

# Implementation of Safe Patient Handling in Washington State Hospitals

Report to the Legislature December 2010

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Washington State Department of Labor and Industries

## I. BACKGROUND

There are 95 community hospitals in Washington State (11,400 available beds) with 42 of them having less than 50 beds and 2 with more than 400 beds, the lowest number of beds per capita in the country. As noted by the Washington State Hospital Association's Environmental Scan (July 2010), the next few years will be turbulent for hospitals as they determine their future, including implementing national health care reform and transitioning into providing the whole spectrum of care. While the deep economic recession has caused many nurses to return to work in hospitals, as we move out of the recession, this may revert back to the critical shortage of hospital nurses faced by hospitals before the recession. Additionally, there have been changes in Washington hospital executives (80%) since 2004 and seven affiliations, mergers and acquisitions. Those entering hospitals are generally sicker, older and heavier than 10 years ago. This is expected to continue with the aging of the "baby boomers." Nurses are also getting older.

*As one hospital representative describes, "It is a perfect storm. As the economy got worse, people waited until they got sicker to come to the hospital, the acuity level has increased dramatically, there has been a decrease in those covered by health insurance, bariatric patients are increasing in numbers (we just had an 800 pound patient admitted) and the hospital is cutting back on staff. "*

One in ten serious work-related back injuries involves nursing personnel and about 12% leave the profession because of back injuries (Goldsmith, 2001). The manually handling of patients is a well-recognized hazard for health care workers and patients. Back and shoulder disorders are common with an annual incidence of 34% reporting back/neck/shoulder pain related to reaching, pushing and pulling patients while repositioning (Smedley, 2003), 38% of hospital nurses report working with back pain, 17% at any one time, and a lifetime prevalence of 35-80%. Studies indicate that more

frequent patient handling is well correlated with back pain and that the traditional approaches of training in lifting and handling techniques alone have little benefit (Hignett 1996). A recent study (Byrns, 2010) found 84% of nursing respondents had work-related low back pain in the past, 36% in the last year that limited movement or interfered with routine activities. Significant risk factors were more years in nursing, frequent lifting, and low social support. Only 11% used mechanical lifting device, the major reason being the unavailability of equipment.

Recognizing these issues among health care workers, in 2005, Washington State legislators requested a joint labor-industry-government task force to investigate these issues and identify ways to reduce the risks in hospitals, nursing homes, hospice, home health, home care and pre-hospital medical services (e.g., EMS). Site visits, interviews, literature reviews and extensive discussions focused on barriers and successes in implementing “zero-lift” environments in these settings. The task force reported the major barrier identified in all settings was securing funding for equipment, even though most studies showed a very positive benefits-to-cost ratio for use of equipment. Appropriate equipment availability was lacking in home care and pre-hospital medical services. Ceiling lift installation in hospitals was viewed as a major success in reducing injuries for both patients and staff. Although all task force participants believed zero-lift was the way to go, management representatives were opposed to legislation mandating zero-lift programs. Nonetheless, “safe patient lifting in hospitals” legislation was introduced in both chambers with several economic incentives (State Fund workers compensation premium discounts for zero-lift, Business and Occupations (B&O) tax credits for equipment purchases). This legislation (ESHB 1672) was enacted in June 2006. Safe patient handling was defined as

*“the use of engineering controls, lifting and transfer aids, or assistive devices, by lift teams or other staff, instead of manually lifting to perform the acts of lifting, transferring, and repositioning health care patients and residents.”*

Departments of Health, Revenue and Labor and Industries have had a role to play in the implementation of this legislation.

## **II. LEGISLATION IMPLEMENTATION REQUIREMENTS**

The implementation of requirements for safe patient handling in hospitals is included under RCW 70.41.390 HOSPITAL LICENSING AND REGULATION, including a schedule for full implementation:

### **A. HOSPITALS**

By February 1, 2007, each hospital must establish a safe patient handling (SPH) committee

- By establishing a new committee or assuming the responsibility under an existing committee, to design and recommend an implementation process and SPH policy for each shift.
- The SPH committee is to be composed of at least one-half of members in frontline, non-managerial staff that provides direct patient care.

By December 1, 2007, each hospital must establish a safe patient handling program including

- a) An Implemented SPH policy for all shifts and units, phased in with the acquisition of equipment
- b) Patient handling hazard assessments (considering tasks, unit type, patient population and physical environment of patient care areas)
- c) A process to identify appropriate use of the policy (including contraindications for use, and availability of equipment or lift teams)
- d) Annual performance evaluation of the program
- e) Consider SPH in architectural plans for construction/remodel

By January 30, 2010 – Hospitals must complete acquisition of

- a) One readily available lift per acute care unit on the same floor
- b) One lift per 10 acute care inpatient beds
- c) Acquire equipment for use by lift teams, and
- d) Establish procedures for the right to refusal to perform “unsafe” lift

### **B. DEPARTMENT OF LABOR AND INDUSTRIES (L&I)**

By January 1, 2007, L&I must

- a) Develop rules to provide reduced workers compensation premium for State Fund hospitals with implemented SPH program

By December 1, 2010, L&I must

- a) Complete the first of two evaluations of results of reduced premium (change in frequency and costs), and report to the appropriate legislative committees

By December 1, 2012, L&I must

- a) Complete the second evaluations of results of reduced premium (change in frequency and costs), and report to the appropriate legislative committees

### C. DEPARTMENT OF REVENUE RESPONSIBILITIES

Establish a Business and Occupations (B&O) tax credit for the cost of SPH equipment including:

- a) A maximum credit of \$1,000 for each acute care available inpatient bed
- b) An overall limit of \$10million
- c) Exclusion of equipment purchased prior to June 7, 2006 or after December 30, 2010.

Beginning July 1, 2008;

- a) Issue an annual report on the amount of credits claimed by hospitals.

## **III. SAFE PATIENT HANDLING IMPLEMENTATION IN WASHINGTON HOSPITALS**

### **FINDINGS**

#### **A. Voluntary Efforts to Promote Implementation of Washington State's Safe Patient Handling Legislation**

##### **1. Washington State Safe Patient Handling Steering Committee**

Prior to passage of the hospital SPH legislation, representatives of relevant hospital stakeholder groups who had been involved in the original Task Force report began to meet informally to discuss implementation of the legislation. Representatives from the Washington State Hospital Association (WSHA), Washington State Nurses Association (WSNA), Service Employees International Union 1199NW (SEIU-NW), United Food and Commercial Workers Locals 141 (nurses) and 21 and L&I's Safety and Health Assessment and Research for Prevention (SHARP) program, came together to form the

Washington State Safe Patient Handling Steering Committee. Representatives from several large and smaller hospitals (nurses, physical and occupational therapists, and administrators) also became active in the steering committee. The goal of the committee was to assist hospitals in the successful implementation of the legislation in order to reduce patient handling related injuries. Representatives from Madigan Army Medical Center at Joint Base Lewis-McChord have also become active participants on the steering committee. Madigan has become the US Army's flagship hospital for the implementation of SPH.

One of the first tasks of the steering committee was the development of a website (<http://www.washingtonsafepatienthandling.org>) that articulated the requirements of the legislation, step-by-step implementation guides for successful SPH committees, and available resources. This included providing information regarding:

- Local workplace policy development
- Local workplace assessment protocols
- Ensuring hospitals purchase committee recommended equipment for the best prices
- Training curriculum to both train local workplace trainers and ensure best practices training for successful hospital committee work, use of equipment and workplace acceptance
- Identification by the SHARP Program of best practices and available research and data
- Review of available workers compensation data by the SHARP Program to evaluate reductions in employee injuries.

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**Table 1. 2009 Members of the Washington Safe Patient Handling Steering Committee**

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|                           |   |
|---------------------------|---|
| <b>Sofia Aragon</b>       | Washington State Nurses Association, Seattle  |
| <b>Chris Barton</b>       | SEIU 1199NW, Renton   |
| <b>Nancy Clark-Sumara</b> | St. Joseph Hospital, Tacoma   |
| <b>Dan Donahue</b>        | Providence St. Peter Hospital, Olympia  |
| <b>Anne Grimes</b>        | Valley Medical Center, Renton   |
| <b>Steven Hecker</b>      | Continuing Education and Outreach, Dept. of Environment and Occupational Health Services, University of Washington, Seattle |
| <b>Ninica Howard</b>      | Washington State Department of Labor and Industries, Tumwater,  |
| <b>Susan Kent</b>         | Empire Health Services, Spokane, WA   |
| <b>Lynn LaSalle</b>       | Multi-care Health system, Tacoma, WA  |
| <b>Donavan Knight</b>     | Regional Hospital for Respiratory and Complex Care, Seattle, WA   |
| <b>Jeannette Murphy</b>   | St. Luke's Rehabilitation Institute, Spokane, WA  |
| <b>Sharon Ness</b>        | UFCW141, Federal Way, WA  |
| <b>Leslie Pickett</b>     | Swedish Medical Center, Seattle, WA   |

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|----------------------------|--|
| <b>Kelly Roy</b>           | Madigan Army Medical Center, Tacoma, WA                        |
| <b>Barbara Silverstein</b> | Washington State Department of Labor and Industries, Tumwater, |
| <b>Beverly Simmons</b>     | Washington State Hospital Association, Seattle, WA             |
| <b>Brenda Suiter</b>       | Washington State Hospital Association, Seattle, WA             |
| <b>Teka Zamora</b>         | Central Washington Hospital, Wenatchee, WA                     |
| <b>Judy Zeiger</b>         | Madigan Army Medical Center, Tacoma, WA                        |

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Additional topics have been added to the website over time to share success stories and newly identified resources. Examples include information sheets for families of patients about the use of SPH equipment to more safely handle their loved ones. In addition, an email account was made available to SPH implementers to pose questions to the SPH steering committee. In 2009, the University of Washington School of Public Health Department of Environmental and Occupational Health received a Safety and Health Investment Project (SHIP) grant from L&I to support the steering committee, further develop the website and produce a booklet on best practices in SPH.

## 2. SPH Implementation Webinars for Hospitals

Another important outreach activity in the early stages of implementation was the use of webinars where hospitals could connect by computer to the webinar hosted by the Washington State Hospital Association with participation from other steering committee members. The WSHA devoted two webinars to SPH implementation.

## 3. SPH Nursing Education Curriculum Development

Embedding SPH into schools of nursing curriculums increases the expectations for programs in the hospitals where graduates will be working. SPH steering committee members met with the Northwest deans of nursing schools to encourage curriculum changes to include SPH. In 2009, an L&I SHIP grant was awarded to Washington State University College of Nursing and WSNA, to a) develop an e-learning tool on SPH for nursing students and all 7,500 Washington State registered nurses, b) develop and disseminate a video on causes, costs and prevention strategies and SPH guidelines (SafeLift) for distribution. WSNA is continuing to work with WSU on the SHIP deliverables. At this time WSU is progressing along with the student video development on SPH. A draft of the palm card is awaiting L&I SHIP approval before going to print. The on-line continuing nursing education (CNE) course is in process as is the development of a "guidelines" paper.

## 4. SPH Northwest Conference

One of the most ambitious activities of the SPH steering committee was organizing a SPH conference in 2008. More than 200 people attended the conference from hospitals and nursing homes, occupational and rehabilitation centers in the Pacific Northwest, Alberta and British Columbia.. This conference was supported by a conference grant

from the National Institute of Occupational Safety and Health (NIOSH), L&I, WSHA, equipment vendors and conference fees. A second northwest SPH conference is scheduled for late spring 2011. This will be a joint conference organized by Washington and Oregon SPH interested groups. One of the featured national speakers will be focusing on the relationship between patient safety and staff safety.

#### 5. Recognition of Washington State SPH Committee Efforts

Although a number of individuals throughout the implementation process have made important contributions, consistent representation and work on the committee has been sustained by a smaller number of individuals.

*Brenda Suiter*, Vice President, Rural and Public Health at Washington State Hospital Association (co-chair, Washington SPH Steering committee) has worked with large and small hospitals to ensure hospital understanding of the legislation, and promote successful implementation. She organized the WSHA webinars and supported the development and publication of the SPH pamphlet.

*Chris Barton* RN, Secretary-Treasurer SEIU1199NW (co-chair, Washington SPH Steering committee) works with union members to understand the importance of SPH for both worker and patient, managed the SHIP grant funds for improving the SPH website and publication of the SPH best practices guide. She provided Washington SPH information to the national union to support SPH efforts in other states.

*Barbara Silverstein*, MSN, PhD, MPH, SHARP Research Director, has been a featured speaker at the National Safe Patient Handling Conference since 2006, received a national award for the research SHARP is conducting on SPH in Washington State. She is on the research advisory committee for the Veteran's Health Administration (VHA) implementation of SPH throughout all VHA health facilities. On May 11, 2010, Dr. Silverstein testified on Washington SPH preliminary results in the US Senate Committee on Health, Education, Labor and Pensions Subcommittee on Employment and Workforce Safety chaired by Senator Patty Murray, regarding S.1788 related to national SPH legislation. June Altaras, Swedish Health Services also testified, as did representatives from the Veteran's Health Administration, Minnesota Nurses Association, National Institute for Occupational Safety and Health (NIOSH), and the Facility Guidelines Institute

*Ninica Howard* MS, CPE, SHARP Senior Ergonomist, has presented the Washington State model at conferences in Washington State, Oregon and an international conference in Vancouver BC. She has also submitted a paper for publication on home health care and participated in the organization of the Washington SPH conference. She has kept the SPH steering committee organized and focused, maintained the SPH website, and assumes responsibility for insuring appropriate responses to website

inquiries. She is the co-principal investigator on a study of the impact of SPH implementation in Washington and Idaho.

*Leslie Pickett, Physical Therapist, Ergonomics and Injury Prevention Specialist at Swedish Medical Center* has conducted numerous SPH workshops at the state, regional and national level including at the Washington State Governor's Health and Safety Conference and at the national SPH conference.

*Sharon Ness, RN, United Food and Commercial Workers LU 141 Union Representative and Political Liaison*, has been an acute care nurse for 40 years and has remarkably avoided severe back injury on the job by focusing on staff and patient safety. She is president of the Governor's Industrial Health and Safety Advisory Board, a member of L&I's Washington Industrial Safety and Health Act (WISHA) Advisory Board since its inception. She also works on other health care safety issues such as blood borne pathogens, violence, and TB prevention.

*Dan Donahue, M.ED, Director Health and Wellness, Providence Southwest Service Area*, has advocated for health and safety of employees since 1992. He has responsibility for injury prevention, workers compensation, wellness, and staff regulatory compliance. He has provided advice on SPH implementation to a number of hospitals and participated in SPH workshops and presentations in Washington and Oregon as well as at the Washington State Structural Engineers conference.

*Sally Watkins, PhD, MS, RN Assistant Executive Director of Nursing Practice, Education and Research* has been instrumental in encouraging nursing educators and staff nurses in adopting SPH practices. She serves on several nursing practice committees at the national level.

*Lynn LaSalle MS, MOTR/L, Ergonomics Coordinator for MulticCare Health System (MHS)* has worked at MHS for 21 years. She has been practicing ergonomics in the health care setting for 18 years. She has responsibility for 4 hospitals and numerous outpatient clinics. In addition to these responsibilities, she leads the SPH program at the 4 hospitals. She has also been a mentor for other hospitals starting SPH programs, and participating in SPH workshops on SPH at the Governor's Health and Safety Conferences as well as throughout the northwest.



## **B. USE OF THE LEGISLATIVELY MANDATED B&O TAX CREDIT TO ACQUIRE PATIENT HANDLING EQUIPMENT BY WASHINGTON HOSPITALS**

A significant barrier to implementing SPH in Washington's hospitals was the cost of equipment to reduce the manual handling of patients. This landmark legislation provided for a Business and Occupations Tax Credit of \$1,000 per acute care bed. This tax credit is available for purchasing equipment through December 30, 2010. The Washington State Department of Revenue has been responsible for implementing this part of the legislation.

As of October 30, 2010, \$8.2 million of the available \$10 million in tax credits have been claimed by Washington State acute care hospitals, with 32 of the hospitals receiving their full credit by this date.

## **C. DEPARTMENT OF HEALTH**

The Department of Health (DOH) is responsible for ensuring that hospitals implement the components of the legislation including having a safe patient handling committee and provision of equipment and training. DOH routinely conducts inspections of hospitals every 18 months and has included SPH in that review.

RCW 70.41.390 mandates hospitals establish and implement a safe patient-handling program. The purpose of this section is to guide hospital management in developing and implementing that program.

The acute care hospital must:

- (1) Develop and implement a safe patient handling policy that includes:
  - (a) A patient handling hazard assessment;
  - (b) An annual performance evaluation of the program;
  - (c) Procedures for hospital staff to follow who, in good faith, refuse to perform or be involved in patient handling or movement based upon exposing the staff or patient to an unacceptable risk of injury; and
  - (d) The types of equipment and devices used as part of the program;
- (2) Conduct annual staff training on all safe patient handling policies, procedures, equipment and devices; and
- (3) Not discipline a hospital employee who in good faith follows the procedure for refusing to perform or be involved in the patient handling.

*[Statutory Authority: Chapter 70.41 RCW and RCW 43.70.040. 09-07-050, § 246-320-221, filed 3/11/09, effective 4/11/09.]*

Consistent with the purchase of new equipment is the report by the Construction Review Services in the DOH that they are averaging about ten projects per year for patient ceiling lift installation only. Many other projects may have ceiling lifts integrated into the larger project under review. DOH Construction Review Services has recently adopted new construction standards that include a section dedicated to safe patient handling design considerations.

A local equipment vendor, Tim Kuzma of Alpha Modalities, reported knowing of 46 facilities with ceiling lifts, 2 of which were installed prior to the legislation. Since the legislation approximately 15 hospitals per year have been installing ceiling lifts. This is particularly important because ceiling lifts eliminate staff pushing and pulling heavy awkward equipment into position to transfer patients and the need to go in search of patient slings for the device. Thus, staff is more likely to use these devices once they have been trained and are comfortable with their operation.

While DOH is responsible for insuring that hospitals meet the requirements of the law, they do not see themselves responsible for ensuring that the SPH policy is followed or that equipment is available and used. For example, a hospital employee filed a complaint with L&I's Division of Occupational Safety and Health (DOSH) regarding lack of safe patient handling. The hospital was cited for not following its own stated policy under SPH.

#### **D. WORKERS COMPENSATION (WC) PREMIUM DISCOUNTS FOR STATE FUND HOSPITALS THAT IMPLEMENTED SPH PROGRAMS**

The State Fund of the Washington State Workers Compensation system established a special risk class with a reduced premium for hospitals that implemented safe patient handling programs. In 2006, when the SPH legislation was passed, 9 hospitals were in the State Fund. In 2008 and 2009, an additional 10 hospitals joined. This suggests that hospitals considered this an important incentive to assist with SPH implementation.

There were also a number of mergers and closures of hospitals during this period making it difficult to suggest that all reductions observed in incidence rates were due to the WC incentive. Figure 1 shows an initial spike in incidence rates reported in 2008 with an apparent reduction in 2009. The 2009 data has not fully matured.

- Hospitals that took no B&O tax credit and had no premium discount during the course of implementation had the lowest WC claims incidence rates during the entire implementation period. This category represents fewer than 300 beds.
- Those with both the premium discount and B&O tax credit had the greatest decrease in patient handling related injury rates between 2008 and 2009.

- The “complex category” in the figure represents workers’ compensation accounts that contain multiple acute care hospitals where one hospital has utilized the B&O tax credit or premium discount, yet another covered hospital has not. We could not determine rates in the individual hospitals.

Basically these [note data is plural]data indicates that, with full implementation, incidence rates are beginning to decrease. However, it should be noted that these types of injuries likely did not occur overnight but were more likely related to cumulative overloading of the back, neck, and upper extremity during manual patient handling tasks. It is also likely that by 2012, after full implementation, we will have a better indication of the impact on this lagging indicator of injury rate. It would be extremely valuable to be able to track nursing staff turnover using a combination of data sources.

When comparing WC compensable claims incidence rates by different health care sectors (Figure 2), there is some indication that incidence rates were starting to increase and then fell during the course of years of implementation. It should be noted that nursing homes had the highest incidence rates, much higher than hospitals.

Incidence Rate Determination

We used the Department of Revenue B&O tax credit tracking list to crosswalk hospitals to their workers’ compensation accounts. Many of these employing entities have multiple facilities, often incorporating other health care activities. We can distinguish between some of these activities through the risk classification system. Workers compensation risk classes (RC) were used to identify exposure at acute care hospitals. Within the state fund RC 612100 identifies those hospitals without SPH programs and RC 612000 identifies those acute care hospitals with SPH programs reported. Excluded from these analyses were:

- state psychiatric hospitals which had about 10-fold greater incidence rates than other hospitals which would distort the data (difficulty in distinguishing injury due to assault or to patient handling),
- public institutions of higher learning (Harborview, UW Medical Center, RC 490610) where the hospitals are not differentiated from the rest of the university, and the Seattle Cancer Care Alliance (RC 610900) which provides much more than acute care and had no claims that met the study criteria since 2001.
- Hospitals that are part of correctional facilities (RC 720000 and 720100)

|        |  |
|--------|--|
| 490601 | Public Instit - Higher Lrng – (Harbor View, UW Medical Center) |
| 610500 | Hospitals - All Employees                                      |
| 610501 | Hospitals Private - All Emp                                    |
| 610505 | Hospitals NOC/Hosp Districts                                   |

|        |   |
|--------|---|
| 610900 | Physician/Surgeon NOC- (Seattle Cancer Care Alliance) |
| 612000 | Acute Care Hospital with SPH                          |
| 612100 | Acute Care Hospital w/o SPH                           |
| 720000 | State Govt: Hospital with SPH                         |
| 720100 | State Govt: Healthcare Empls                          |

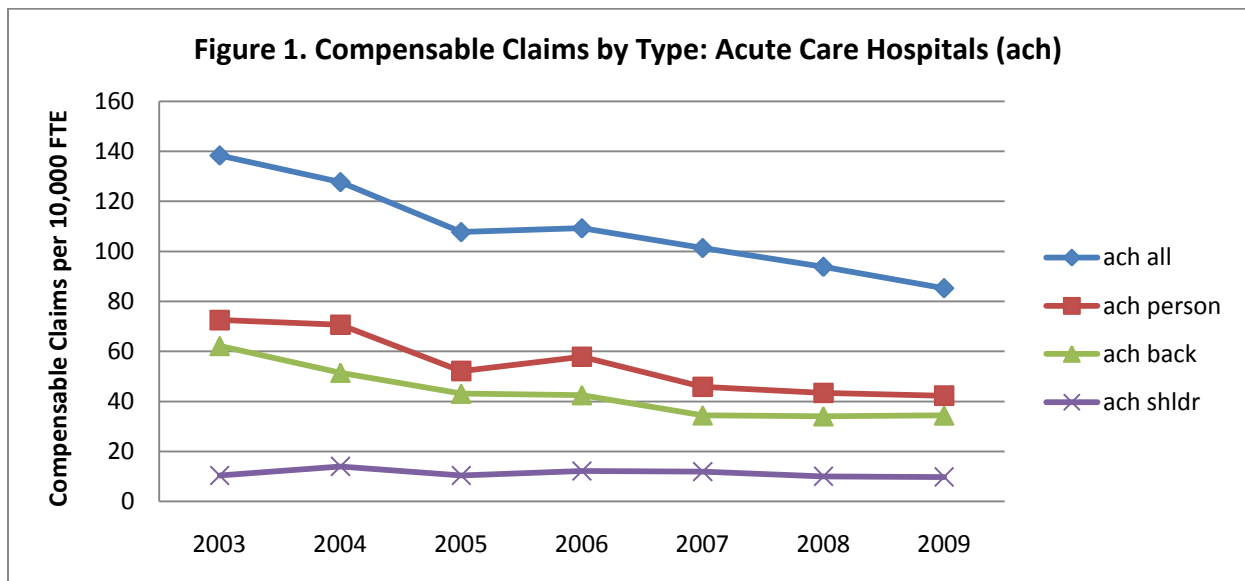
Inclusion criteria:

RC 6105\*\* is included if the account has an identified acute care hospital – business location match by address (reviewed policy/uniform business identification compared to the list provided by Department of Revenue)

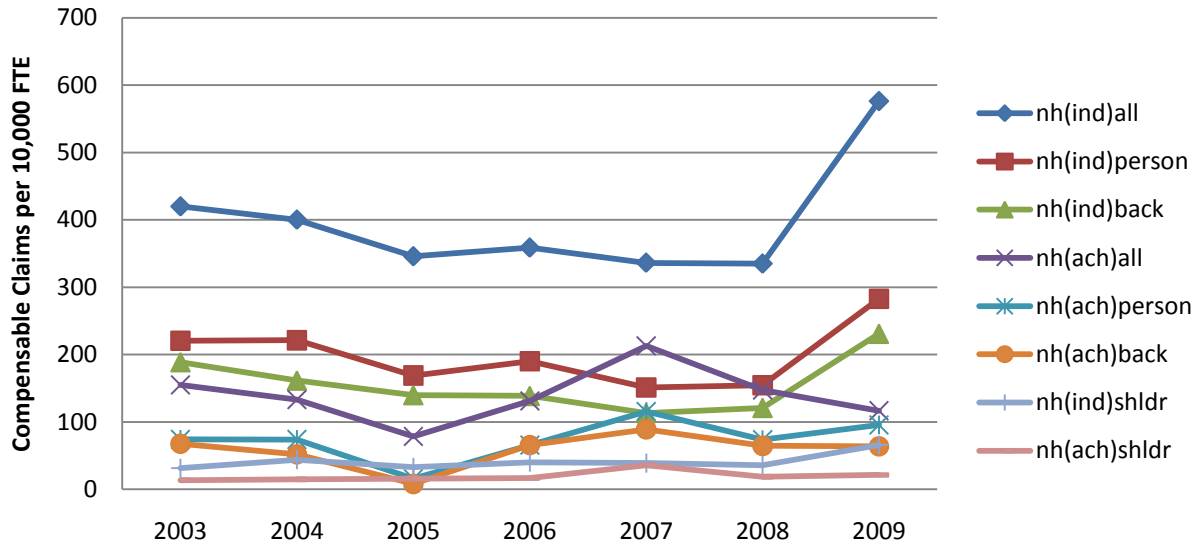
Once an account is identified, all 6105\*\* hours and claims are included – as 6120\*\*/6121\*\* risk classes are used, then claims and hours are limited to those classes (6105\*\* covers hospitals outside the scope of this legislation, but within a given account, we cannot distinguish those attributable to a specific location).

6120\*\*/612\*\*1 claims and hours (still limited to accounts with recognized acute care hospital – although this limitation had no practical effect on this data set, and these classes should ONLY be assigned to acute care hospitals)

Figures 1 and 2 provide compensable claims incidence rates for acute care hospitals (ach) and for nursing homes (nh). It appears that those nursing homes affiliated with an acute care hospital had lower injury rates than the independent nursing homes (inh). This suggests that there might have been an impact of SPH on affiliated nursing homes as well. The graph tracks all compensable claims regardless of cause, those caused by interaction with another person, and those that caused injury to the back or shoulder.



**Figure 2. Compensable Claims by type comparing nursing homes (nh) operated by owners of acute care hospitals vs "independent" (ind) nursing homes**



Since 2006, there has been a decrease in claims incidence rates for all claims, those involving another person and back claims. This is in contrast to the increase in back, person and all claims for nursing homes not affiliated with hospitals. Shoulder claims rates have been relatively flat. There does not appear to be an immediate impact of the B&O tax or premium discount with the short follow-up period. This may be reflected in the volatility of mergers and acquisitions that took place during this time.

### Cost Analysis

Claim duration (the number of days from injury to claim closure) is averaging 321 days in the state fund and 316 days for self insured (2003-2009). Ninety five percent of the claims are self insured. On self insured claims, the Department collects information on the total indemnity costs. We do not collect medical aid costs, nor cash flow data on the claims. As most claims from recent injuries would not yet be closed, and we do not have comparable point in time references on claims from earlier years, it would be impractical and likely misleading to try to assess cost impacts at this point.

## **E. RESEARCH TO EVALUATE THE POTENTIAL IMPACT OF WASHINGTON STATE'S SAFE PATIENT HANDLING LEGISLATION.**

In addition to nursing shortages, hospitals are faced with increased acuity, age and size of patients. These changes have contributed to the ongoing high incidence of patient handling related injuries to direct care staff. Recognizing this, a number of hospitals in Washington State implemented safe patient lifting programs. In 2006, Washington State passed the nation's first safe patient handling law requiring the implementation of safe patient lifting programs in all acute care hospitals. This legislation was supported by the Washington State Hospital Association, Washington State Nurses Association, and the United Food and Commercial Workers local hospital unions (UFCW141 nurses and UFCW 21 technical staff) and SEIU1199NW. This law requires committees to be formed by January 2007 and all required equipment in place by December 2010. This phased-in plan provided a unique opportunity to evaluate the law's impact on the implementation of programs, the barriers, successes and opportunities in implementation and the program impact on workers compensation claims injury rates over time. Although there are nine states currently with SPH legislation, Washington is the only state conducting a rigorous evaluation.

SHARP proposed to assess the impact of implementation of safe patient lifting legislation on:

- Hospital patient handling policies and procedures
- Purchase of patient handling equipment
- Integration of equipment into hospital design/remodel considerations
- Self assessment of program implementation
- Training
- Function of the safe patient handling committee
- Management and direct care staff perceptions of successes and barriers both for staff and patients
- Direct care staff injury rates.

SHARP also proposed to assess progress in implementation of safe patient handling programs in a state without such legislation for comparison purposes.

Although the concept of “safe patient handling” has had the attention of a number of states and nationally through proposed legislation, efforts in other states have been directed primarily at education and improvement in staff recruitment and retention. The SHARP study design called for similar focus groups and hospital surveys in 2007, 2009 and 2011 in Washington and a western state that is not currently contemplating any SPH legislation. This will assist in differentiating between the impact of legislation and increased awareness of the issue in changing work practices. At least two large and two small hospitals in each state were solicited to participate in the study. As with the Washington hospitals, individual identities of hospitals and participants are confidential but the summary results are made available to each participating hospital.

SHARP has been responsible for the administration of the surveys, maintaining confidentiality of respondents, and analysis of the data. This study has been approved by the Washington State Institutional Review Board (WSIRB) for the protection of human subjects.

The study consists of:

- a. A survey of Washington hospital SPH committee representatives regarding implementation issues in 2007, 2009, and 2011.
- b. A comparison of 4 Washington and 4 comparable Idaho hospitals (2 large and 2 small hospital in each state) over time, 2007, 2009, and 2011. Idaho has no SPH legislation.

## **Methods**

Baseline surveys of SPH committee representatives occurred in 2006/2007 with repeat interviews every two years.

Baseline surveys of direct care staff were conducted between November 2006 and March 2007 to identify current activities underway. Since all Washington State acute care hospitals must complete a program assessment every year beginning December 2007, we standardized most items in the baseline survey and hospital assessment forms for comparability. If all hospitals report on the same core elements, these can be summarized and an overall industry assessment can be provided to all hospitals which each hospital can then use this to benchmark their activities.

To obtain more in-depth understanding of potential successes and barriers in implementation of Safe Patient Handling programs, 2 to 3 one-hour focus groups among direct care staff and among managers were conducted in the Washington State and Idaho hospitals.

Repeat hospital surveys in Washington State are to occur every other year through 2011, one year after when full implementation is required by law. Surveys of representative direct care employees are to be collected at baseline (2006/7), 2009, and 2011. These surveys include an assessment of the implementation of each component, safety climate, organizational constraints, job satisfaction and patient handling related injuries. Hospital and employee surveys are compared for coherence of perceptions of program development, barriers, and successes. This information is summarized for each hospital safe patient handling or safety committee and included in the overall analysis of SPH program implementation in Washington State. Individual summary results have been provided to each participating hospital approximately six months after the site visit.

## **1. Safe Patient Handling Committee and Direct Care Staff Survey Findings**

There was considerable turnover in Safe Patient Handling Committee membership in the hospitals over time. SHARP was able to reach committee representatives in 50 of the 94 hospitals at baseline. The survey included questions about implementation based on requirements in the legislation. Table 2 provides descriptive statistics from the completed surveys of the SPH committee representatives collected in 2006/7 and 2009/10 compared to staff surveys collected on-site in 2007 and 2009.

The percent of direct care staff reporting “no SPH policy” in their hospital decreased considerably, from 10.8% in 2007 to 3.6% in 2009. From staff interviews, there seemed to be some confusion about “lift teams” where in some cases this meant having a designated lift team available to go to units to assist with lifts or transfers, and in other cases this meant grabbing other staff on the unit to help.

Knowledge of a written SPH policy increased dramatically among both committee and staff respondents by 2009. Committees tended to think they had adequate equipment for handling patients more frequently than did staff. Committees were more likely to report having a committee that discussed patient handling injuries than staff. Both



committees and staff reported believing they had an increase in staff routinely using patient handling equipment between 2007 and 2009.

**Table 2. Knowledge of SPH Program by Committee Chair and Staff:  
Percent of Survey Responses**

| <b>SURVEY QUESTION</b>  | <b>RESPONSE CHOICES</b> | <b>Committee survey 2006</b> | <b>Staff survey 2007</b> | <b>Committee Survey 2009</b> | <b>Staff Survey 2009</b> |
|---|-------------------------|------------------------------|--------------------------|------------------------------|--------------------------|
| Type of SPH Policy in the hospital?   | No-Lift                 | 24.00                        | 15.05                    | 23.36                        | 24.23                    |
|   | Lift Team               | 8.00                         | 23.12                    | 0                            | 18.56                    |
|   | Minimal Lift            | 24.00                        | 6.99                     | 53.49                        | 12.89                    |
|   | Combination             |                              |                          |                              |                          |
|   | Minimal and Lift Team   | 30.00                        | 23.12                    | 23.26                        | 25.26                    |
|   | No Policy               | 14.00                        | 10.75                    | 0                            | 3.61                     |
|   | Don't Know              | n/a                          | 20.97                    | n/a                          | 15.46                    |
| Is there a written SPH Policy?  | No                      | 28.00                        | 7.14                     | 0                            | 2.03                     |
|   | Yes                     | 70.00                        | 54.95                    | 100                          | 72.59                    |
|   | Don't Know              | 2.00                         | 37.91                    | 0                            | 25.38                    |
| Is the amount of patient handling equipment:  | Too Little              | 4.00                         | 50.89                    | 36.36                        | 33.51                    |
|   | Adequate                | 68.00                        | 49.11                    | 51.52                        | 64.32                    |
|   | Too Much                | 28.00                        | 0                        | 12.12                        | 2.16                     |
| Does the hospital have a committee that discusses worker injuries from patient handling | No                      | 4.00                         | 2.4                      | 9.52                         | 2.09                     |
|   | Yes                     | 96.00                        | 58.08                    | 85.71                        | 58.64                    |
|   | Don't Know              | 0                            | 39.52                    | 4.76                         | 39.27                    |
| What % of direct care staff do you believe routinely use mechanical transfer devices?   | Mean value              | 41.0%<br>(SD 34.76)          | 39.56 %<br>(SD 37.94)    | 66.33%<br>(SD 23.74)         | 53.5%<br>(SD 9.68)       |
|   | Range                   | 0-100                        | 0-100                    | 20-100                       | 0-100                    |

## **2. Comparison of Washington and Idaho Hospitals**

Direct Care Staff surveys were conducted in 2007 and 2009. Final survey collection will be in the summer/fall of 2011. The surveys focus on access to and training on equipment for SPH, supervisor and co-worker support to use equipment. Analyses compared changes in staff responses from 2007 to 2009 for Washington compared to Idaho hospitals, accounting for size of hospital as a covariate. There were 333 Washington hospital participants and 295 Idaho hospital participants. It was not possible to identify which participants participated in both surveys due to anonymity requirements in the study design. Surveys were completed either on-line or by paper questionnaire that were returned in sealed postage-free envelopes. Participants were instructed to separate a sheet with their name and address and put it into a separate drop box for a random drawing of \$100, \$50 and \$25 gift certificates per state.

Staff interviews and manager focus groups were conducted during the same time as the direct care staff survey. Manager meetings were scheduled prior to SHARP's site visits and were open to any managers or supervisors from units that involve regular patient handling. Group staff interview were also scheduled prior to site visit and open to any direct care staff that regularly move, transfer or reposition patients. Additionally, interview questions were posed to patient care staff on their units to improve participation.

There were 200 Washington direct care staff participants in the safe patient handling survey conducted in 2007 and 2009. Final survey collection will be in the summer/fall of 2011. The surveys focus on access to and training on equipment for SPH, supervisor and co-worker support to use equipment. Analyses compared changes in staff responses from 2007 to 2009 for Washington compared to Idaho hospitals, accounting for size of hospital as a covariate. There were 333 Washington hospital participants and 295 Idaho hospital participants in 2009. It was not possible to identify which participants participated in both surveys due to anonymity requirements in the study design. Surveys were completed either on-line or by paper questionnaire that were returned in sealed postage-free envelopes. Participants were instructed to separate a sheet with their name and address and put it into a separate drop box for a random drawing of \$100, \$50 and \$25 gift certificates per state.

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There were 187 participants from 4 Washington (WA) and 151 from 4 Idaho (ID) hospitals in the 2nd round of SHARP site visits in 2009 available for analysis.

*Respondents were mainly women with multiple work-life balance demands*

Study participants were largely full-time permanent (78% WA, 72% ID) or part-time permanent (18% WA, 25% ID). More than 80% were female in both states and the majority had dependent children at home and 15-20% provided elder care. RNs comprised 66% of respondents in ID and 58% in WA. Most had been at the hospital for 0-9 years), with similar distributions for the current position. Respondents tended to work the day shift (47% WA, 59% ID). Distribution by care area was similar between states with more than 30% working in medical-surgical units, and around 20% in intensive care.

*Hospital nursing is hard work*

The trend in hospitals in both states was toward working longer shifts (53% of WA and 76% of ID worked 10 or more hours per shift), with the majority of participants in both states working overtime each month (11% of WA and 4% of ID worked more than 20 hours of overtime per month). More than 70% in both states reported standing more than 60% of the time.

*Patient handling Policies*

20% of WA and 37% of ID respondents reported either not having or not knowing if they had a SPH policy while 73% in WA and 57% in ID reported having a SPH written policy. Barriers to following policies were quite similar; with the majority (more than 50%) indicating a second person was not available, followed by equipment not being available. At the same time 63% of WA and 69% of ID report following procedures most all of the time.

More respondents in WA reported having a committee that discusses patient handling related injuries (59% vs. 41%).

The major perceived barrier to SPH was room size. This is particularly important to address as hospital construction and remodeling increases.

The perceived greatest barriers faced when handling patients safely included 1) room size and 2) not enough staff, followed by 3) lack of equipment (Figure 3). This speaks to the need for ceiling mounted lifts rather than floor lifts that take up more room. Many hospitals are moving in this direction.

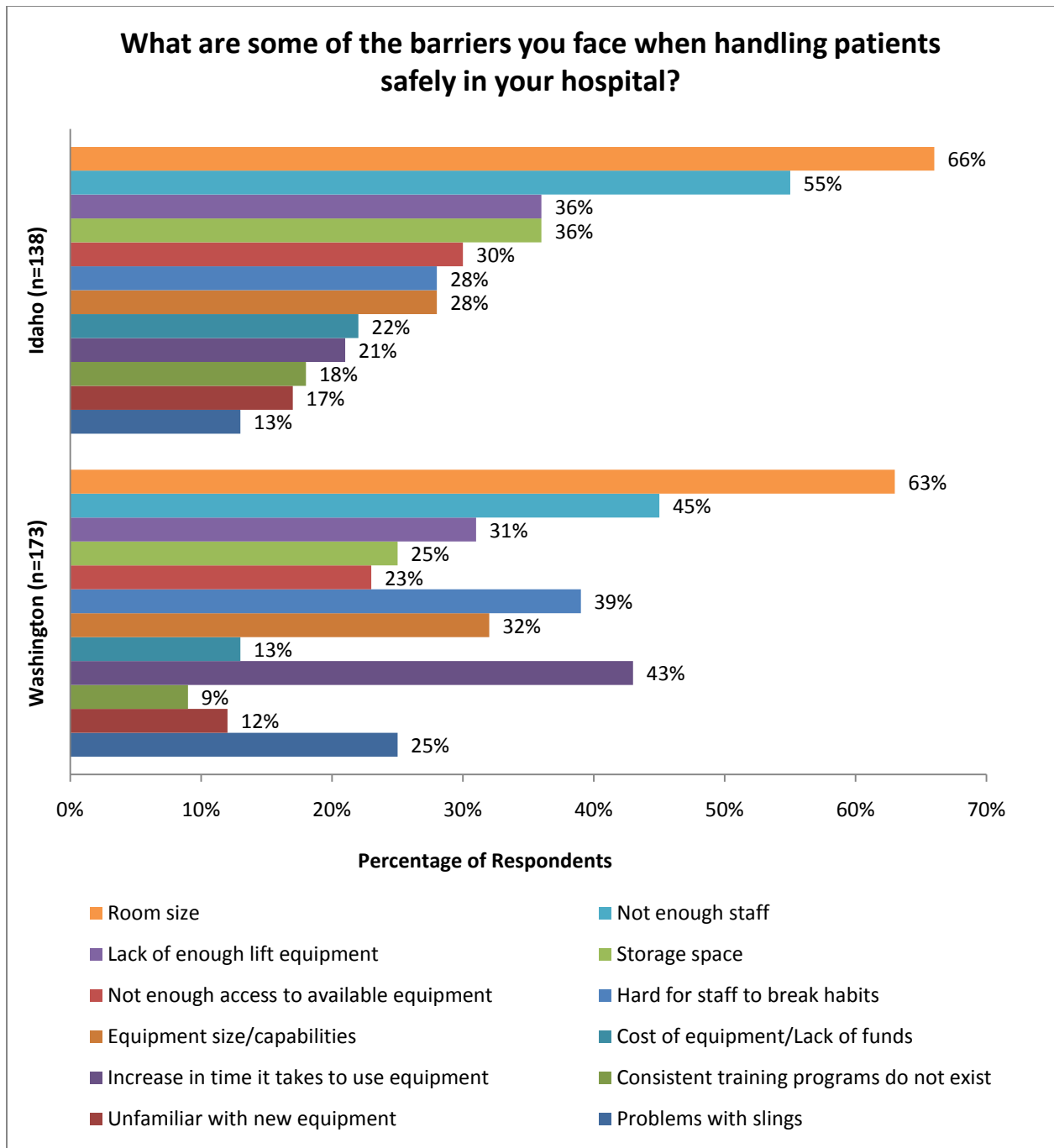


Figure 3. Barriers Faced By Direct Care Staff When Handling Patients Safely in the Hospital

There were few differences in how changes in patient status are reported to the next shift with the majority doing so during scheduled verbal report (64% ID, 58% WA.)

Training in SPH was similar between WA and ID except that a larger proportion of WA respondents reported training requiring demonstrated competencies.

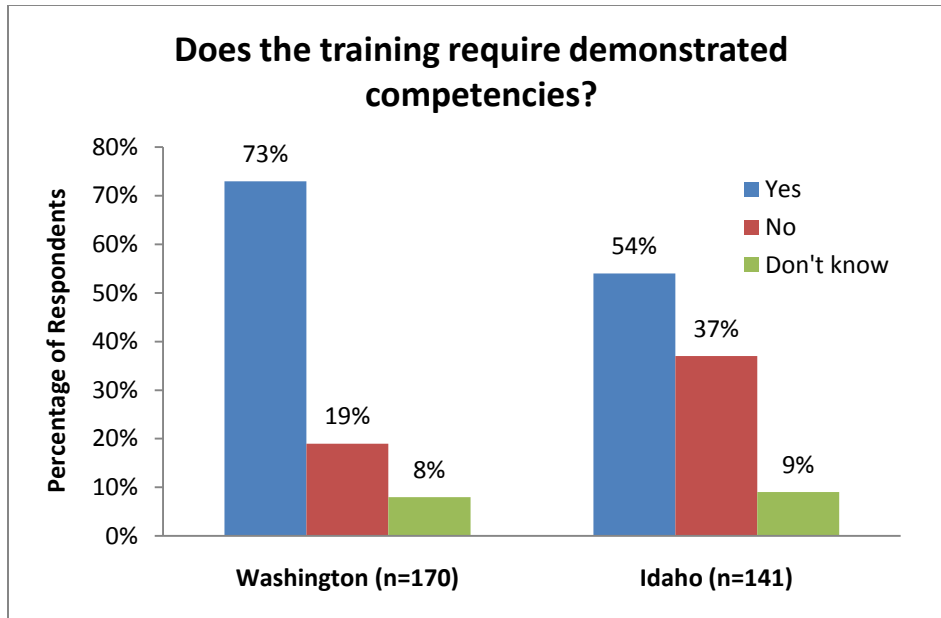


Figure 4. Comparison between Washington and Idaho Direct Care Staff Survey Respondents Reporting Demonstrated Competencies as Part of the SPH Equipment Training

Analysis of variance (ANOVA) was used to assess changes within hospitals and between states over time, with size as a covariate. A p-value of less than 0.05 was considered statistically significant.

More respondents reported back pain in 2009 than 2007 ( $p = .017$ ), and more in Washington than Idaho ( $p = .003$ ). This may reflect a greater willingness to report back pain and not accepting that back pain is “just part of the job.” Additionally low back disorders are usually cumulative in nature suggesting we will not be seeing a significant decrease until 2011.

More respondents indicated that their hospital had a written SPH policy in 2009 (Figure 5) than in 2007 ( $p = 0.047$ ), with an interaction effect such that Washington improved more ( $p = 0.33$ ).

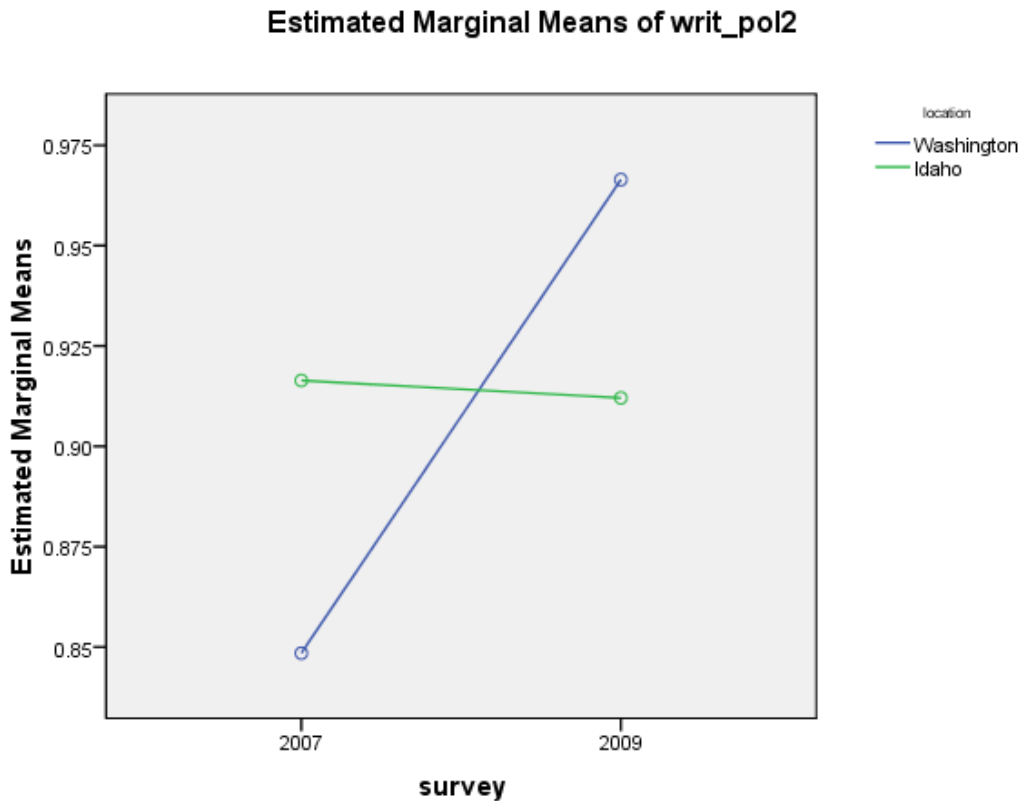


Figure 5 Changes in the Knowledge of Direct Care Staff of a Written SPH Policy between 2007 and 2009 Surveys, Washington vs. Idaho

Washington respondents thought that more people in their work area *routinely used mechanical transfer devices* than Idaho ( $p < .001$ ), Figure 6. A higher proportion reported such use in both 2007 and 2009 in Washington than in Idaho. In fact, the proportion reporting equipment use in Idaho decreased from 2007 to 2009 ( $p < .009$ ) with an effect for size ( $p = .026$ ).

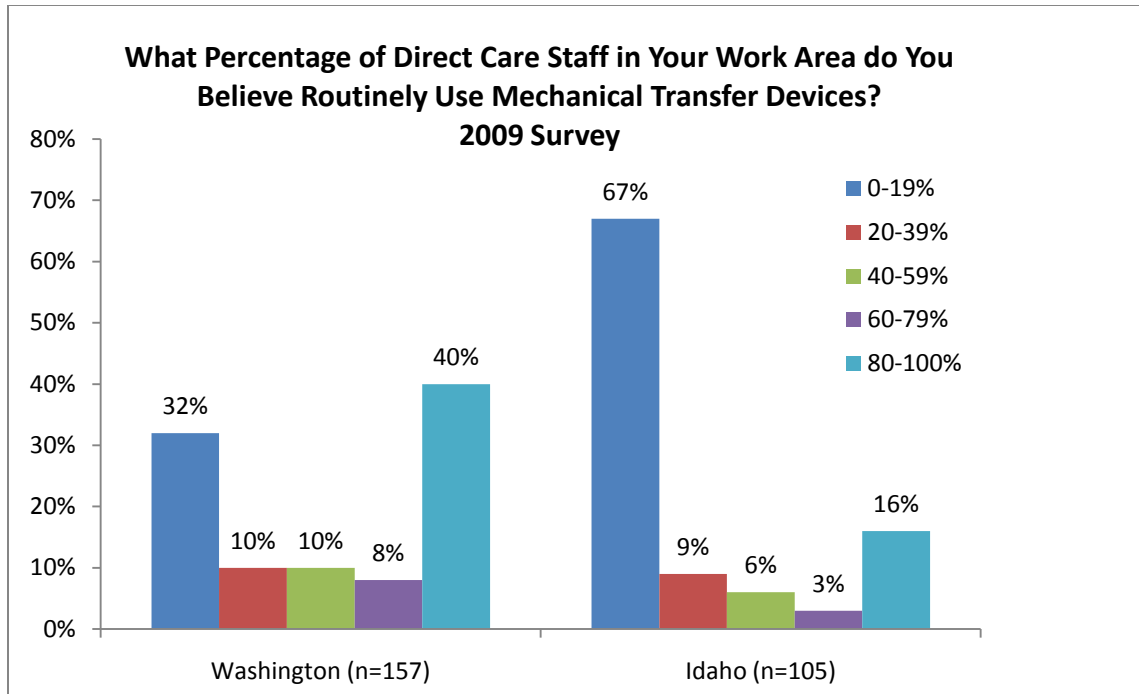


Figure 6. Percent of Direct Care Staff Reported by 2009 Staff Survey Respondents to Routinely Use Patient Transfer Devices.

In 2009, *fewer respondents overall, felt that taking risks was part of the job* than 2007 ( $p < .001$ ), with an effect for size ( $p = .001$ ),

Fewer respondents thought that a *member of their team would be injured* within a year in 2009 than 2007 ( $p < .001$ ), and fewer in Idaho than Washington ( $p = .002$ ), with an effect for size ( $p < .001$ ), Figure 7.



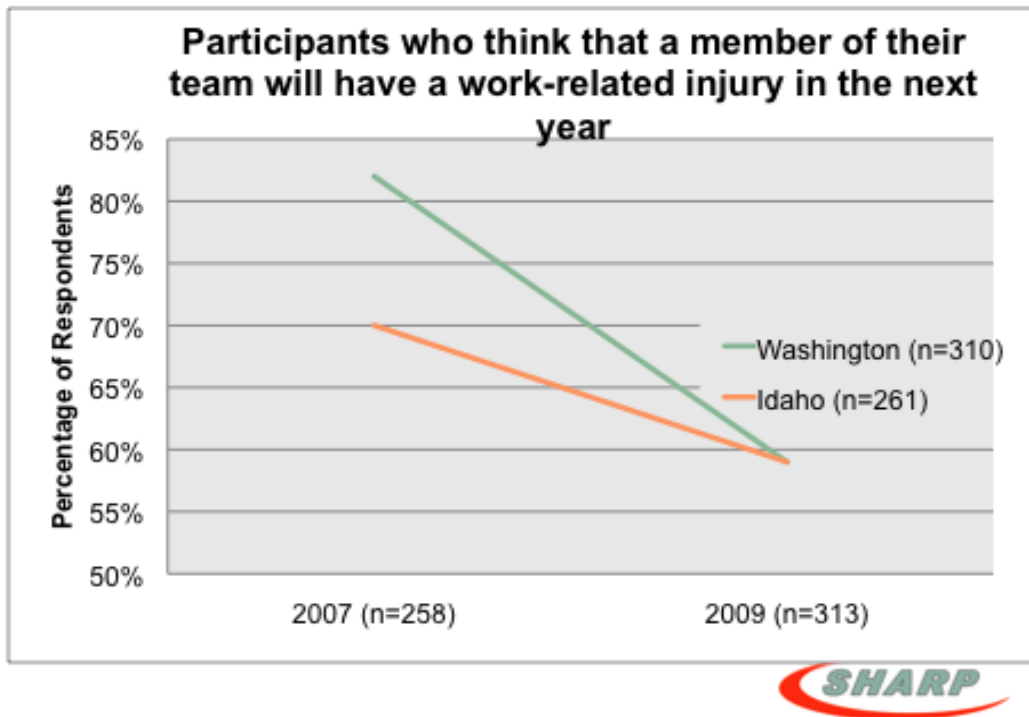


Figure 7. Survey Respondents Belief that A Team Member Will Experience a Work-Related Injury in the Next Year, Washington vs. Idaho

In 2009, respondents, Washington and Idaho combined, felt that the amount of equipment available was more adequate ( $p < .001$ ), with an effect for size ( $p = .006$ ).

Respondents indicated that *patient handling devices were more often available* in 2009 than in 2007 (Figure 8) and significantly more so in Washington than Idaho ( $p = .002$ ), with an interaction effect ( $p = .009$ ) and an effect for size ( $p < .001$ ).

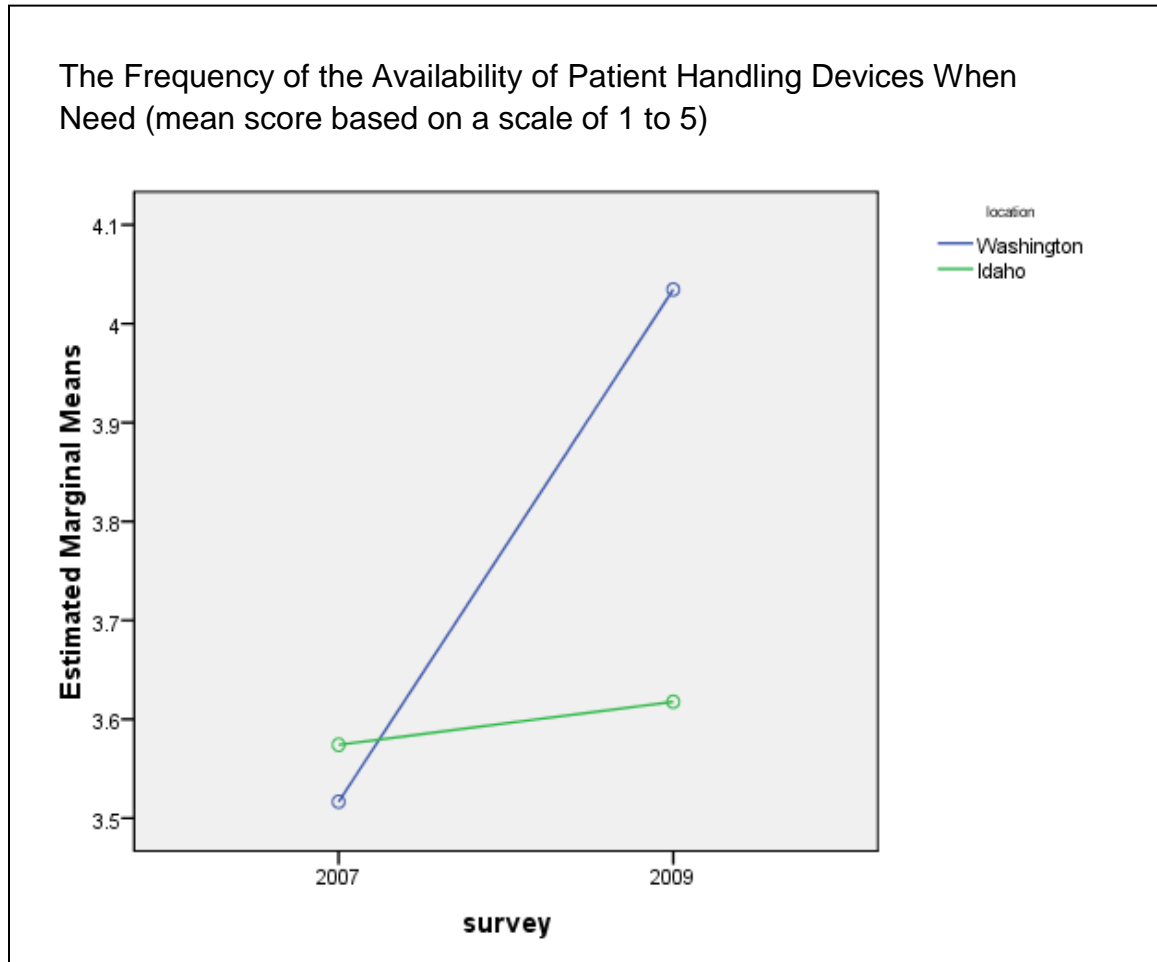


Figure 8. Mean Score of The Availability of Patient Handling Devices Scale (1, never to 5, always), Washington vs. Idaho.

Staff satisfaction with the training in the *use of lifting equipment*, Figure 9, was greater in 2009 ( $p=.011$ ), and greater for Washington compared to Idaho ( $p=.014$ ), with an interaction effect ( $p<.001$ ), and an effect for size ( $p=.013$ ).

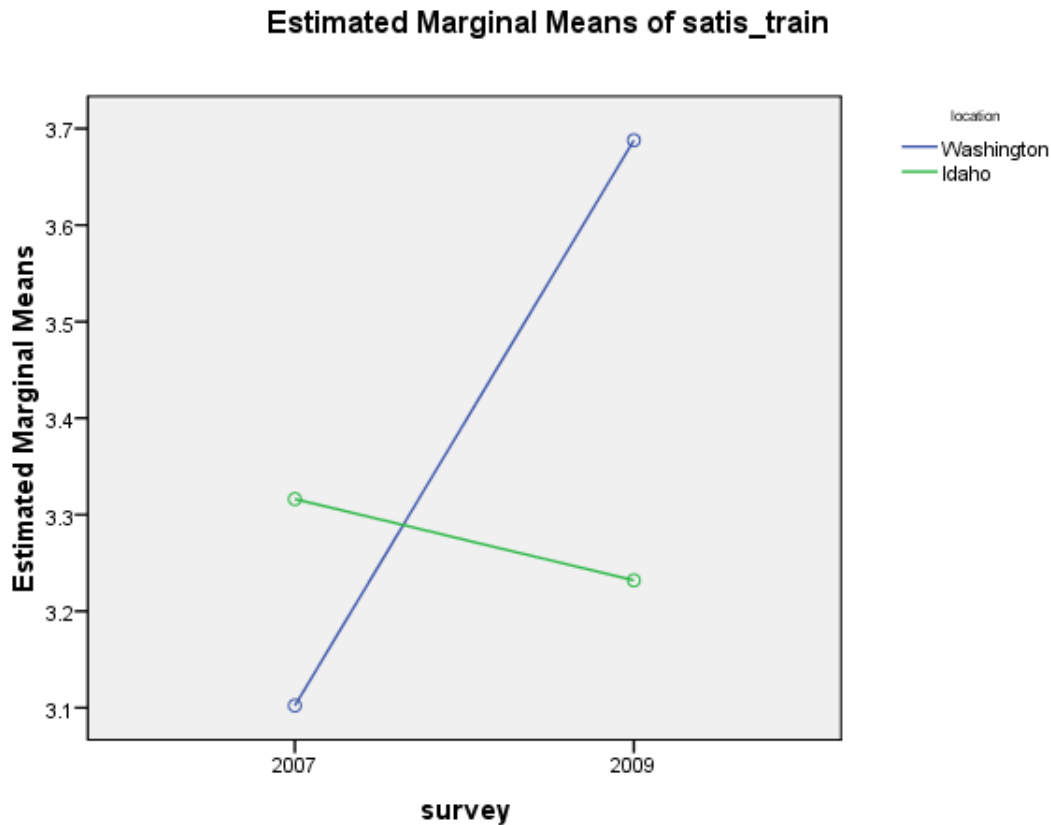


Figure 9. Mean Score in Satisfaction with Training in the Use of Equipment

Staff satisfaction with the training with the training in how to use the equipment was greater in Washington in 2009 than in 2007 whereas the reverse was true in Idaho.

Staff satisfaction with the quality of the lifting equipment was greater in Idaho in 2007 and significantly greater in Washington in 2009.

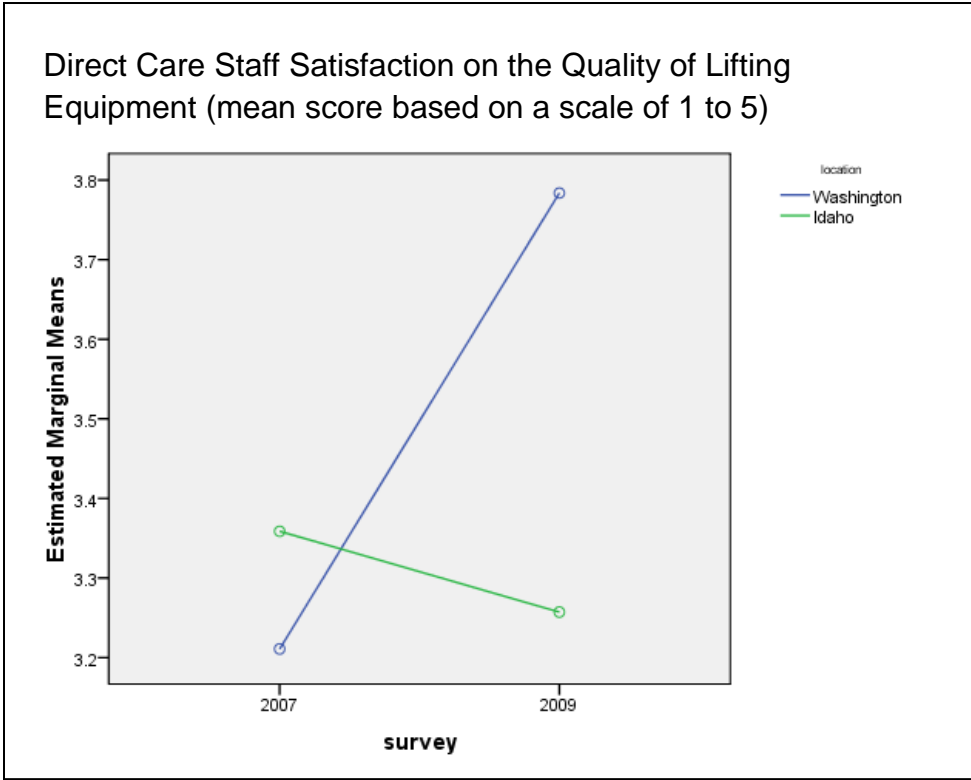


Figure 10. Mean Score of the Satisfaction of the Quality of Lifting Equipment Scale (1, very dissatisfied to 5, very satisfied), Washington vs. Idaho.

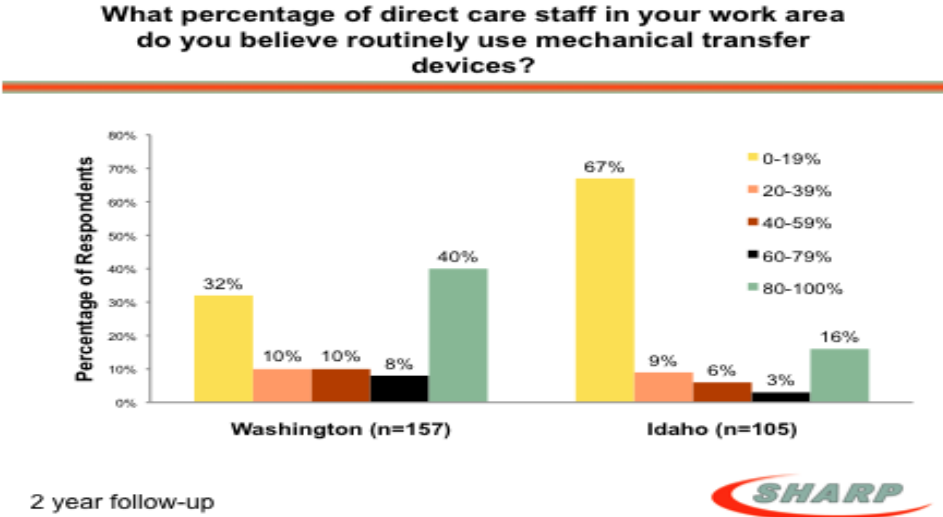


Figure 11. Direct care staff belief about the routine use of mechanical transfer devices in Washington and Idaho at two year follow-up.

Barriers to SPH more common in Idaho than Washington included inadequate room size for the equipment, not enough staff, and not enough equipment. On the other hand, Washington respondents were more likely to report that having to get the equipment was a barrier to using it as was finding slings for the equipment.

Additional survey findings include the following:

- More respondents indicated that there were lifts in their area capable of lifting 500 lbs in Washington than in Idaho ( $p < .001$ ), with an effect for size ( $p < .001$ ).
- Respondents reported having more ceiling lifts in their units in Washington than Idaho ( $p < .001$ ).
- Respondents reported having more total body floor lifts in Washington than Idaho, ( $p = .020$ ).
- More respondents indicated that patient assessments consider patient-handling tasks in 2009 than 2007 ( $p = .003$ ).
- More respondents indicated that patient assessments consider the necessary handling equipment in 2009 than in 2007 ( $p = .031$ ).
- More respondents indicated that they knew of their hospital's safe patient handling policy (as opposed to saying that they didn't know or the hospital didn't have one) in 2009 than in 2007 ( $p < 0.001$ ), and more in Washington than Idaho ( $p = .036$ ), with an effect for size ( $p = .001$ ).

No significant differences were found for:

- Perceived physical demands,
- Satisfaction with the function of lift equipment,
- Satisfaction with input into the purchase of lifting equipment,
- Whether they had the opportunity to provide input on the kinds of equipment needed,
- Number of time ceiling lifts were used in the last shift,
- Number of times total body floor lifts were used in the last shift, or
- Whether they had a committee that identified equipment needs.

## **2. Staff Interview Findings**

Interview questions were more general than survey questions, allowing for a more open environment to share impressions. The interview questions and selected baseline responses to these questions included

- What does safe patient handling mean to you?

- “Getting the patient from the bed to the chair or transport to x-ray with no injuries to patient or staff”
- “Not having to lift the patient, take a deep breath and go get the lift”
- How would you rate your hospital’s safe patient handling program?
- What are the most important components of your SPH program?
- Issues and barriers to implementation?
  - “Agency nurses don’t know how to use equipment, they go for manually lifting”
  - “I have to scold younger girls because they don’t know proper body mechanics and already complain about their backs”
- What has the hospital done to make your job easier?
  - “Transfer mats: love them, easy on the skin”
  - “Appropriate body mechanics”
  - “Lift team where 3-5 people will come and help lift”

*NOTE: some focused more on patient fall protection than using equipment [this was most likely related to a national Medicare funding decision to not reimburse hospitals for the consequences of patient falls.*

- What is the availability of equipment on your unit?
- Do you have any input on equipment needs on your unit?
  - 50% of respondents reported having equipment & training readily available and used it

Staff interviews about what was needed to have a successful SPH program included the following responses:

- Adequate staffing
- Safety committee, yearly reviews, lots of equipment and well trained aides
- More equipment
- Training-hands on with equipment
- Management needs to value SPH
- Know where to go with questions, concerns
- Cheerleader (knowledgeable) in each department to educate Adequate staffing
- Safety committee, yearly reviews, lots of equipment and well trained aides
- More equipment
- Training-hands on with equipment
- Management needs to value SPH

- Know where to go with questions, concerns
- Cheerleader (knowledgeable) in each department to educate staff

### **3. Manager Focus Groups**

Manager focus groups addressed two general issues

- Describe successes with SPH
- Describe barriers staff had with handling patients safely in your hospital

A number of managers were pleased with training and the purchase of equipment for safe patient handling. A major issue for them was getting staff to use the equipment. Very few had experience with ceiling lifts, particularly in Idaho. In fact one large Idaho hospital was building a new hospital and had decided against ceiling lifts because they thought the ceiling lifts were too expensive. This was contrary to large Washington State hospitals which appear eager to procure and install ceiling lifts.

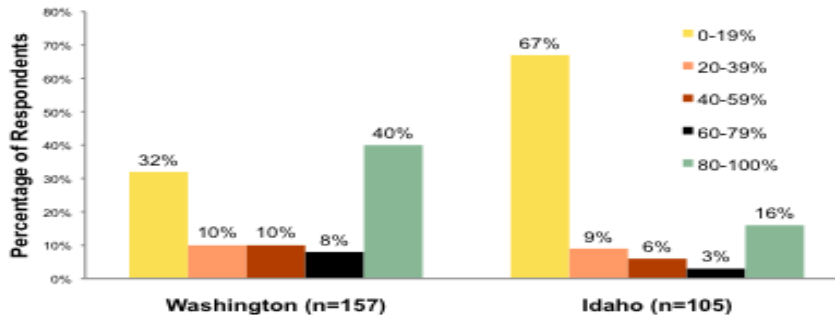
## **IV. FUTURE RESEARCH ACTIVITIES**

More sophisticated multivariate analyses will be performed after the 2011 hospital SPH survey and focus groups. Additionally, we will have two more years of workers compensation data a year following the end of the B&O tax incentive, and after the Northwest safe patient handling conference. Assessment of the degree of implementation of the SPH legislation over time will also be completed.

## **V. SUMMARY**

Washington State has been a pioneer in the implementation of safe patient handling legislation. This legislation has brought together many stakeholders to work toward reduction in career-ending patient handling injuries for nursing staff in the state hospitals. Initial results indicate that hospitals and nursing staff are becoming more engaged in injury prevention with the recognition that a back injury is not inevitable. This will result in better patient care. This cooperative model (employers, unions, government) may be successfully expanded to other areas of the health sector. When staff is cared for, they will have a greater capacity to care for their patients and residents. The Washington state experience can serve as a model for the nation.

**What percentage of direct care staff in your work area do you believe routinely use mechanical transfer devices?**



2 year follow-up



Long term changes in patient, family and staff culture to recognize that using equipment is safer for the patient and the staff is a requirement for sustainability of safe-patient handling. Additionally, the results from this study suggest reduction in patient and staff injury is possible in other areas of care giving (nursing homes, patient homes)

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