (40%). The time was right for developing a culture of safety for safe patient handling to change the behaviors of healthcare workers and decrease injuries. The purpose of this project was to decrease the number and severity of healthcare worker injuries on one inpatient care unit at the UWHC by implementing a culture of safety for safe patient handling.

Literature Review

Healthcare workers continue to have one of the higher rates of injury (Bureau of Labor Statistics, 2010). Many of theses injuries are musculoskeletal and result from patient handling. Injuries occur when the load on the tissue exceeds the tissue tolerance (Marras, 2005). An increased load or a decrease in tolerance leads to injury. The National Institute for Occupational Safety and Health developed a lifting equation, which recommends lifting no greater than 51 pounds under ideal conditions (Waters, 1993). In examining the biomechanical loads for patient handling tasks, it was discovered that the spinal loading was different in patient handling tasks than other manufacturing or warehousing lifting tasks (Nelson, Lloyd, Menzel, & Gross, 2003). Based on this information, the maximum amount of weight for patient handling has been determined to be 35 pounds under ideal conditions (Waters, 2007).

Because a small percentage of the patient population in healthcare settings weighs less than 35 pounds, different methods other than lifting patients are needed to control the risk for injury. Various approaches have been studied to determine how to continue to keep patients and healthcare workers safe. Nelson and Baptiste (2006) emphasized that high-risk patient handling tasks are different in various environments, and acknowledged the need to group the solutions for controlling risk into engineering, administrative, and behavioral controls. Effective engineering interventions included using patient handling equipment and devices (Nelson & Baptiste, 2006). Many studies have demonstrated that using equipment decreases the spinal load on workers (Dayndar et al., 2001; Marras, Knapik, & Ferguson, 2009; Schibye et al., 2003; Village et al., 2005). But training alone for both equipment and cognitive behavior has not had an effect on musculoskeletal health (Tullar et al., 2010).

Effective administrative controls to promote safe patient handling include patient care ergonomic assessment protocols, no lift policies, and lift teams (Nelson & Baptiste, 2006). Training on the appropriate use of lifting equipment was reported to be an effective behavioral intervention (Nelson & Baptiste, 2006). Instruction on how to manually lift a patient did not result in any changes in back pain by hospital employees (Fanello, Jousset, Roquelaure, Chotard-Frampas, & Delbos, 2002). Hignett (2003) reviewed the literature from 1960 to 2003 for interventions that would decrease the risk of healthcare workers being injured from patient handling activities and found that training on technique does not change practice or impact injury rates for workers who complete patient handling activities.

Some interventions were lacking strong evidence but were reported to be promising. These include the use of patient assessment protocols (administrative control) and unit-based peer leaders (behavioral control) (Nelson & Baptiste, 2006). Hignett (2003) suggested that multifactor interventions should be used to decrease the risk for patient handling. They include state-of-the-art equipment; education and training on risk assessment, patient assessment, and equipment; risk assessment; patient assessment system; policy and procedure; redesigned work environment; and a change in practice (Hignett, 2003).

Many of these interventions were identified by Nelson and Baptise (2006) as effective or promising. Tullar et al. (2010) completed a systematic review and found 16 studies to answer the question "Do occupational safety and health interventions in healthcare settings have an effect on musculoskeletal health status?" (p. 199). A moderate level of evidence was found for exercise interventions and multifactor patient handling interventions, which include organizational policy change, lift or transfer equipment, and training on equipment (Tullar et al., 2010). Consequently, multifactor interventions should be used to build a culture of safety for safe patient handling.

Multifactor interventions for safe patient handling have demonstrated a reduction in workers' compensation cost, injury incidence rates, and lost work days in acute care facilities and in nursing homes located in different countries (Alamgir et al., 2008; Charney, Simmons, Lary, & Metz, 2006; Collins et al., 2004; Evanoff et al., 2003; Haglund et al., 2010; Hunter, Branson, & Davenport, 2010; Nelson et al., 2006; Silverwood & Haddock, 2006; Stenger, Montgomery, & Briesemeister, 2007). The implementation of programs using patient handling equipment and other interventions has consistently demonstrated significant decreases in workers' compensation costs from preintervention periods to postintervention periods (Alamgir et al., 2008; Charney et al., 2006; Collins et al., 2004; Engst, Chhokar, Miller, Tate, & Yassi, 2005; Haglund et al., 2010; Hunter et al., 2010; Nelson et al.,

2006; Stenger et al., 2007). The workers' compensation costs reported in these studies have been identified as direct costs of injuries and include medical expenses, program administrative costs, and compensation (Alamgir et al., 2008; Engst et al., 2005). Calculating cost–benefit ratios and return on investment for program analysis is typically reported by measuring only direct costs because indirect costs are difficult to calculate. Indirect costs are estimated to be double or triple that of direct care costs and include costs such as internal employee health costs, benefits, turnover, sick leave, recruitment and retention costs, orientation costs, and employee morale (Alamgir et al., 2008; Hunter et al., 2010).

Several studies that reported reductions in workers' compensation costs, lost work days, and/or a reduction in injury rates also collected data on equipment use. Evanoff et al. (2003) acknowledged a self-reported lift usage of 38% in nursing homes and 15% in acute care with significant reductions in injury rates and lost work day injury rates. After 3 months postimplementation, Wardell (2007) reported a 61% reduction in injuries with healthcare workers' self-reporting use of equipment 29% of the time. After implementing a multifactor program in a pediatric setting, 42.8% of nurses self-reported using the equipment according to policy with a 71.4% reduction in injury incidence and an average reduction in direct cost of $4,508 per year of injury (Haglund et al., 2010). It appears that even a less than 50% self-reported use of equipment results in significant decreases in workers' compensation costs and injury incidence with the implementation of multifactor safe patient handling programs. Unfortunately, using equipment for some high-risk tasks, but not all high-risk tasks, highlights that changing the culture to match a minimal lift policy is very difficult.

Changing the culture of safety for safe patient handling takes time and continuous attention for sustainability (Hunter et al., 2010; Stenger et al., 2007). The multifactor interventions need to address engineering, administrative, and behavioral controls for reducing healthcare worker injury and associated costs. In 2003, the American Nurses Association (ANA) began promoting safe patient handling programs through the Handle With Care campaign (ANA, 2004). They continued to promote safe patient handling by launching The ANA Handle with Care Recognition Program in 2009 but withdrew the program nearly a year later (ANA, 2009a). This program provided recognition to facilities who comply with criteria for developing safe patient handling programs. Program criteria were comprehensive and included many of the components identified to create a culture for safe patient handling by addressing engineering, administrative, and behavioral controls (ANA, 2009b). The ANA continues to be an advocate and supports safe patient handling to prevent injuries and protect the well-being of nurses (ANA, 2013). The National Association of Orthopaedic Nursing has made recommendations and offered specific recommendations for orthopaedic nursing practice related to patient handling in a special supplement to *Orthopaedic Nursing* (Sedlak, Dohey, Nelson & Waters, 2009).

Implementation

Purpose

The purpose of this project was to decrease the number and severity of healthcare worker injuries for one inpatient nursing unit at the UWHC by implementing a culture of safety for safe patient handling using an evidence-based program. The project included implementation of a safe patient handling program on one early adopter unit and evaluated program outcomes from this unit.

Setting

The UWHC is an academic medical center with 566 licensed acute care beds, a Level 1 trauma center, and has been designated a Magnet Hospital by the American Nurse Credentialing Center. The early adopter unit is a 29-bed progressive care inpatient unit. Eight of the 29 beds provide an intermediate level of care, whereas the remaining beds are intended for general medical acute care. This unit was selected because of the high volume and cost of injuries in addition to having a nurse manager very interested in and supportive of program implementation.

Marketing

The program was marketed to all levels in the organization. Marketing started by gaining awareness of the problem of patient handling and how injuries to healthcare workers can be career limiting. All workers on the unit were targeted for program awareness, as well as nursing and rehabilitation leaders throughout the organization. A slogan was developed to market the program. The program at the UWHC was marketed as SMART (Safe Movement and Repositioning Techniques). A tip of the week poster was placed in visible areas on the unit with the SMART marketing materials. All program content and tips were made available on the organizations intranet. The program was introduced at various meetings, and regular updates on the project were provided to the nurse executive council, nursing management council, clinical nurse specialist forum, nursing practice council, nursing quality council, and safety resource nurse meetings. Excitement for the program was corroborated when many of the inpatient units requested to also begin the program immediately.

Project Implementation and Evolution

The project was implemented in various phases on the early adopter unit. The phases of the project were awareness, assessment, education, and implementation/sustainability. The awareness phase occurred from May 2010 until August 2010, in which program planning was completed in addition to heightening staff awareness of the problem. Having a few of the selected peer leaders from the unit conduct observations to assess high-risk patient handling tasks on the unit as part of the unit ergonomic assessment proved to be an eye-opening experience for the staff who participated. The individuals were surprised by how many at-risk patient handling activities they completed and the awkward

Table 1. Creating a Culture of Safety for Safe Patient Handling Project Phases and Tasks

Awareness Phase	Assessment Phase	Education Phase	Initiation/Sustainability Phase
Develop Safe Patient Handling Coordinator position description	Identify unit-based peer leaders	Educate peer leaders (4 hours)	Educate new healthcare workers who handle patients
Develop marketing slogan/campaign	Inform physical therapy of unit timeline	Educate all staff (10-minute computer-based training and 1-hour equipment training)	Educate all unit staff annually
Meet with unit clinical nurse manager, clinical nurse specialist, and nursing education specialist and safe patient handling coordinator • Discuss initial timeline • Assess support for project initiation • Review roles and responsibilities • Identify unit physical therapist • Plan for identifying unit-based peer leaders	Complete unit assessment: • Healthcare Worker Injury Prevention Survey • Observation of patient handling tasks • Weight and body mass index data • Dependency levels of patients • Safety Resource Nurse Data Collection Tool • Clinical Nurse Manager Data Collection Tool • Unit Assessment Summary • Workers' compensation cost • Lost work days • Number of injuries related to patient handling • Activity related to patient handling injuries	Identify and communicate program initiation date	Educate staff who turn over key positions (peer leaders, clinical nurse specialists, nursing education specialist, clinical nurse managers, safe patient handling coordinator)
Initiate posting of "Tip of the Week" for Safe Patient Handling	Continue posting "Tip of the Week" for safe patient handling	Continue posting "Tip of the Week" for safe patient handling	Program evaluation: • Healthcare Worker Injury Prevention Survey at 6 months • Observation of patient handling tasks at 1, 3, and 6 months
Develop reporting structure for safe patient handling committees	Develop intranet site for safe patient handling	Order equipment needed for implementation	Documentation assessment: • Identify patients who require equipment • Identify patients who have equipment documented • Calculate compliance of equipment use based on documentation monthly and enter on unit scorecard
Identify roles and responsibilities for all stakeholders involved with project	Develop competency forms, equipment checklists, and guideline for equipment use		Unit scorecard data entry • Documentation assessment • Health Care Worker Injury Prevention Survey • Number of patient handling injuries • Number of lost work days
	Determine equipment needs based on assessment		Safe patient handling (SPH) coordinator meets with unit-based peer leader at least once per week for 1 month, then monthly to problem solve SPH barriers and issues
	Develop patient handling assessment criteria		Clinical nurse manager and clinical nurse specialist assist unit-based peer leaders in problem solving SPH barriers Continue posting "Tip of the Week" for safe patient handling as needed Discuss safe patient handling program monthly at unit council meetings • Review data/unit scorecard • Identify system barriers • Develop plans for improvement as needed Develop and monitor plan for equipment maintenance and replacement

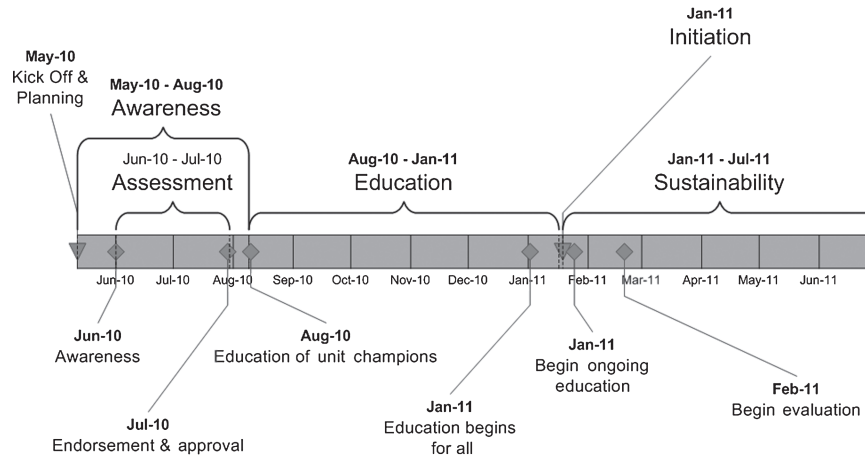

FIGURE 1. Project timeline for creating a culture of safety for safe patient handling.

positions used to complete the tasks. The increased awareness of the problem led the peer leaders to challenge themselves and others for changing how they moved patients.

The assessment phase included identification of additional peer leaders for the program and completing a unit-based ergonomic assessment. Key components of the ergonomic assessment were conducting a survey administered to staff who worked on the unit, collecting data on patient weights and dependency levels, and observing high-risk patient handling tasks. Sixty-five of possible 79 staff members (82%) completed the survey. Preimplementation, the survey was a large component of the unit ergonomic assessment. The ergonomic assessment assisted with projecting the amount and type of equipment needed by the unit for program implementation. The assessment phase took place in June and July 2010. Once the assessment phase was completed and equipment needs were determined, the education phase took place from August 2010 to January 2011.

The education phase began with training the unit peer leaders and ended when all unit staff were educated. The nurse manager, clinical nurse specialist, and nursing education specialist all contributed to educating staff.

The project was initiated on January 19, 2011, which began the initiation/sustainability phase. Program evaluation occurred throughout this phase and after action event reviews were conducted after each injury related to patient handling. Project tasks during the phases are identified in Table 1. The specific timeline for the project phases are outlined in Figure 1. One month into the initiation/sustainability phase, early adopter unit leadership meetings were set up to discuss observations and program implementation. Other communication methods were then used to confer about the program with the unit-based peer leaders. These included e-mail, communication via the nurse manager, and rounding by the safe patient handling coordinator.

Having modern equipment hardware, such as ceiling lifts was identified as a critical component to program implementation. While adequate hardware was in place for the program, accessories were required to move the patient with the hardware. The nurse manager reported that during the first month of implementation, 10 of the 20 washable slings ordered were lost, which limited the ability to utilize equipment. A decision was made to use only single-patient-use accessories for the equipment when the single-patient-use option was available from the manufacturer.

Key to implementing the project was deploying a multicomponent safe patient handling program. Program components included state-of-the-art equipment for patient handling; education and training on risk assessment, patient assessment, and equipment; unit-based ergonomic assessment; patient handling assessment criteria; guidelines on safe patient handling; visible support from leadership; unit-based program champions; providing after action event reviews; and using data to analyze the effectiveness of the program.

Results/Outcome Analysis

Outcome data on injuries, lost days from work, and restricted days were summarized and updated monthly. Costs of patient handling injuries were summarized and updated at 6 months, 9 months, and 1 year postimplementation. A before and after implementation comparison was done, and a percent change was calculated, comparing 1 year preimplementation (calendar year 2010) to postimplementation (calendar year 2011). Process evaluation was completed postimplementation by conducting observations of high-risk handling tasks at 1 and 6 months after program initiation, to measure the extent to which equipment was used for high-risk patient handling tasks.

After 1 month of the start of safe patient handling program, four undergraduate industrial engineering students were trained to collect data by observing patient handling tasks. The safe patient handling coordinator spent 1 hour observing tasks simultaneously with each student to ensure reliability of the observations. There were 24 observations of patient handling tasks done by the students. Fourteen of the 24 tasks, or 58%, were completed according to the guideline.

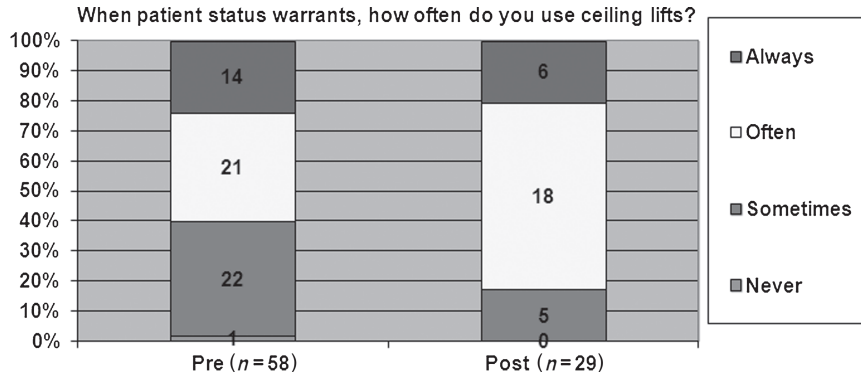

FIGURE 2. Self-reported use of ceiling lifts pre- and 6 months postimplementation.

Six months after program implementation, the observations were completed by the safe patient handling coordinator, a nursing director, and an ergonomic specialist employed by the hospital. There were 15 patient handling observations completed and 10 of the tasks (67%) were completed per the guideline.

In addition to observation, self-reported use of equipment was assessed in the Health Care Worker Injury Prevention Survey. The survey was developed internally by the UWHC Safe Patient Handling task force, which included ergonomic specialists with an expertise in patient handling. No psychometric properties are available for the survey. Preimplementation there were 63 responses to this survey, and 6 months postimplementation there were 32 responses. Self-reported data on the use of equipment were gathered in the Nursing Injury Prevention Survey completed pre- and 6 months postimplementation (Figure 2), by the question "When the patient status warrants, how often you use the ceiling lifts?" Preimplementation the percent response of often and always was 60%, and this increased to 83% postimplementation, a 38% increase in often and always on self-reported equipment use. Always went from 24% to 21%, but this may be due to the fact that there was no guideline preimplementation to define when to use equipment.

Costs of patient handling injuries are obtained from a review of costs provided by the insurance carrier for UWHC workers' compensation. The data are reviewed by the organizations' ergonomic specialist to determine which injuries and costs are related to patient handling and then identifying the cost center of the injury. The direct cost of the injury is reported and includes medical costs, indemnity, administrative costs, and reserves for anticipated costs related to the injury. Because reserves are an estimated cost, the total figure is subject to change until the case is closed. Injury costs are credited to the month and year the injury occurred, irregardless of the date the expense was incurred. One year preimplementation, calendar year 2010, as of February 8, 2012, the direct cost of injury was $86,326. One year postimplementation, calendar year 2011, the direct cost of injury was $34,165. The direct costs of injuries decreased 60% 1 year preimplementation to 1 year postimplementation.

The number of injuries related to patient handling was obtained from workers' compensation records. All reported injuries are included, even if the injury did not result in lost time from work or had no costs associated with the injury. A workers' compensation specialist reviewed the injury and determined whether the injury is related to patient handling. The data are tracked in a risk management software program and sent to the safe patient handling coordinator monthly, with updated lost work days and restricted work days quarterly. Injuries are summarized by cost center and month of injury. In calendar year 2010, there were 22 injuries related to patient handling reported to workers' compensation. Postimplementation, calendar year 2011, there were 14 injuries related to patient handling, a 36% decrease in the number of injuries.

Lost work days are obtained from workers' compensation records and updated quarterly to reflect days lost that occur after the reporting time. As of January 28,

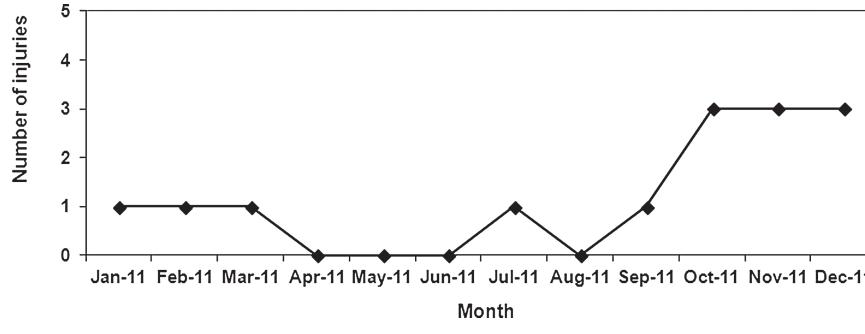

FIGURE 3. The number of injuries by month postimplementation.

Table 2. Reasons for Injury Postimplementation

Injury Reason	Number of Injuries
Equipment not used	7
Unable to use equipment on patient	1
Did not use alternate equipment	1
Caught falling patient	1
Data not available	6
Total	16

2013, the numbers of lost work days 1 year preimplementation (calendar year 2010) was 180. One year postimplementation (calendar year 2011), there were 52 lost work days related to patient handling, a 71% decrease.

There were fewer injuries reported in the first 6 months after the program was initiated. The unit-based peer leaders decreased in 1 year, from 19 to 10, thereby leaving only 53% of the unit-based peer leaders to continue to champion the program. Figure 3 displays the number of injuries reported each month related to patient handling. This could be related to the number of unit peer leaders.

The after-injury event reviews provided valuable information for program improvement. Most often, it was discovered that staff were not using equipment when they sustained an injury postimplementation related to patient handling. Table 2 provides detailed information on after-injury event reviews. Because of issues with the workers' compensation database, not all injuries were available for analysis.

Another outcome from the project was realized when the results from the Nursing Database of National Quality Indicators (NDNQI®) RN Satisfaction Survey results became available. One question on the survey inquires about situations on the unit during the last shift. The question asks whether there was enough help to lift or move patients. As displayed in Figure 4, the percentage of yes response increased from 42% in 2010 to 68% in 2011. Using equipment for patient handling may have helped with the perception of having enough help to lift and move patients.

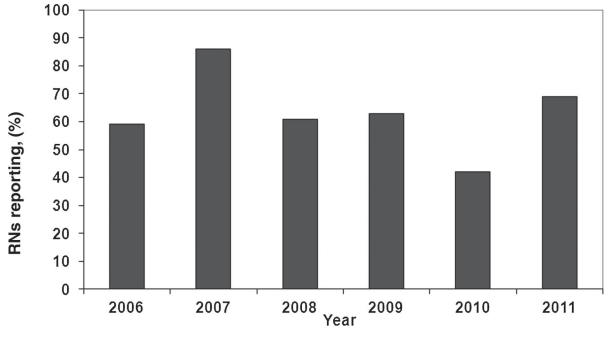

Figure 4. RN satisfaction survey results for enough help to lift/move on last shift—early adopter unit. The survey was administered in November. University of Wisconsin Hospital and Clinics 2011 RN Satisfaction (NDNQI®) Survey Executive Summary.

Recommendations

Implementing an evidence-based safe patient handling program reduces the costs paid out by workers' compensation for patient handling, establishing a necessity to implement the program to all inpatient areas of the UWHC. In addition, the UWHC will explore implementation of the program to other care areas, such as radiology, inpatient hemodialysis, the operating room, ambulatory clinics, and the emergency department. This implementation will assist with the organizational strategic goal of providing the best academic and work environment as a retention strategy. Another contribution toward reaching strategic goals will be met by creating a culture of safety for moving patients, thereby creating an atmosphere of leadership in quality and patient safety.

The education component delivered to the unit-based peer leaders was effective in increasing the knowledge of the peer leaders and should continue, with a mixture of classroom time and hands-on equipment training. Observations of high-risk tasks at 1 and 6 months postimplementation indicate that the staff had changed behavior and were using equipment at a higher rate than anticipated, lending support that the education provided along with the other program components led to a change in practice for handling patients.

After-injury event reviews often identified barriers to equipment use and should continue to be completed after each patient handling injury. Because the number of injuries increased during the second half of the year postimplementation (Figure 3) and there was an identified decrease in the number of unit-based peer leaders, it is recommended to continue with the unit-based peer leaders. A regular count of unit-based peer leaders for safe patient handling should also be performed, and unit-based peer leaders will need to be replaced upon leaving the unit.

Based upon the outcomes of this project, other acute care facilities interested in implementing a safe patient handling program should implement an evidence-based multifaceted safe patient handling program. Replication of the program should involve all program components as the benefit of each individual component was not evaluated.

Sustainability

Creating a culture of safety for safe patient handling requires continued attention and planning to maintain and sustain the project. Because unit-based peer leaders appear to have a key role in the implementation, sustainability should address maintaining and growing the skills of unit-based peer leaders. Developing an organizational structure for the unit-based peer leaders is a major component for sustainability. A dedicated safe patient handling coordinator is needed to ensure sustainability and continued implementation of the project to other areas of the organization.

State-of-the-art equipment is required for the program and requires routine maintenance. Support from key stakeholders to purchase, maintain, and replace equipment will ensure sustainability of the project. Continuing to collect data on program outcomes and

TABLE 3. LIFT AID EQUIPMENT DETERMINATION GRID VERSION 2

Assessments			Interventions				
Get Up and Go Test Value (Rising From Chair)	Bed Mobility	Lying to Sitting	Reposition or Cares in Bed	Vertical Transfer Noncooperative, Poor Upper Body Strength, Nonweight Bearing	Vertical Transfer Weight Bearing and Upper Extremity Strength, Cooperative	Lateral Transfer Patient Unable to Assist	Ambulation Weight Bearing and Upper Extremity Strength, Cooperative
0—Able to Rise in Single Movement			None	None	None	None	None
1—Pushes Up, Successful in One Attempt	Roll/move independently with or without bed rail and/or verbal cues	Sit up independently with or without bed rail, head of bed elevated, and/or verbal cues	None	None	Gait belt	None	Gait belt
3—Multiple Attempts but Successful	Assist with moving upper and/or lower body	Sit up and assists with moving legs	Ceiling lift Air-assisted FR LT device Reverse trendelenburg if tolerates	Ceiling lift with seated sling Gait belt	Sit to stand	Ceiling lift Air-assisted FR LT device to cardiac chair	Sit to stand Ceiling lift with ambulation sling None
4—Unable to Rise Without Assistance	Not able to actively assist, no initiation	Not able to actively assist, no initiation	Ceiling lift Air-assisted FR LT device	Ceiling lift	Ceiling lift with seated sling	Ceiling lift Air-assisted FR LT device	Sit to stand Ceiling lift with ambulation sling
Unable to Assess	Unable to assess	Unable to assess	Ceiling lift Air-assisted FR LT device	Ceiling lift	Ceiling lift	Ceiling lift Air-assisted FR LT device	Not recommended

Note: FR = friction reducing; LT = lateral transfer.

reporting on program benefits will need to be employed when requesting funding for equipment. Equipment accessories, such as slings for lifts, are a large component of any safe patient handling initiative. Ensuring availability of accessories for the patient population and different patient handling tasks needs to be monitored so this does not become a barrier to moving patients safely.

Ongoing work will need to be done to increase the percentage of high-risk tasks completed by the guideline. Implementing a culture of safety for safe patient handling aims to change the culture of how patients are moved. Culture change takes time (Scott, Mannion, Davies, & Marshall, 2003). Nursing and hospital leadership support will help sustain the program through the use of peer leaders. Peer leaders will problem solve system barriers to assist with the culture change. Feedback will be given to staff on how many patients are moved, and the number of healthcare worker injuries and lost work days each month. The feedback will allow for continuous process improvement, sustaining the culture of safety for safe patient handling.

Lessons Learned

Implementing an evidence-based project on an early adopter unit allowed for the opportunity to learn at the local level and improve the project plan before spreading the change throughout the UWHC. The phases of the project provided an excellent structure for implementation. Not having equipment available for the education phase of the project contributed to a delay in the project timeline. Equipment needs to be ordered early once there is an assessed need for it.

After approximately 3 months, it was discovered that the patient assessment criteria needed improvement. The assessment criteria were based only on the patient's ability to go from a sitting position to a standing position. Consequently, the patient assessment criteria were not helpful in determining whether equipment was needed for repositioning in bed or assisting a patient from lying to a seated position. A new equipment determination grid was developed by the Safe Patient Handling Task Force and implemented in November 2011 (see Table 3).

The contribution of the equipment accessories to the project plan should not be overlooked. Accessories included slings for the ceiling lifts and portable lifting equipment in addition to mats for air-assisted lateral transfer devices. Originally, plans were to use mainly washable accessories and utilize single-patient-use accessories for patients in isolation. After suffering a loss of slings, the decision was made for single patient use. Despite this, the budget for single-patient-use items far exceeded actual usage; therefore, this change did not have a negative impact on the program budget.

While the UWHC had an existing database for tracking injuries, the database was converted to a more robust system after program implementation on the early adopter unit. The reports from the new system were discovered to contain errors. Vigilance was required to ensure correct reporting of injuries, especially when converting to new tracking software. Also, the manual abstraction of cost for patient handling injuries could also lead to errors, both pre- and postimplementation.

Summary

Creating an environment for employees to change behavior for the benefit of themselves and the patients they care for is facilitated by the implementation of an evidence-based multifaceted safe patient handling program. The program did not eliminate all high-risk patient handling tasks, but the change in behavior did result in a decrease in injuries and an even larger decrease in workers' compensation costs related to patient handling injuries in a 1-year period of time. Those who would benefit may be resistant to making a change, but we must remember changing culture takes time and continued resources.

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