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## Safe Patient Handling

Lessons Learned From  
Program Ups & Downs

By Elise Condie

Several U.S. states have implemented requirements for a safe patient handling (SPH) program in acute care facilities, with some in place for a number of years. An effective program can have a significant positive impact on both patient and caregiver safety. Benefits include fewer falls and adverse events for patients and a reduction in musculoskeletal injuries for caregivers.

A facility can determine the effectiveness of its SPH program through various monitoring, review and analysis methods. A good review should assess program effectiveness from the perspective of both patient safety and caregiver safety. This article describes metrics used to effectively analyze SPH program success. These metrics include adverse patient events, staff injury rates and monitoring broader processes that can impact an SPH program, such as incident investigation, equipment maintenance, performance feedback to staff, training and supervision.

This article discusses longitudinal analyses of Australian SPH programs, which delivered a 24% reduction in low-back injuries among nursing staff, a 41% reduction in lost work days, and a projected cost saving to each health service of \$6.4 million (2003 AUD). It examines the metrics used to determine program success, and some lessons learned from those program evaluations, including the need to use powered equipment as a primary control



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option, considering organizational and cultural change programs as part of a safe patient handling program, and ensuring best allocation of resources.

### Why Have an SPH Program?

In 2012, musculoskeletal diseases (MSDs) made up 42% of workers' compensation cases in nursing staff in the U.S. This equates to a rate of 55 cases per 10,000 full-time workers. Nursing assistants were involved in 44,100 days-away-from-work cases with 55% due to overexertion (U.S. Bureau of Labor Statistics). Nursing assistants were one of seven occupations with a case frequency rate greater than 375 cases per 10,000 full-time workers.

Patient falls are a leading cause of hospital-acquired injury and frequently prolong or complicate hospital stays. Falls are the most common adverse event reported in hospitals. Reviews of observational studies in acute care hospitals show that fall rates range from 1.3 to 8.9 falls per 1,000 patient days, and that higher rates occur in units that focus on eldercare, neurology and rehabilitation (Degelau, Belz, Bungum, et al., 2012).



Reduced mobility in patients can lead to a number of complications, including muscle contractures, decreased muscle strength, loss of bone mass (leading to an increased risk of fracture in the event of a fall), increased incidence of constipation, increased risk of atelectasis and subsequent pneumonia, venous thrombosis, reduced cardiovascular reserve and neuropathy (Harper & Lyles, 1988).

## Known Benefits to Implementation of an SPH Program

SPH programs have delivered reductions in workers' compensation costs, staff absence rates and employee turnover. Chhokar, Engst, Miller, et al. (2005), report a 40% reduction in workers' compensation costs 3 years after implementation of an SPH program based on the installation of ceiling lifts.

Similar studies have shown reduction in workers' compensation costs (Marras, Knapik & Ferguson, 2009; Chhokar, et al., 2005; Siddharthan, Nelson, Tiesman, et al., 2005). Siddharthan's study examines the implementation of an SPH program in 19 long-term care facilities, and shows a reduction in staff injury rates, as well as a reduction in both lost and restricted work days. Brophy, Achimore & Moore-Dawson (2001) demonstrate similar results through the implementation of a program at a 525-bed facility in New York.

Healthcare facilities in New South Wales, Australia, have shown similar results from their implementations of SPH programs, demonstrating a 66% reduction in workers' compensation costs and a reduction in days away from work despite a recorded increase in the incidence of presentation of bariatric patients (WorkCover NSW, 2006).

Rehabilitation professionals, including physical therapists and occupational therapists, express concern that SPH programs and equipment can inhibit the achievement of functional outcomes while in care. Arnold, Radawiec, Campo, et al. (2011), show that stroke patients who received care with SPH equipment achieved equal or better functional independence measure (FIM) scores compared to stroke patients who did not receive care with SPH equipment.

## Measuring the Success of an SPH Program

Strategic collection and dissemination of program performance data, coupled with thoughtful action based on that data, could drive and sustain an SPH program. Data can be related to measures that impact both staff and patient safety. Both data sets can impact staff engagement with and compliance to the program, as changes in patient welfare are intrinsically of interest to the caregiver population.

The data should provide the following:

- indication of the overall program performance;

**TABLE 1**  
**Examples of Leading & Lagging Indicators**

Leading indicators	Lagging indicators
<ul style="list-style-type: none"> <li>• Training completion rate</li> <li>• Equipment availability</li> <li>• Completion of SPH rounding (vs. target)</li> <li>• Documentation of mobility status in patient files</li> </ul>	<ul style="list-style-type: none"> <li>• Staff injury rates</li> <li>• Workers' compensation costs</li> <li>• Patient fall rates</li> <li>• Patient length of stay</li> <li>• Average FIM scores at discharge</li> <li>• Discharge destination</li> <li>• Staff turnover rates</li> <li>• Staff satisfaction survey scores</li> </ul>

*Note: Processes for collection of data should be established to ensure consistency.*

- information regarding process effectiveness;
- changes in patient health status;
- changes in financial performance;
- changes in employee health indicators.

Consideration should be given to the key risks the program is intending to manage (Øien, Utne, Tinmannsvik, et al., 2011). A combination of leading and lagging indicators is most effective at providing a dataset that a facility can respond to quickly. Leading indicators should be predictive of future results (e.g., completion of patient risk assessments, incidence of equipment use during rounding), while lagging indicators provide information about events that have already occurred (e.g., reportable injury rates, cost of claims, days away from work). Table 1 provides examples of each.

## Providing Feedback to Caregivers & Other Stakeholders

Data should be collected in a manner that subsequently drives a discussion about that data: What the data mean and what actions should be taken in response (Olve, Roy & Wetter, 1999). Leivo (2005) found that providing posted feedback on performance to a group of frontline workers had a positive effect on the group's safety performance.

The healthcare environment provides a number of existing platforms that are ideal for sharing and discussing results relating to the performance of the SPH program. These include rounding, handovers, staff meetings and professional development days. A combination of discussion and posted feedback ensures that information is readily available to staff.

## The Australian Approach: No-Lift Programs

Australian no-lift or minimal-lift programs were initiated in cooperation with state-based workplace safety regulators, healthcare facilities and nursing unions. Programs were initially developed and implemented in the late 1990s and early 2000s. The following section profiles several organizations within the New South Wales

healthcare network that implemented an SPH program during this time.

All parties (regulators, unions, facilities) recognized that the incidence of injury relating to patient handling was unacceptable and that alternative methods of working were required, particularly in the face of an aging workforce.

Guidance material was made available to healthcare institutions, and safety regulators provided support to assist in the design and implementation of minimal-lift programs.

## Consultation

Regulators and unions both strongly encouraged consultation between healthcare organizations and their workforces. Workplace consultation has been identified as a contributing factor in reducing workplace incident rates, reduced workers' compensation claim rates and increased process efficiency (Walters, 2003).

Several facilities profiled here credit the success of their program to early, frequent and open consultation. Problems such as equipment compatibility, interunit communi-

cation and scenario-specific SPH problems were sustainably solved through targeted and effective consultation.

## Training

Consultation was also used to develop culturally credible and effective training programs. Nearly every facility profiled here used training completion rates as a leading indicator as part of program evaluation. Competency-based training was used to ensure that measurable outcomes were gained as part of training.

Facilities reported that this also served to build employee confidence in performing SPH activities. Refresher training served to reinforce correct use of assessment tools and SPH equipment. Good outcomes were achieved using clinical staff as trainers, and using real-time SPH tasks to perform training and assessment.

## Measurement & Evaluation

Leading and lagging indicator sets were developed by each individual institution, based on risk factors, individual implementation challenges and process features. Several facilities integrated their SPH data collection, reporting and feedback processes with existing processes for quality of care and facility accreditation, as well as employee safety and health.

Several facilities also used patient safety and well-being measures to evaluate their programs, including patient satisfaction survey scores, changes in FIM scores at discharge, incidence of skin tears and falls, and preparedness for bariatric patient admissions.

## Lessons Learned

Obtaining input from stakeholders at both the facility design and program design stages of an SPH are of utmost importance. Ongoing communication and consultation with stakeholders is of equal importance to ensuring engagement and cooperation, and this includes communication with the patient and their families. Providing ongoing feedback to caregiver populations helps maintain a robust, sustainable program. ■

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