

Lifting Patients/Residents/Clients in Health Care Washington State 2005

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EXECUTIVE SUMMARY

Overall, Washington State's population is becoming increasingly older and heavier, and therefore, at more risk of having numerous chronic health conditions. As a result, there will be increasing demands on our health care system. Being better prepared to address these changing demographics is now critical. Who will care for us when we cannot fully care for ourselves? Those who do care for us when we cannot, skilled health care workers, on average, are also getting older. Who will replace them? Nursing staff has among the highest back and shoulder injury rates of any occupational group. The incidence and cost of patient lifting-related injuries among health care workers remain high. For example, the incidence rate for compensable back injuries in 2003 among state fund health care employers was 162.5 claims/10,000 FTE compared to 41.4 claims/10,000 FTEs for all other state fund employers. For the self-insured, the compensable back injury claim rate for health care employers was 98.6/10,000 FTEs compared to 64.0/10,000 FTEs for other employers. The conditions that put health care workers at risk also exacerbate recruitment and retention problems for experienced nurses and other health care workers. Some project a 50% shortage by 2020 if things remain the same. Nursing homes are experiencing serious under-funding. Economic concerns, particularly in nursing homes and home care, resulting in non-competitive wages and often no benefits, further exacerbate the cycle of injury and staff turnover. However, some case studies in the literature have shown between a 30-90% reduction in lost time and workers compensation costs via implementing no-lift programs in nursing homes and hospitals.

The Washington State House of Representatives Commerce and Labor Committee requested the Department of Labor and Industries to convene a task force of equal numbers of labor and industry representatives to assess the magnitude of the problem, and the barriers to and successes in improvement in injury rates related to lifting in the health care arena. Sectors of the health care arena to be covered were hospitals, nursing homes, home sector (home care, home health care, hospice) and pre-hospital medical services (emergency medical and ambulance services).

Methods

Department staff extracted workers compensation data for analysis of industry trends in musculoskeletal disorder (especially back and shoulder) incidence, severity and costs. The health care industry task force (with extended industry and labor participation at meetings) agreed to an action plan for securing the requested information, helped to develop data collection instruments and reviewed findings. Task force members assisted in identifying appropriate sites to visit based on their view of "representative" facilities. Department staff (SHARP and WISHA Training & Outreach) visited six hospitals, eight nursing homes, and six home sector sites. Due to time and resource constraints, an attempt was made to identify a limited number of facilities that spanned the spectrum of health care for site visits including large and small, urban and rural, eastern and western Washington, and one hospital in British Columbia. The extent to which these facilities are truly representative of the industry is not known. The small sample size for each of the types of facilities limits the capacity to identify statistically significant differences between facilities. Interviews with management and staff as well as observations of patient handling by staff were conducted. For pre-hospital medical services, interviews were conducted. Data were entered into databases (without site

name identifiers) and summarized to identify common themes. Additionally L&I staff conducted literature and web reviews to identify what other jurisdictions (nationally and internationally) were doing to address these same issues. Findings were shared with the expanded task force who assisted greatly in their interpretation.

Results

Survey and Interview Results

The site visits, surveys and interviews were essential to learn about issues, barriers and successes in addressing patient handling tasks (transfers, repositioning and activities of daily living). However, because of limitations due to time and resources, an industry-wide survey was not done, therefore, the sample size for each sub-sector is very small (8 nursing homes, 5 hospitals, 5 home sector agencies) and may not produce statistically significant results

Hospitals/Nursing Homes

Hospitals and nursing homes are similar in that their services are provided in facilities under their control but dissimilar in a number of patient care and staff issues (e.g., acuity, staffing type and level, financing mechanisms). All facilities visited were extremely generous with their time and knowledge to assist L&I staff in understanding both barriers and successes. The biggest barriers to attracting and retaining staff reported by the nursing homes included wages and benefits and the heavy physical work. For hospitals, the challenge stemmed from the aging of current registered nurses and the inadequate numbers being trained to meet future demands. All hospital and nursing home sites visited have made some attempts to reduce the physical load on staff related to manual handling of patients and residents. Those further along reported improvements in lost-time injury rates and costs.

Findings include:

- There was no uniform understanding of what “no-lift” meant in either hospitals or nursing homes. It was understood by workers and management in both nursing homes and hospitals that while mechanical handling devices (sit-stand floor lifts, total floor lifts, ceiling lifts) were essential, they were not sufficient by themselves.
- Management recognized that without management commitment/advocacy and employee involvement (including mentoring), adequate and repeated training, consistent policies, and incident investigations, the likelihood of sustaining an effective no-lift program would be difficult. However, rarely were there consistent actions taken, either positive reinforcement or consequences when policies were not followed unless a patient was injured. There were several exceptions.
- More than 80% of nursing home assistants felt using mechanical equipment would reduce the chance they would be injured but 50-60% felt it would require more co-worker help and take more time.
- In both hospitals and nursing homes, all recognized the increasing challenge presented by more obese (body mass index [BMI] > 30) and bariatric (BMI>40) patients/residents. Some nursing homes did not have the capacity to admit bariatric residents.

- An unanticipated result of implementing no-lift programs in some nursing homes has been to transfer the risk elsewhere. For example, if a patient falls on the floor, emergency medical services (EMS) may be called to lift the patient.
- All hospitals and nursing homes had at least some mechanical patient handling devices. All nursing homes visited had used Washington Health Care Association's \$1,000 reimbursements for floor lifts. Manual crank lifting devices were being phased out. Sit-stand device usage has increased in nursing homes over the previous five years.
- The majority of hospitals had some ceiling lifts and they were quite excited about them. Hospitals saw the advantages of ceiling lifts as being space saving, more frequently used because of easy availability, smoother movement for patients, and reducing staff turnover. In the British Columbia hospital and one Washington State hospital, the no-lift program, including ceiling lifts, was integrated with the overall hospital musculoskeletal injury prevention and early return-to-work programs. In both cases, they have shown impressive returns on investment. In another Washington hospital that has recently implemented ceiling lifts in some units and a lift team, early results in terms of injury and cost reduction are very promising.
- There were no ceiling lifts identified in any nursing homes, however the nursing homes were aware of ceiling lifts, and were aware that British Columbia had a program for helping nursing homes and hospitals to install ceiling lifts. Nursing homes were concerned that their buildings may not be able to accommodate ceiling lifts without structural improvement.
- The most physically demanding part of using both ceiling and floor lifts is positioning the sling under the patient, which requires awkward postures and forceful exertions to turn patients of limited mobility and strength. There is increasing recognition of the need for multiple slings per patient so the slings can be left in place. For repositioning or moving from bed to stretcher, some sites advocated using slip sheets or air mats that reduce friction. Most nursing homes cited old facility structure and therefore finances as a barrier to installing ceiling lifts.
- Several facilities had gone beyond patient/resident handling in their efforts to reduce lifting and postural hazards by including housekeeping, laundry, and kitchen and pharmacy areas.

Home Sector (Home Health Care, Home Care, Hospice Care)

When referring to home health, home care, and hospice as a group, they will be collectively referred to as home sector. In the healthcare continuum they provide services to individuals in their homes. These individuals do not need to be hospitalized. They are essentially homebound and not able to get services on an outpatient basis. Hospice care in Washington State is delivered in the home, although hospice services can also be facility-based. Home health and hospice services include nursing, physical and occupational therapy, speech, social work and home health aide (or similar) services. Home care provides services such as housekeeping, meal preparation, assistance with bathing or dressing, toileting, transfers, etc. The duration of home health and hospice services per individual is generally much shorter and temporary in nature than those receiving home care services. All of the home sector employers were located in western Washington—two from rural areas and four from urban areas. As nursing

home care becomes more expensive, there is a greater attempt to keep those who need some degree of long term care at home.

Findings include:

- Home sector care has unique challenges in that the home is often not structured for ease of client assisted transfers. Although some clients are in need of some services for a long time, for others it is more temporary, making investment in structural changes unlikely.
- Home sector workers often work alone.
- Insurance rarely covers transfer devices.
- One administrator stated that they had a written safety and health policy for the prevention of musculoskeletal injuries
- Employees were more likely to see the benefit of equipment use than the agency administrators.
- In at least one home visit, a ceiling lift (paid for by the family) was installed. When asked what kind of equipment would be useful in the home environment, the combined administrator/employee responses included powered lifts rather than manual lifts, stair lifts, sliding sheets, pull up straps for getting up in bed, sit-stand devices.
- The usefulness of some of the so called “luxury” items (e.g. sit-stand assist devices, mechanical total body lifts) is that they might be the very thing that enables family members to continue assisting the homebound individual and allow them to remain at home.

Pre-Hospital Medical Services (Paramedic, Ambulance Service, Firefighter/Emergency Medical Technician)

Pre-hospital medical services include paramedic services, emergency medical technician/firefighter (EMT) services and ambulance services. These services are provided by professionals in municipalities, but crews may be made up entirely of volunteers in rural areas. Interviewees reported that lifting of patients during medical calls was typically much more frequently performed than firefighting activities. Interviewees reported that they felt these activities were either likely or very likely to cause serious injury at some point in a career. They were most concerned with back and shoulder injuries, particularly in the following situations:

Findings include:

- Manual handling of medical equipment (e.g., 35-pound cardiac monitor), as well as non-medical equipment like fire hoses, contribute to the overall physical load
- Concern exists about the legitimacy of nursing home calls for help lifting residents who have fallen
- There is no control over the facilities where they pick up patients
- The greatest physical loads in manual handling come from:
 - Lifting in tight spaces (between bed and wall, next to toilet, out from bathtub)
 - Lifting of bariatric patients
 - Automobile extrications
 - Lifting from floor
 - Lifting and carrying down stairwells
 - Lifting patient and gurney weight together, especially outdoors

- Some ambulance companies have developed a bariatric-specific transport unit, with a ramp and winch system for pulling gurneys into a wider-than-typical bay.
- One ambulance company took the additional step of modifying the vehicle's suspension so that it can be pneumatically lowered to make loading easier.
- Difficulty in securing funding to purchase some of the newer patient transport equipment that reduces physical load for workers and injury for the patients

Government Involvement

The high cost of manual handling injuries to patients and staff has been recognized around the world. In the European Union, Australia and New Zealand, manual handling regulations include the health care sector. No-lift policies and programs, including ceiling lifts have been widely implemented. In Canada, a number of the provinces have manual handling regulations which affect health care. British Columbia and Ontario, most notably, coordinated efforts and financing by Ministries of Health, Workers Compensation Boards, health sector employer associations and unions have lead to large scale efforts to implement no-lift polices and programs, first in nursing homes, followed by hospitals and then other sub-sectors. Both British Columbia and Ontario have made a major commitment to the installation of ceiling lifts.

In the US, federal OSHA has issued nursing home guidelines on resident handling. No state has passed legislation prohibiting manual lifting. In Ohio, the legislature passed legislation to enable the workers' compensation board to issue long-term no-interest loans to nursing homes for equipment purchases in implementing no-lift environments, and has reported good returns on investment. In New York, legislative action has resulted in a two-year demonstration project to determine best practices in no-lift environments for all health care sectors. The Texas legislature passed legislation (SB1525), effective January 1, 2006, affecting both hospitals and nursing homes, requiring a safe patient handling and movement policy to "identify, assess, and develop strategies to control risk of injury to patients and nurses associated with lifting, transferring, repositioning, or movement of a patient," and protection for nurses refusing to perform high risk lifts. This legislation was supported by both industry and labor, recognizing the improvements in injury reduction would also result in improved recruitment and retention of staff. "No-lift" legislation has been or is in the process of being introduced in California, Massachusetts and New Jersey.

Conclusions

- Manual handling of patients has been recognized as hazardous for both caregivers and patients. The changing demographics of the state (older, heavier, more co-morbidity) will increase the hazards for health care workers
- The hazards of manual handling of patients can be reduced by a programmatic approach that includes
 - a) Policies for risk assessment and control,
 - b) Having adequate types and quantities of equipment and staffing,
 - c) Ongoing patient handling training,
 - d) Management commitment and staff involvement,
 - e) Incident investigation, follow-up and communication
- The literature review of no-lift programs have shown reduced injuries to patients and staff, reduced lost time, reduced costs, and reduced staff turnover.

Sustainability of such a program depends on management and employee stability (decreased turnover).

- Nurse educators in United States' schools of nursing are still teaching outdated manual patient handling and lifting techniques. Nursing schools need to train staff on using equipment
- All hospitals and nursing homes visited recognized the importance of implementing no-lift programs on reducing staff and patient injuries and were working to do so.
- Employer and employee associations have worked together effectively in other jurisdictions to implement "no-lift" type programs, often with government support.
- One of the barriers is lack of funding to purchase mechanical lifting equipment. Other countries are providing funding for the purchase of equipment.
- Legislative and executive branches of government in other jurisdictions have used regulatory and financial incentives to assist in the adoption of no manual lift environments in health care
- Home and pre-hospital medical services sectors present some unique but not insurmountable challenges to minimizing or eliminating lifting and manual handling

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INTRODUCTION

In April 2005, the Washington State House of Representatives Commerce and Labor Committee requested the Washington State Department of Labor and Industries convene a committee over the interim to examine issues related to safe patient handling in the health care environment (Appendix 1). This investigation was to include hospitals, nursing homes, home health care and emergency medical services in Washington State. This investigation was to examine:

- Current lifting programs and policies, the challenges they face, how they work, and how they are funded
- How to best utilize the current research in this area
- The culture of employee/employer safety necessary to achieve and sustain a successful program

Michael Wood, then Acting Assistant Director of WISHA and Barbara Silverstein, Research Director of the Safety and Health Assessment and Research for Prevention (SHARP) Program developed an action plan to fulfill this request. The action plan called for contacting labor and management representatives from a limited number of hospitals, nursing homes, home health care and emergency medical services to organize meetings to discuss industry needs from their perspective. With the assistance of these stakeholders, a limited number of “representative” facilities with model programs and those that have special needs and difficulties in implementing and/or sustaining no-lift environments were identified. Following visits to those identified facilities, findings would be discussed and recommendations developed with the stakeholders. In addition, successes in implementing no-lift environments in other states or countries would be identified.

A Health Care Lifting Task Force was created from members of professional associations and unions, representing the hospital, nursing home, home health/hospice care, home care, hospice and emergency medical service industries. Participation on this Task Force was open to all in these industries. The role of the Health Care Lifting Task Force was to utilize their combined expertise and knowledge to provide insight and feedback. The responsibilities of the Task Force were:

- Identify facilities to visit,
- Identify key issues to examine,
- Provide suggestions of questions to include in survey instruments and
- Review and assist in the interpretation of the results of completed surveys

Within the Task Force, a Formal Committee was formed, which consisted of equal representation of labor and business from all of the industries. Members of the Formal Committee were chosen by L&I from nominations given by the Task Force members. The charge of the Formal Committee was to review the final. Tables 1 and 2 list the members of the Task Force and the Formal Committee, respectively.

Table 1. Health Care Lifting Task Force Membership, 2005

Amber Carter	Association of Washington Businesses
John Donaghy	SEIU 1199NW
Erik Erickson	Washington State Home Care Coalition
Maggie Flanagan	Washington State Nurses Association
Tami Green	State House Representative 2820
Anne Koepsell	Washington State Hospice and Palliative Care Organization
Jackie Myers	Home Care Quality Authority
Sharon Ness	UFCW 141
Anne Tan Piazza	Washington State Nurses Association
Marilyn Savage	UFCW 141
Lauri St. Ours	Washington Health Care Association
John Dzedzic	Senate Labor Commerce Research and Development
Jonathan Eames	Washington Home Care Coalition
Diana Hitchings	Washington Health Care Association
Beverly Simmons	Association of Washington Business and Washington Hospital Services Workers Compensation Program
Brenda Suiter	Washington State Hospital Association
Jane Wood	Home Care Quality Authority
Audrey Woodin	Adult Family Homes

Table 2. Formal Committee Members of the Health Care Lifting Task Force

<p>Amber Carter, Association of Washington Businesses (October 24th- November 2, 2005) John Donaghy, SEIU 1199 NW Jonathan Eames, Washington Home Care Association Maggie Flanagan, Washington State Nurses Association Anne Koepsell, Washington State Hospice and Palliative Care Organization Sharon Ness, UFCW 141 Anne Tan-Piazza, Washington State Nurses Association Beverly Simmons, Association of Washington Business and the Washington Hospital Services, Workers Compensation Program (replaced Amber Carter, November 2, 2005 - onwards) Brenda Suiter, Washington State Hospital Association</p>

LITERATURE REVIEW

The Current Situation

The literature shows that no-patient lifting programs reduce injuries and workers compensation costs in health care settings. Back injuries experienced by healthcare workers from patient manual handling and lifting tasks are costly for staff and employers, both by personal measures (e.g., pain, lowered morale, use of sick leave, loss of experienced staff, loss of skills specific to a work unit) and economic measures (e.g. costs of treatment, costs of staff replacement, training for new staff, costs of injury

investigation, administrative costs, insurance premiums) (Occupational Safety & Health Service in New Zealand (OSHS), 1993). In addition, the delayed reporting of occupational back pain by nursing staff often results in the denial of claims for rehabilitation and compensation (Edlich; Winters; Hudson; Britt, and Long 2004). Consequently, it is difficult to estimate the true cost of these injuries. Likewise, it is difficult to calculate the true return on investment that can be expected when manual lifting hazards are controlled and these injuries are prevented. Nevertheless, research has shown that investment in equipment for safe patient handling can result in cost savings. (See Appendix 2 for a listing of cost-benefit examples). (Nelson; Owen; Lloyd; Fragala; Matz; Amato; Bowers; Moss-Cureton; Ramsey, and Lentz 2003) reported that six hospitals in Tampa, FL who invested \$750,000 in safe patient handling equipment experienced a decrease in workers' compensation costs of \$800,000 one year after the program began, and anticipated cost savings of more than \$5 million in the following nine years (their equipment has a reported life expectancy of 10 years).

Most workplaces recognize these risks and have implemented some type of program to reduce exposure and, therefore, control the hazards. The hierarchy of risk control suggests that employers take the following steps, as appropriate, to reduce exposure:

- Step 1: Elimination (this is the optimal solution)
- Step 2: Substitution
- Step 3: Engineering Controls
- Step 4: Administrative procedures
- Step 5: Personal protective equipment (this is the last resort)

For any one hazard, a multitude of steps and risk controls may be required in order to ensure injury reduction. In the case of patient handling as a necessary job task for healthcare workers, elimination and substitution really are not viable options. It is not sufficient, however, to regard the situational risk of moving patients as an inevitable consequence of working in the healthcare field ((Passfield; Marshall, and Adams 2003)). Engineering controls, on the other hand, are definitely a feasible option for reducing this risk of injury for these workers. Engineering controls may include but are not limited to ceiling lifts, slip sheets, lateral transfer boards, hover mats, and walkers, and each of these has been evaluated for effectiveness at reducing exposure risk. The fourth step in the hierarchy of risk control is administrative procedures. Examples of administrative controls could include training in lifting techniques or changes in work processes (e.g., schedule changes to expand the time frame for which lifting activities across patients will occur, reducing the number of lifts performed per hour, increasing the number of lifters required for any one patient, use of gait belts). Finally, personal protective equipment includes the use of items such as back belts; it is important to note, however, that these devices have been consistently shown to be ineffective at reducing back injuries from patient handling.

This report will begin with a review of the research on patient handling, followed by an examination of the literature and various international initiatives on "no-lift" policies, a brief description of relevant administrative and special considerations for a no-lift or safe patient handling policy and end with the results of our examination.

Manual handling can be broadly defined as the lifting, lowering, pushing, pulling, carrying, manipulating, and restraining of an object; in a healthcare facility, this involves the lifting, transferring, and positioning of patients, clients, and residents (OSHS, 1993).

A laboratory study, supported by Washington State Department of Labor and Industries (Marras; Davis; Kirking, and Bertsche 1999), conducted a comprehensive analysis of low-back disorder risk and spinal loading during the transferring and repositioning of patients using different techniques. The researchers examined 3 different transfer techniques (i.e., one-person hug, two-person hook and toss, and two-person gait belt) and 4 different repositioning techniques (i.e., the manual one-person hook, manual two-person hook, manual two-person with draw sheet, and manual two-person lifting under the thigh and shoulders). They concluded that there is significant risk when transferring patients regardless of the number of people. Additionally, they found that the technique with the highest back disorder risk and spinal loads is the single hook method, while the technique with the lowest disorder risk and spinal loads is the draw sheet method, despite the risk and load for this method still being quite high. Therefore, the researchers conclude that patient handling is a very risky job in terms of the hazards faced. Additionally, because the patient in this study was a 'best' case scenario (e.g., co-operative, small/average size, able to use upper body), the reality for health care workers, particularly those in nursing homes, is much more severe; to have an impact on lower back disorders for these workers, the researchers suggest that access to mechanical lift assist devices as part of a no-lift policy are necessary.

Neither the use of back belts nor the reliance on only body mechanics/lifting technique training have been shown to be effective in reducing nursing staff injuries related to manual handling of patients, residents or clients in the health care sector (NIOSH, 1994 - Patient Safety Center of Inquiry, 2001). This is because manual patient handling tasks are simply and unavoidably beyond the capabilities of the general workforce. Moreover, the body mechanics and lifting techniques taught in these education and training programs are based on research that is not generalizable to the demographics of health care workers nor the health care context in which their work is performed (Patient Safety Center of Inquiry, 2001, p. 6 – VHA and DOD). The Royal College of Nursing (RNC) in England identified some of the many factors which predispose nursing staff to back injury: lifting patients; working in awkward, unstable or crouched positions, including bending forward, sideways, or twisting the body; lifting loads at arm length; lifting with a starting (or finishing) position near the floor, overhead or at arms length; lifting an uneven load with the weight mainly on one side; and handling an uncooperative or falling patient (Royal College of Nursing). Therefore, it becomes the responsibility of the employer to provide safe alternatives for getting the job done. The role of government is to assist in assuring that safe alternatives are used.

Although it can be tempting to conclude that staff in good physical condition would be less likely to get injured, this is not the case. In fact, these employees are exposed to risk at a greater level since the staff is four times more likely to ask their physically fit coworkers for help when lifting patients. Outdated manual patient handling and lifting techniques such as the "hook and toss" method, demonstrated to be unsafe for both nurse and patient and banned in many European countries, Australia, and Canada, are still used by 98% of nurses, perhaps because 83% of nurse educators in United States' schools of nursing are still teaching it ((Owen and Fragala 1999) – as cited by (Nelson and Baptiste 2004)). Although many teachers of nursing may agree that education on lifting techniques is ineffective at preventing injuries for these graduates, faculty continue to do so since they need to cover the material that is on the National Council Licensure Examination (NCLEX) and the use of proper body mechanics remains testable material (Trossman 2004). This demonstrates the importance of targeting interventions so that

they reach and are accepted by stakeholders across the entire system (from upper management within organizations to faculty employed at educational institutions).

(Hignett 2003) performed a systematic literature review of studies on lifting in healthcare published between 1960 and 2001. Her review of 63 relevant papers uncovered that controversial manual lifting techniques NOT recommended from the research include: the orthodox lift, drag lift, shoulder lift, through arm lift, three or more person lift, two poles and canvas lift, and front-assisted with one caregiver lift (e.g., pivot lift, bear hug, rocking lift). The studies revealed that recommended lifting techniques include the use of slip sheets or lateral transfer boards for patients lying down and a mechanical hoist for non-weight bearing patients and those able to bear weight, and walking belts. Hignett (2003) found moderate evidence both for multifactor and single (equipment or lift teams) factor interventions, noting that the evidence for lift teams was sparse. Similar to the conclusions made by NIOSH researchers in 1994, Hignett (2003) indicated that there is strong evidence showing that interventions predominantly based on technique training have no impact on work practices or injury rates. Therefore, and based on a systematic review of the literature, (Hignett 2003) advocates that multifactor interventions that are based on a risk assessment program, which include provisions and guidelines for equipment, education, policies and procedures, additional risk assessment, patient assessment, work environment redesign, and changed work organization/practices, will be the most successful in impacting nurses' musculoskeletal injury rates.

“No-Lift” Policy as an Alternative

(Nelson and Baptiste 2004) suggest that the concept of a “no-lift” policy is a “pledge from administrators that proper equipment, adequately maintained and in sufficient numbers, will be available to care providers to reduce the risks associated with manual patient handling” (p. 7). Along these lines, proper infrastructure must be in place before a no-lift policy can be successfully implemented. This includes management commitment and support at all levels, availability of patient handling equipment, a program for equipment maintenance, employee training, and establishment of a positive safety climate, where all employees share a collective attitude regarding the importance of safety in their work environment.

Research supports no-lift policies as being effective for reducing injuries. For example, (Passfield and others 2003) conducted a study at one hospital wherein they examined workers' compensation claims for patient handling over a four-year period. Midway through that time a no-lift policy was implemented in the hospital. The program consisted of the following elements:

- Approval of the policy by the hospital executive
- A three-hour basic training program, including adequate equipment provision, written procedures on equipment use and an equipment maintenance program
- Written patient assessment sheets
- An ongoing audit program

The post-intervention claims rate significantly dropped from an average of 1.595 claims per month to 0.991 claims per month. Additionally, the percentage of claims that were for back-related injuries resulting from manual handling of patients dropped from 64% of all claims pre-intervention to 50% of all claims post-intervention.

Similarly, (Yassi; Cooper; Tate; Gerlach; Muir; Trottier, and Massey 2001) conducted a

increase in job satisfaction regarding professional status and task requirements. Nursing staff ranked program elements they believed to be extremely important:

- Equipment (96%)
- No-lift policy (68%)
- Peer leader education program (66%)
- Ergonomic assessment protocol (59%)
- Patient handling assessment criteria (55%)
- Action reviews (41%)

Interest and support by both management and staff remained very high throughout the study (1.5 years). Patient acceptance was moderate at the beginning but increased to very high by the end of the program. Initial capital investment recovery would be 3.75 years based on \$200,000 annual cost savings in workers compensation. The authors believed that the increase in job satisfaction scales will lead to a positive impact on nurse recruitment and retention.

The Safety & Health Assessment & Research for Prevention (SHARP) program within Washington State's Department of Labor & Industries conducted a four-year industry wide research study of nursing homes interested in adopting a no-lift policy. Some hospitals received \$1,000 rebates for purchasing equipment, some received a one-time workers compensation premium discount of 15%, and all received training materials on establishing a no-lift policy. Although the premium insurance discounts were effective at jumpstarting the industry towards no-lift, they were not enough to sustain its momentum during difficult financial times for the industry. The researchers conclude that health policy and economic barriers in the industry must also be considered and incorporated into a no-lift policy or initiative in order for it to be effective at preventing injury.

Government Legislative and Executive Branch Efforts to Reduce Health Care Lifting Injuries

Given this and other supporting evidence, some states have already initiated or adopted legislation aimed at safe patient handling: Texas, Massachusetts, Ohio, New York, California, as well as Washington State. Legislative language can be found in Appendix 3. For example, Texas passed the first state legislation (SB 1525, effective January 1, 2006; <http://www.capital.state.tx.us/tlo/79R/billtext/SB1525F.HTM>) requiring hospitals and nursing homes to create policies aimed at controlling the risk of injuries to nurses and patients when patients are lifted, transferred, repositioned, or moved. The policy includes:

- a process for analysis of risk,
- education of nurses in assessment and control of risks during patient handling,
- evaluation of alternative ways to reduce risk including equipment and environment,
- restriction, to the extent feasible with existing equipment and aids, of manual patient handling or movement of all or most of a patient's weight to emergency, life threatening or otherwise exceptional circumstances,
- collaboration with and annual report to nurse staffing committee,
- procedures for nurses to refuse patient handling that nurse believes will expose a patient or nurse to unacceptable risk of injury,
- annual progress report to the governing body or quality assurance committee

- in developing plans for new or remodeling structures where patient handling occurs, consider feasibility of incorporating patient handling equipment or physical space and constructions design needed to incorporate that requirement at a later date.

Massachusetts has a similar piece of legislation (HB 2662) in process. This bill requires all health care facilities to implement a "safe patient handling policy" for all work shifts by requiring lift teams and/or the use of lifting devices and equipment to be available. The policy also calls for the protection for all employees from reprimand for refusing to lift or move a patient when adequate support and/or equipment is not readily accessible.

In Ohio, recent legislation (HB 67) was passed that requires the Administrator of Workers' Compensation to use funds from the Long-Term Care Loan Fund to make loans without interest to nursing home employers to pay for equipment and training that support a no manual lift policy ((Nursing world 2005)). A bill was passed in New York in the summer of 2005 (AO7641) that authorizes a two-year study to establish safe patient handling programs throughout the state and also includes some specifications for safe handling. The end goal of this study is to identify a "best practice" for all healthcare facilities in the state of New York.

In California, legislation for a no-lift policy did pass both the House and Senate but was then vetoed by the Governor. Despite this, another bill (SB 363) has been introduced in California. This bill requires general acute care hospitals to adopt a back injury prevention plan as part of their injury and illness prevention programs and to implement a zero lift policy. Similar to Massachusetts, this bill also calls for the protection of employees who have not been trained or who do not have access to necessary lifting equipment from being disciplined for refusing to manually lift a patient. They define the zero lift policy as "a policy of replacing manual lifting and transferring of patients with powered patient transfer devices, lifting devices, or lift teams" (p. 1) ((Assembly Committee on Labor and Employment 2005)). Moreover, the bill states that the members of the lift teams should receive specialized training in patient handling and shall use the appropriate mechanical equipment for lifting patients, unless specifically contraindicated for the patients' medical needs.

Federal OSHA has issued guidelines with flow charts for resident lifting and repositioning for the US Nursing Home industry.

(http://www.osha.gov/ergonomics/guidelines/nursinghome/final_nh_guidelines.html). Despite state and federal efforts to date, the United States still falls far behind other countries in implementing safe handling legislation or support. For example, recognizing patient handling as the leading cause of injuries for Ontario's healthcare workforce, the Government of Ontario announced a commitment to invest \$60 million (CDN) in the 2004-05 budget year for the purchase and installation of patient lifting equipment. This investment will result in over 11,000 new ceiling lifts throughout Ontario's healthcare facilities and will also provide for the training of personnel on how to use the equipment. Moreover, the Ministry of Health and Long Term Care together with the Institute of Work and Health will collaborate on a research program that evaluates the effects of this investment, including an examination of musculoskeletal injuries, caregiver workload, the quality of training, and the cost benefit analysis of the initial investment (Institute for Work & Health, "Ontario Patient Lift Evaluation Study," OPLES).

In British Columbia, the Occupational Health and Safety Agency for Healthcare in BC (OHSAH) was conceived in early 1998 in an accord between management and union representatives. The Accord resulted in the creation of OHSAH, an agency with the goal of reducing workplace injuries and illness in healthcare workers and returning injured workers back to the job quickly and safely.

(<http://healthcare.healthandsafetycentre.org/s/ceilingliftresources.asp>)

OHSAH, the Workers Compensation Board, Ministry of Health, health sector employers association and health care unions launched an initiative to reduce manual handling injuries for workers and patients first in nursing homes and then hospitals. Funding for this research came from the Workers Compensation Board, employers' trust fund and the Ministry of Health in various forms including no interest loans. For example, the Ministry of Health provided \$15 million for lifting devices and adjustable beds to improve working conditions and reduce injuries.

The Manual Handling Operations Regulations put forth in 1992 in the United Kingdom (UK) holds that employers shall, so far as is "reasonably practicable," put in place standards and equipment to avoid the need for employees to engage in any manual lifting which may result in injury (Royal College of Nursing). According to this standard, "reasonably practicable" is determined by the employer weighing the risk of injury against the cost or effort to introduce changes. The UK further advocates for nurses to avoid manual handling of patients in all but exceptional or life threatening circumstances ((Passfield and others 2003)). This is the same manual handling regulation as that of the European Union.

In conjunction with the Australian National Manual Handling Standard, which includes manual handling of patients (www.nohsc.gov.au/PDF/Standards/manualhandling_standardNOHSC1001_1990.pdf), *WorkCover Queensland Act of 1996* requires an employer to "make a genuine and reasonable attempt...to guard the worker against injury arising out of events that were reasonably readily foreseeable" (Section 312(1) (a); p. 10, *Patient Handling Guidelines: For Safer Patient Handling*). In addition, the Queensland government has adopted a special advisory standard for work, called the *Code of Practice for Manual Handling – The Handling of People 2000*, that involves the manual handling of people. Although it is left to each District to develop their own specific policy, the standard must include plans for risk assessment, staff education, equipment and maintenance, evaluation of the program, and compliance monitoring and action for non-compliance.

Similarly, the Occupational Safety and Health Service (OSHS) within the New Zealand Department of Labor requires employers to conduct a systematic analysis of work-related hazards. Although training and education on how to lift are important elements of the overall safety program, they suggest that an effective systematic analysis must include the identification and assessment of hazards as well as the control of risks. Therefore, the training and education piece of the safety program is to be supplemented by the use of ergonomics, and these three steps of identification, assessment, and control of hazards, form a process to reduce the burden of manual lifting and handling for healthcare workers altogether ((Occupational Safety and Health Service (OSHS) 1993)).

Ceiling Lifts

One way administrators manage a “no-lift” or safe patient handling policy is to install ceiling lifts throughout the nursing home or hospital. Some researchers in the United States have been advocating for the American Institute of Architects to adopt new guidelines for the design and construction of hospitals and health care facilities. These guidelines call for standards in new construction or renovated facilities, recommending all adult patient rooms where manual lifting is likely to occur be equipped with ceiling-mounted tracks that can accommodate mechanical full body sling lifting devices. Moreover, the guidelines suggest that the location of these tracks shall be arranged in such a manner to allow patient movement from the bed into a toilet room, to a chair, or onto a stretcher and these rooms should be provided with either fixed or detachable mechanical lifting units.

This call for ceiling tracks in all new or renovated facilities is based on research demonstrating the positive effects ceiling lifts have on staff workload, workers’ compensation claims, and the discomfort staff experience in the areas of the back/neck, shoulders/arms, and wrists/hands associated with patient handling (e.g., (Engst; Chhokar; Miller; Tate, and Yassi 2005); (OHSAH); (Villeneuve 1998)). For example, (Engst and others 2005) tested the effectiveness of ceiling lifts in a hospital work unit in Vancouver, British Columbia and found that staff preferred these overhead ceiling lifts over manual handling and floor lifts when lifting or transferring residents, but not for repositioning. Survey questionnaires revealed a significant reduction in the perceived risk of injury and discomfort to the neck, shoulders, back, arms, and hands of the care staff following the intervention. Finally, while the workers’ compensation costs increased 68% for the comparison unit, these associated costs decreased 68% for the intervention unit.

(Villeneuve 1998) compared the overall performance of the ceiling lift against the traditional floor lift in terms of level of satisfaction for nurses, patients, and management. Questionnaires and interviews revealed that nursing staff felt that ceiling lifts were more stable, easier to use, and eliminated required effort. Likewise, the patients preferred the ceiling lifts because they were more comfortable, helped facilitate the work of the nursing staff, and in some cases, gave the patients more independence because they could operate the controls themselves. A major benefit of the ceiling lift from management’s perspective was that for most patient transfers, the lift required only one staff member rather than two.

The Occupational Health and Safety Association for Healthcare (OHSAH) in British Columbia reported that three years following the introduction of a “no-lift” policy and installation of ceiling lifts at one hospital, there was a total reduction in compensation costs of 40%, with a full 82% reduction in claims cost, 83% reduction in lost hours, and 67% reduction in time loss claims associated with lift/transfer injuries. Similar to the findings of (Engst and others 2005) described earlier, OHSAH did not see a significant reduction in claims and time loss related to the repositioning of patients, primarily because repositioning slings were found to be unsuitable for many cases. However, realizing the problems associated with the repositioning slings, the hospital began using repositioning draw sheets instead of the ceiling lifts for repositioning activities, and the injuries/claims associated with repositioning of patients all but disappeared (with just one minimal claim following the introduction of the draw sheets).

This project began with a one-time capital equipment expenditure of \$345,000. Three years prior to the intervention, patient handling work-related musculoskeletal disorder

(WMSD) direct costs were \$353,000, compared with the patient handling WMSD direct costs in the three years following the intervention of \$197,000, for a total savings of \$156,000. Therefore, the researchers conclude that the payback period for the initial investment of ceiling lifts is 6.5 years if focusing only the direct costs of WMSD injuries but is less than 4 years if considering the indirect costs as well. Similar results were seen for a study that was done by OHSAH at a long-term care facility as well as at an intermediate care facility. In fact, based on an abundance of research and statistics showing that nursing assistants (NACs) employed in nursing homes have the highest back injury rates from patient handling, the no-lift policy in British Columbia targeted this group as the highest priority for their no-lift policy and the installation of ceiling lifts.

Similarly, (Collins; Wolf; Bell, and Evanoff 2004) targeted nursing home workers ($N = 1728$) in their study of a “best practices” WMSD prevention program. Specifically, they examined a program designed to establish safe patient handling in six nursing homes over a six-year study period. Elements of the best practices program included use of mechanical lifts and repositioning aids, a no-lift policy, and employee training on lift device usage. The researchers found a significant reduction in resident handling injury incidence, workers’ compensation costs, and lost workday injuries after the intervention. Moreover, based on an annual savings of \$55,000 in workers’ compensation costs, the initial investment of \$158,000 for lifting equipment and worker training was recovered in less than three years. These findings were consistent for full and part time nurses, in all age groups, with all lengths of experience, and in a variety of study sites.

Despite evidence that mechanical devices such as ceiling lifts are a good alternative to manual handling, there are some barriers to the use and/or implementation of these (as cited in (Nelson and Baptiste 2004) – full list of references offered):

- § Possible patient aversion to the equipment
- § Unstable equipment or operationally difficult to use (floor lifts)
- § Storage issues or equipment is located in an inconvenient place (floor lifts)
- § Poor maintenance and cleaning of equipment (need to have back-up batteries stored for use when recharging others-floor lifts primarily)
- § Time constraints (particularly finding floor lifts)
- § Inadequate number of available lifts (The recommended coverage for a unit is equal to the proportion of totally dependent patients: If a typical medical-surgical unit has 40% dependent patients, then 16 beds would need ceiling lifts, which would require installing 4 of them, one in each 4-bed room)
- § Lack of training on floors with high turnover levels
- § Incompatible equipment purchased (need sufficient numbers of slings available and in sufficient varieties to cover required activities: bathing, weighing, toilet)
- § Weight limitations
- § Have to establish the structural integrity of the ceiling where a lift may be installed, which may require substantial remodeling

One way to overcome training issues regarding patient lifting devices, such as nurses not feeling comfortable with the use of them, difficulty with transfer of learning from training, or high turnover units which result in a constant pool of workers who are not trained, is the use of unit-based peer safety leaders ((Nelson and Baptiste 2004)). These peer safety leaders are nursing staff members who receive specialized training and then return to the work unit to share the knowledge and skills they learned with their coworkers, introduce new technology or practices, conduct ongoing hazard evaluations,

assure competency of staff in the use of equipment, and sustain the overall program. These peer safety leaders have also been called Back Injury Resource Nurses (BIRNS), Ergo Rangers, and Ergo Coaches and are recommended for each high-risk unit in a hospital where a no-lift policy has been instituted. Just as educated and motivated supervisors are viewed as the key to safety compliance in traditional organizations, BIRNS are viewed as a central component to the successful implementation of work improvement in healthcare facilities (Patient Safety Center of Inquiry 2001). A concept similar to this is currently being tested by the Washington Hospital Service's Workers Compensation Program. "Patient Handling Specialists", which may be nurses, physical therapists or occupational therapists, are trained to evaluate the patient, the equipment and slings available and to help manage patient transfers using the resources available.

Despite the increasing number of studies supporting the effectiveness of ceiling lifts in preventing injuries, a common myth concerning their use is that they eliminate all risk associated with manual lifting. The fallacy in this summation concerns the notion that the risk associated with manual lifting involves only vertical lifting of the patient. Manual lifting, however, also includes the pushing and maneuvering of patients from side to side (i.e., lateral movement of the patient). Because the care provider must first roll the patient in order to position a sling from a mechanical lift around the patient, risk to the care provider does still exist. Nevertheless, most injuries in nursing do result from cumulative exposures so minimizing risks in key tasks will still result in significant benefits ((Patient Safety Center of Inquiry 2001))

In summation, ceiling lifts have been shown to be an efficient, effective, and cost saving alternative to manual patient handling and a viable complement to a "no-lift" policy. Some of the barriers of ceiling lifts include the need for alternative controls for repositioning of patients (e.g., slip sheets) and the obvious costs associated with the purchase and installation of the lifts. Despite the strong evidence that these lifts are a good investment and certainly result in cost savings in the long run, institutions may not be able to come up with the initial dollars needed to remodel, purchase, install, and maintain this equipment due to lack of reimbursement or grant funds.

Administrative Considerations

In order for work improvement solutions, such as lifting devices, to be most effective, administrative solutions must be considered as well. These solutions generally involve considerations for the way work is organized, rather than just physical changes to the work environment or specific tasks. For example, employers might examine policies concerning employee scheduling, job rotation, and the creation of lifting teams as they relate to the tasks of moving patients. One study found that rescheduling activities to minimize times of high concentration involving lifting tasks for patient care providers was beneficial for both the care provider and the patient ((Patient Safety Center of Inquiry 2001)). The problems mainly revolved around the short time periods allotted for the transporting of patients to scheduled meals and activities, particularly in nursing homes. The care providers were highly stressed and rushed during these transport times, placing themselves and the patients at increased risk from lifting tasks. Implementing lifting devices did not alone resolve the risk associated with the rush and stress experienced during these time periods. Only after meetings with all parties involved (e.g., management, employees, the contracted company responsible for providing meals, and those responsible for organizing activities) did it become obvious that to

reduce this exposure risk, there would need to be a complete restructuring of the way the activities were organized. With all operational groups on board, the work was rescheduled so that the number of required patient transfers occurred over a larger period of the workday rather than in small time frames throughout the workday, allowing for better consistent use of the lifting equipment.

Thus, in order to achieve success when implementing an injury prevention program, there must be buy-in at all levels of the organization. One important consideration then, is the employees. Staff must not only be adequately trained on how to use the new equipment, but must also be involved in any necessary reorganization of work processes and in the determination and selection of which equipment is most suitable for their needs. This is considered as a participatory approach to workplace improvements. Quebec, for example requires that hospitals and healthcare centers have a director of nursing care who is a nurse and that every institution with greater than five nurses have a council of nurses responsible to the board of directors (Baumann; Brien-Pallas; Armstrong-Stassen; Blythe; Bourbonnais; Cameron; Doran; Kerr; Hall; Zina; Butt, and Ryan 2001). Edlich et al (Edlich and others 2004) add that in order to have a successful safe patient handling policy, the organization must engage in activities that demonstrate support for such a policy. In addition to investing in the appropriate assistive equipment and ensuring it is readily available and adequately supplied, policies related to the elimination of manual patient lifting must not be punitive if they are going to instill voluntary change in employees. Rather, staff should be educated about and encouraged to use the new policy without instilling a fear in them for reporting injuries.

(Davis; Badii, and Yassi 2004) reported the results of the PEARS (Prevention and Early Active Return to Work Safely) program implemented at Vancouver General Hospital (VGH) in Vancouver, British Columbia, Canada. This program consists of three components: primary prevention (building on the work of a Musculoskeletal Injury Program team), early intervention (prompt follow-up of injured workers, targeted workplace modifications, and clinical treatment when required), and extensive evaluation (p. 1254). Compared to the time period prior to the implementation of the PEARS program, VGH experienced reduced return-to-work times after the PEARS program was in place. Specifically, the total time loss during the first year of the program was 1,355 days, compared to 2,501 days in the time periods before the implementation. The associated cost savings in compensation payments following the PEARS program was estimated to range from between \$143,796 and \$306,474. There was no difference in the return-to-work times for registered nurses working at the comparison hospital where the PEARS program had not been implemented. This intervention demonstrates the importance of considering management and administrative initiatives when implementing a safe patient handling policy.

Special Considerations

1. Situations where the number of lifts/day is low to moderate in volume, such as medical/surgical units, lifting teams may offer a viable approach (Patient Safety Center of Inquiry 2001).
2. Situations when the patient's weight exceeds the capacity of the lifting device and/or the design of the hospital equipment. For example, beds are often too narrow, and the chairs usually have arms. Standard activities such as repositioning the patient

can become increasingly complex and unsafe (both for patient and caregiver) when the equipment does not meet the patient's needs. Standard lifting devices can accommodate 350-400lbs; more substantial lifts can accommodate 600lbs; and bariatric lifts can accommodate up to 1000lbs (Patient Safety Center of Inquiry 2001). When considering the allocation of resources, some lifts, such as the bariatric ones, may be better to lease rather than purchase. A good rule of thumb is to determine if the costs of periodic leasing of a product over a four-year time period exceed the purchasing price of the product. If the answer to this is yes, then purchasing the equipment will be a better use of resources. These issues, nonetheless, are important to consider when implementing a no-lift or safe patient handling policy, as resources will need to be allocated for the handling of these situations.

3. Consider the patient's medical condition. Sometimes transfer chairs that convert into stretchers may be more suitable than a mechanical lift for patient transfers (Patient Safety Center of Inquiry 2001).
4. Home sector workers are often required to carry out tasks in constricted and cramped quarters, where obstacles and housekeeping in the home may create significant hazards. These workers are left completing their tasks without the benefit of facility design and mechanical equipment to allow them to perform their work in a safe and healthy manner. Given these special circumstances, it is no surprise that the most frequent injuries sustained by home care and hospice workers are WMSDs. Among the barriers described above, there are many other issues that need to be addressed for a "no-lift" policy to be relevant in this context – The issues identified below are a combination of ideas from published literature (Taylor 2001) and our discussions with the WA Healthcare Lifting Task Force:
 - a. Who will own the ceiling track lift system? Portable lift device?
 - b. What does the client do with the system once it is no longer needed?
 - c. How do we overcome a client's outright refusal to have equipment installed in their home?
 - d. What do we do in situations when the equipment will not fit in the home/quarters? (e.g., small stick-built and manufactured homes)
 - e. Where will the funds come from to purchase the equipment? (insurance, foundations)
 - f. What are the liabilities that are involved? Who determines building structural integrity? Who bears this cost?
 - g. Portable vs. fixed units? Who determines the process?
 - h. Prioritizing long-term care vs. palliative care and the resulting impacts? Who decides?
5. EMTs and ambulance workers also face critical risks associated with patient handling. Not only are they responsible for all pre-hospital care, but they also are used as a resource for nursing homes and private homes when caregivers need help with patients. Therefore, the hazards for these workers include general lifting of patients who have fallen in a nursing home where there are insufficient lifting devices, lifting of patients who are in need of medical attention, and the lifting and handling of patients in order to transport them to the hospital (e.g., in and out of the ambulance truck, lateral transfers on the hospital beds). Given the constraints of the work context (e.g., the ambulance), there are limits to the kinds of hazard controls

that can be implemented. One company in Arizona redesigned an ambulance to have air bag suspension so the back of the ambulance could drop 6-8 inches, reducing the distance between the ground and vehicle (Weiss; Perham, and Forrest 2003). Additionally, they store a ramp underneath the sub floor cover and use a winch system that can smoothly move the gurney into and out of the vehicle. Although these solutions were designed with the bariatric patient in mind, they nonetheless demonstrate the special considerations needed for EMTs and ambulance workers.

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back injuries in 2003 was 162.5 claims per 10,000 FTE. For state fund facilities in that same year, the workers compensation cost for compensable back claims was \$7,253,368 for 376 claims. For state fund nursing homes (risk class 6108), the incurred costs of work-related musculoskeletal disorder (WMSD) compensable claims in 2003 was 64% of the incurred costs for all compensable claims. Costs increased 11% between 1997 and 2003. For state fund hospitals (risk class 6105) incurred costs from WMSD compensable claims was 88% of incurred costs for all compensable claims in 2003.

In general, for workers' compensation self-insured nursing homes, the claims rate for all compensable claims increased by 15.4% between 1997 and 2003 but decreased 3.3% for WMSD compensable claims, decreased 13.5% for back WMSD compensable claims and increased 41.6% for WMSDs in the shoulder. Comparatively, in workers' compensation state-funded nursing homes, the claims and severity rates decreased between 1997 and 2003 for all compensable claims (24.3% decrease in claims rate, 43.1% decrease in severity rate), for WMSD compensable claims (28.4% decrease in claims rate, 43.8% decrease in severity rate), and for back WMSD compensable claims (26.7% decrease in claims rate, 37.4% decrease in severity rate). There was a 33.8% decrease in the claims rate and a 43.8% decrease in severity rate for shoulder WMSDs.

In the ten state-fund hospitals, rates appear to be increasing. For all compensable claims, there was a 50.3% increase in the claims rate between 1997 and 2003 and a 26.9% increase in the severity rate. Incurred costs increased 375.4%. There was a dramatic increase in rates for WMSD compensable claims: 2848% increase in incurred costs, 152.6% increase in claims rate and 913.5% increase in severity rate. While an increase in the number and costs of claims could be explained by an increase in the number of state fund hospitals, the incidence and severity rates are per 10,000 FTEs. The increase in rate could only be explained by the addition of more hospitals if these hospitals had a greater number of claims per 10,000 FTEs than the other hospitals in the state fund. The incidence rate for back injuries doubled between 2002 and 2003 for the state fund hospitals. In self-insured hospitals, the incidence rate decreased during the same period; a 15.1% decrease in all compensable claims rate and a 22.5% decrease for compensable WMSD claims rate.

The rates and costs in home health (risk class 6110), home care (risk class 6510) and ambulance (risk class 1405) were more volatile between 1997 and 2003. In state-fund home health agencies, while the compensable claims rate decreased 3% between 1997 and 2003, the claims rate for WMSD compensable claims increased 18.4%. In 2003, WMSD incurred compensable costs was 75.6% of the incurred costs for all compensable claims. In home care, WMSD compensable claims rate decreased 6.3% and the severity rate decreased 34.2%.

SITE VISITS

Methods

For the success of this report, it was important to obtain as representative a sample of health care facilities in Washington State as possible. To achieve this, facilities participating in this project were to be dispersed between eastern and western Washington, between urban and rural communities and between large and small

facilities. Based on these criteria and given the limited time and resources available, the goal was to visit at least 8 hospitals, 8 nursing homes, 4 home health/home care agencies and 4 pre-hospital medical providers. However, it should be noted that although a thorough and detailed examination was completed, the sample size for each sub-sector is very small and may not be sufficient to produce statistically significant results. However, qualitative and anecdotal information is often useful in telling the story of barriers and successes in different sub-sectors. Stakeholders from each sub-sector identified sites they believed to be representative of their sector taking into account geographic location, size, and degree of no-lift implementation.

Site visits and interviews to hospitals, nursing homes, home sector and pre-hospital medical services occurred between August and October 2005. Site visits, surveys and interviews were an essential part to learning about the issues, barriers and successes in addressing patient handling tasks and were completed in nursing homes, hospitals and home sector. However, because of time constraints, data collection for pre-hospital medical services was achieved through telephone interviews. No site visits to facilities or ride-alongs were conducted.

The intent of the site visits was to document patient handling activities first-hand and gain access to management and staff at the facilities. The site visits consisted of three main activities:

- Interviewing administration (i.e. the DNS or administrator) regarding patient/resident handling issues and policies and complete a survey
- Talking with staff, whose duties include patient/resident handling and have several complete a brief survey
- Observing patient handling activities to obtain an understanding of the challenges and concerns

The surveys completed by administration and staff consisted of both closed and open-ended questions (see Appendices 3-6). In hospitals and nursing homes, the administrative survey was sent prior to the visit in order to give respondents time to fill in the survey. Administrative surveys collected data in regards to staffing, facility size/capacity, administrator employment history, policies and procedures for the prevention of musculoskeletal injuries, their beliefs in regards to injuries caused by patient handling and the use of patient handling equipment. Questions related to patient/staff ratios were deleted from the hospital surveys at the request of the Washington State Hospital Association. During the site visit, the administrative survey was reviewed with the respondent by a researcher. In addition to reviewing responses, the interview provided the administration the opportunity to share additional information. Observations of patient handling served two purposes 1) to document the details of the patient handling activity (e.g. type of equipment used, if applicable, the acuity of the patient, the transfer method) , and 2) to verify the information provided by the administrators and staff in their surveys. A survey was also completed by a member of the safety committee. This was to gain information in regards to the involvement of the safety committee in reducing patient handling injuries.

Staff surveys were distributed at the time of the site visit to staff on the units where observations took place. This was a convenience sample of staff present who had the time to complete the short surveys during the site visit. These surveys gathered information regarding employment history, physically demanding tasks, their perceptions on the use of patient handling equipment and their knowledge of policies relating to

preventing patient handling injuries. In addition, the employee survey contained questions similar to those included in the administrative survey. This would allow the comparison between administration and employees and identify disconnects and similarities between the two.

Site Visits: Hospitals and Nursing Homes

a) Employers

Site visits to hospitals and nursing homes in Washington State occurred between July and October 2005. Five Washington hospitals and 8 nursing homes/long term care units were visited. Two long-term care units were part of a hospital. One hospital in British Columbia was also visited.

b) Scope

Site visits took between 2-3 hours. Two to three researchers were present at each site visit. One researcher met with the management and/or administration of the facility to review the administration survey (Appendix 5 and 6) and interviewed a safety committee member. One or two researchers observed the activities in the facilities, documenting patient/resident handling activities, safety issues and completing a department observation form (Appendix 5 and 6). In hospitals, department observations forms were filled out for each unit visited.

Site Visits: Home Care Sector

a) Employers

All of the home sector employers were located in western Washington—two from rural areas and four from urban areas. [Note: although one hospice employer was based in an urban area, two observational visits took place in rural areas.] Other than having fewer agencies to provide home sector services to clients, it is believed that the home “working environment” for the caregiver employees would generally be similar between urban and rural areas as well as between eastern and western Washington.

b) Scope

The task force project plan included administrator and employee surveys/interviews, safety committee surveys, and observations of employee visits at patient/client homes (Appendix 7). Site visits lasted approximately 1-2 hours and involved bathing, dressing, transfers (chair, toilet, tub, and shower), bed mobility, and ambulation activities. Observations primarily involved home health aides who went by various job titles (NAC, home health aide, or health maintenance aide). Two home health visits involved a nurse. All of the observed home care workers were also trained as NACs. Employer policies required them to be NACs but it is not mandated by any other rules. Surveys were distributed to other employees to obtain additional input since the time and number of visits was limited. Employee surveys were given to nurses, a physical therapist, NACs, and home health aides to get perspectives from a range of workers who perform patient/client handling tasks in the home.

As a result of time constraints, site visits to each sub-sector was small. Site visits involving two home health agencies, two home care providers, and two hospices were conducted between October 2005 and November 2005. The services provided by these employers were performed in patient/client homes with the exception of some hospice

visit sites. Hospice worker observations took place in a facility based hospice, an adult family home, and a patient's home.

For each home sector type, the observer went along with an employee for two patient/client visits in order to be able to see a few more interactions. However, for one home care employer, the second visit could not be used for observations because the client was asleep and would not be out of bed again for several hours.

Interviews: Pre-hospital medical services

a) Employer

Pre-hospital medical services include Emergency Medical Technician (EMT) services Paramedic and Ambulance Services. These services are provided by professional EMT/Firefighters in municipalities, but crews may be made up entirely of volunteers in rural areas.

b) Scope

Phone interviews were conducted with ten agencies providing pre-hospital medical services. Those interviewed included 2 paramedics, 2 ambulance directors, a volunteer EMT, an EMT, an Advanced Life Support coordinator, an EMS chief, a fire chief and a Washington State Department of Health employee from the Emergency and Trauma Service division. Interviewees were from both urban and rural, medium and large sized municipalities and after an explanation of the objectives of the study, a phone survey was administered (Appendix 8). Following completion of the survey, participants were asked for any additional input. Each interview took between 15 and 25 minutes.

RESULTS

A. HOSPITALS

1. Facilities and Staffing

Five Washington hospitals were visited between August and October 2005. Two hospitals were characterized as small (10-50 beds), 2 were large hospitals (greater than 150 beds) and one was of medium size (51-150 beds). The hospitals were located across Washington State, three in Western Washington and two in Eastern Washington. Three hospitals were located in rural areas. Of the five hospitals, 2 also provided home health services, 2 provided hospice care, 4 had clinics associated with the hospital and three also had nursing homes. In addition, one hospital had a satellite hospital for pediatrics. In November, a 300-plus bed hospital in British Columbia was visited to learn about how they had implemented a no-lift program as part of their overall musculoskeletal injury prevention program and combined it with their early return-to-work intervention program. Similar mechanisms exist throughout the different health districts of British Columbia. This site visit is described at the end of the Hospital section.

Six units or wards were singled out for observations because of the greater likelihood of patient handling. These units were orthopedics, radiology/imaging, emergency room, intensive care, bariatrics and rehabilitation. Three hospitals had orthopedic units (average number of beds=26), 3 had rehabilitation units (average number of beds=8) and 4 had intensive care units (average number of beds=12). All five hospitals had emergency care units (average number of beds=14) and radiology departments. None of the hospitals visited had a unit specifically for bariatrics. Other units or wards that existed in the hospitals included obstetrics, geropsychology and pediatrics. For the smaller hospitals, there was little or no distinction between these units. Other professions in the hospitals that regularly handled patients included respiratory therapists, physical therapists, occupational therapists, transporters and operating room technicians.

2. Management Survey Results

[Note: Selected side-by-side comparison information between employer and employee surveys can be found in Appendix 12]

Six administrative interviews were completed (one hospital had two administrators complete the surveys). Those participating in the administrative interviews were an experienced group, being in their current position for an average of 7 years (range 0.7-13 years), being at their current hospital for an average of 13 years (range 7-23 years) and working in the industry for an average of 26 years (range 7-32 years).

Obstacles to Reducing Injuries Related to Patient Handling

When asked about the biggest obstacles to reducing injuries related to patient handling, the respondents' concerns fell into common themes. The following list shows the common themes expressed by respondents:

1. Physical Plant
 - Equipment size
 - Facility design
 - Lack of lift equipment
 - Room size
 - Storage space
2. Financial
 - Costly equipment
 - The initial cost of the program
 - The need for reimbursement or grants
 - Updating old equipment
3. Training
 - Competing demands
 - Consistent training
 - New equipment
 - Redefine training program
 - Room size
 - Staff habits
 - Staff numbers
4. Staffing
 - Aging workforce
 - No time for training
 - Perceived increase in time
 - Staff perceptions and habits
5. Equipment
 - Easy access
 - Equipment design
 - More equipment
 - Storage space

[Appendix 9 contains examples of comments for the themes described above]

Successes in Implementing a No-Lift Environment

When asked to name successes in implementing a no-lift environment, administrators described the acquisition of ceiling lifts, the decrease in injuries and workers compensation costs as successful indicators in their programs. In addition, receiving grant money from the previous L&I grant program to purchase equipment was important in implementing a no-lift environment. Below is a list common themes:

1. Physical Plant
 - Ceiling lifts
2. Policy and Regulations
 - No-lift policy
3. Financial
 - Decreased injuries and claims
 - Funds approved for ceiling lifts
 - Received grant/rebate
4. Staff
 - Employee morale improved
 - Using equipment
5. Training
 - One-on-one training
 - Physical Therapy/Rehabilitation trains
 - Lift reviews
 - Team training
6. Equipment
 - Ceiling lifts

[Appendix 10 contains examples of comments for the themes described above]

The hospitals visited have shown innovation and imagination in their problem solving for reducing patient handling injuries. In one hospital, sonographers are saving their arms by using tennis elbow bands with the sonograph cord threaded through to eliminate the torque of the cord.

One innovation seen in only one hospital was the existence of a lift team program. The program consists of two teams of two, who work 8 hours a day (10:30 a.m. – 7:00 p.m.),

seven days a week. Training involved two months of training with physical therapists and rotating through every department in the hospital using every machine. The lift team program was promoted through informational flyers and during in-services. The team will respond within two minutes and now do in-services on the use of the equipment. At the time of the site visit, the team averaged between 15 and 16 lifts per day.

Barriers to Implementing a No-Lift Environment

Administrators were asked to list the barriers to implementing a no-lift program in their facility. Common themes of the comments included availability, size and storage space regarding equipment barriers, staff perceptions in regards to staff barriers, cost of equipment and lack of funds in regards to financial barriers and room size and facility layout for physical plant barriers. The following lists describe the common themes of these barriers:

- | | |
|--|--|
| <p>1. Financial</p> <ul style="list-style-type: none"> Costly equipment Costly program Lack of funds Updating Equipment <p>2. Physical Plant</p> <ul style="list-style-type: none"> • Facility design • Lack of equipment • Equipment size • Room size | <p>3. Training</p> <ul style="list-style-type: none"> Not enough training Competing demands Need designated training staff <p>4. Staff</p> <ul style="list-style-type: none"> Staff perceptions and habits Recruitment Time to do the task |
|--|--|

[Appendix 11 contains examples of comments for the themes described above]

Job Activities

When asked “What are three tasks that are most physically demanding for the direct care staff, or place them in awkward or fixed positions, the answers followed several common themes. The most common theme was repositioning in bed, followed by transfers (Figure 1).

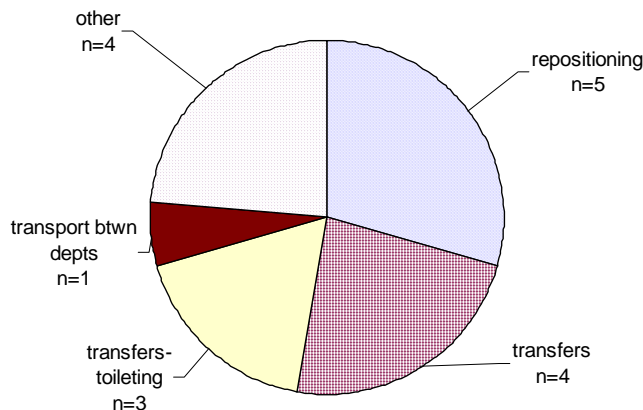


Figure 1. Physically Demanding Tasks Described by Management/Administration

The majority of respondents from the administration survey believed that the most physically demanding tasks were likely to result in long-term illness or serious injury (Figure 2).

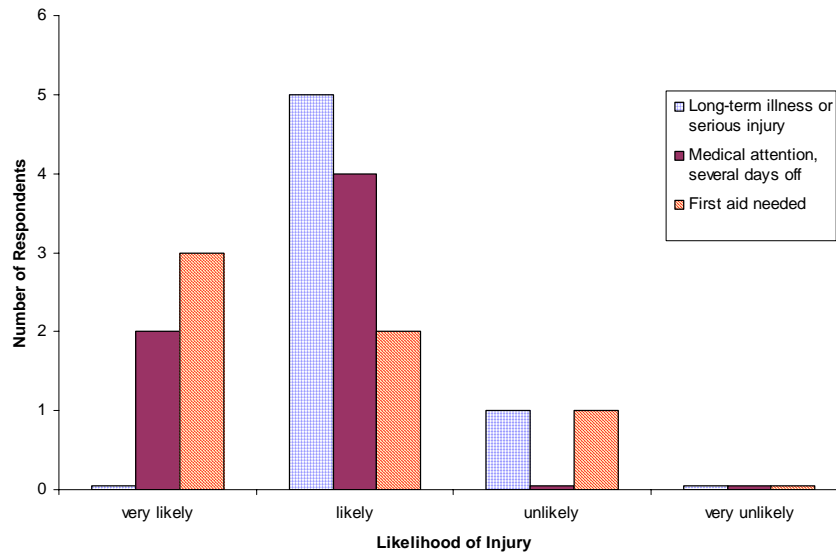


Figure 2. Management Perception of the Likelihood Those Most Physically Demanding Tasks Will Result in Injury, Hospital Survey

Policies and Procedures

While all the administrative respondents indicated that their hospitals have committees to prevent injuries from patient handling, five of six indicated that no-lift programs had been implemented. Respondents were asked to rate themselves on how well they had implemented the components of the no-lift program (Figure 3). All administrative respondents believed that most of the no-lift program components had good implementation or less but at least there was some degree of implementation in all the components. With respect to enforcement, one hospital is not willing to have a disciplinary policy yet until they have enough equipment in place. One hospital has integrated safety and wellness, which has functioned to develop an “employer of choice” model. This model aids in the recruitment and retention of staff. This program has also won a multi-site President’s award.

In one hospital's experience, their first attempt at implementing a no-lift environment was a failure for several reasons. They had hurried to implement the programs and had tried to do it without a serious commitment, which included insufficient designated funds and poor training. For the second attempt, the hospital designed a new program, with more commitment and more money dedicated. There have been no patient-related injuries since the implementation of the no-lift environment.

The majority of the respondents were unaware of the Department of Labor and Industries’ program to provide funds for “job modifications” for workers with open injury claims. Only one respondent had heard of the “job mod program” but their experience has not been positive. They have applied for job modification funds twice. The first

application was denied. It has been almost half a year since the second request and they have yet to be given a decision.

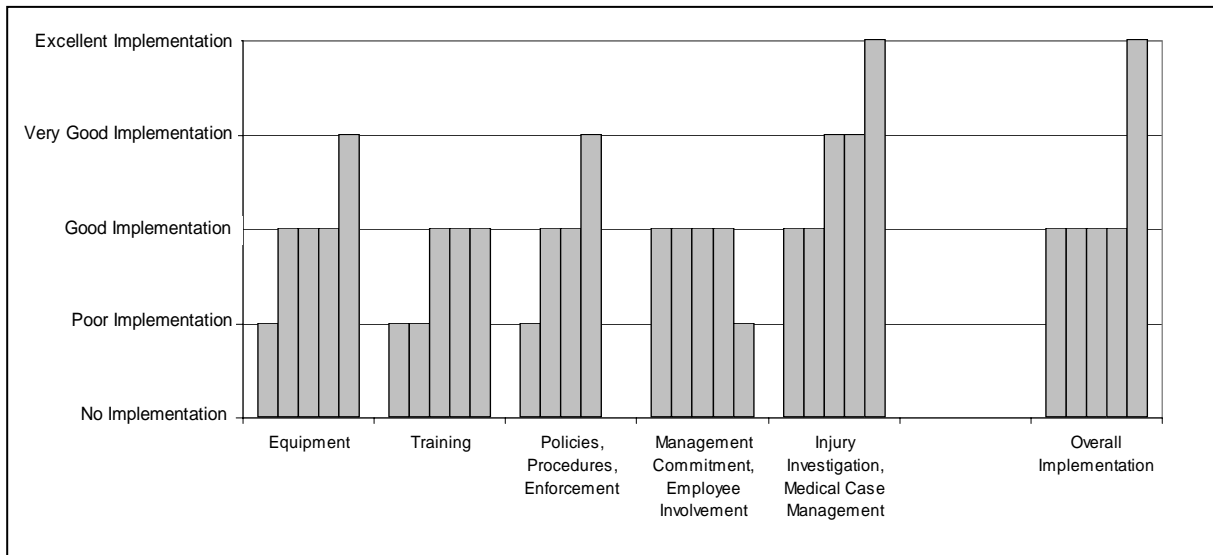


Figure 3. Management Respondents' Assessment of Progress in Implementing Components of a No-Lift Program, Hospital Survey (n=5)

Four respondents indicated that the no-lift policy included a patient assessment plan to determine the appropriate patient handling. Mobility status, physical therapy/occupation therapy assessments, functional ability assessment and fall risk assessments were noted as components of the assessment plan. Most often it was the nurses that were identified as the person who updates or makes changes to the patient assessment plan. Physical therapists and occupational therapists were also identified. However, there is the lack of a formal procedure or a lack of a policy for updating these assessment plans. The frequency of updating the patient assessment plan varied between hospitals.

Descriptions of the frequency included:

- “Whenever necessary”
- “As needed”
- “Irregular”
- “Every week for acute care patients”
- “Daily basis”
- “Staff not great about updating care plans”

Administrative respondents were asked how patient transfer needs were communicated between staff. All reported that scheduled verbal reports were utilized. Respondents also indicated care plans (5 of 6 respondents), something written in the room (half of the respondents) and flow sheets (2 of 6 respondents) as other means of communication. One hospital also communicates transfer needs during the walking rounds at shift change. All of the hospitals used multiple methods of communication. All but one respondent (who didn't know) indicated that nursing assistants participate in shift reports.

Equipment

Administrative respondents were asked how much money has been spent over the past three years to lease, purchase and repair patient handling equipment. Of those hospitals that spent money, substantially more was spent on purchasing equipment (an average of \$210,000, range \$30,000-\$400,000) than leasing equipment (an average of \$1,833, range \$1,500-\$2,000). Little or no money was spent on repair (range 0-\$100) since repairs were more often completed internally. All respondents felt that the patient handling equipment was being used, when appropriate. Four of six did not believe the current number of handling equipment was adequate to meet the demands of patient handling, one felt they had enough equipment and two did not know.

In general, the administration’s impressions of using mechanical transfer equipment were favorable. None found it hard or worthless to use the equipment, and most found it extremely beneficial, valuable and wise to use (Table 3).

Table 3. Management Impressions on Using Mechanical Transfer Equipment

description								description
	extremely	very	somewhat	neither	somewhat	very	extremely	
NUMBER OF RESPONSES								
HARD	0	0	0	3	1	1	1	EASY
WORTHLESS	0	0	0	0	0	1	5	VALUABLE
HARMFUL	0	1	1	0	0	0	4	BENEFICIAL
FOOLISH	0	0	1	0	0	0	5	WISE

In attempting to identify potential barriers to using mechanical transfer equipment, administrators were asked to rate the likely effect of using such equipment on a scale (Table 4). Administrators felt it was likely that using the mechanical transfer equipment would take more time; however, there was no agreement if it would require help from co-workers. None of the administrators felt that use of the mechanical transfer equipment was more harmful for the staff and the patients.

Table 4. Perceived Likely Effect of Using Mechanical Transfer Equipment by Management Respondents

Effect	VERY UNLIKELY	UNLIKELY	SOMEWHAT UNLIKELY	SOMEWHAT LIKELY	LIKELY	VERY LIKELY
	number of responses					
Take more time to do	0	1	0	4	1	0
Decrease the chance the staf will get hurt at work	0	0	0	0	1	6
Require more help from co-workers	0	1	2	2	1	0
Be uncomfortable for the patients	0	3	1	2	0	0
Injure patients	1	4	1	0	0	0
Be refused by patient or family member	0	4	0	1	1	0

Training

All the hospitals visited had a staff training coordinator and these positions were fairly stable. In the past three years, 3 hospitals have had the same coordinator while 1 hospital has had 2 coordinators. The duties of the training coordinators included new employee orientation/training, needs assessment for training, staff education and

equipment training. All the respondents indicated that their hospitals provide training on how to reduce the risk of injuries from patient lifting and, with the exception of one respondent refresher training in patient handling is held annually, which requires demonstrated competencies. The one exception's response was: "Don't think there is a standard time frame".

Hospital staffing needs were not included in this report.

3. Employee Survey Results

[Note: Selected side-by-side comparison information between employer and employee surveys can be found in Appendix 12]

Twelve (12) questionnaires were completed by staff in the five hospitals visited. One respondent was an EMT/NAC, another was an ER Technician and a third was a Radiology Technician. Table 5 describes the work experience of the respondents by job title.

Table 5. Work Experience of Hospital Staff Respondents

Job Title	Number of Respondents	Avg years in position (range)	Avg years at hospital (range)
RN	3	8 (7-10)	6 (3.5-8)
LPN	1	6	6
CNA	5	7 (0.3-16)	3 (0.3-6)
Other	3	5 (1-10)	5 (1-10)

Most of the employees' patients (average 52%, range 2-80%) required >oye8ial assist6

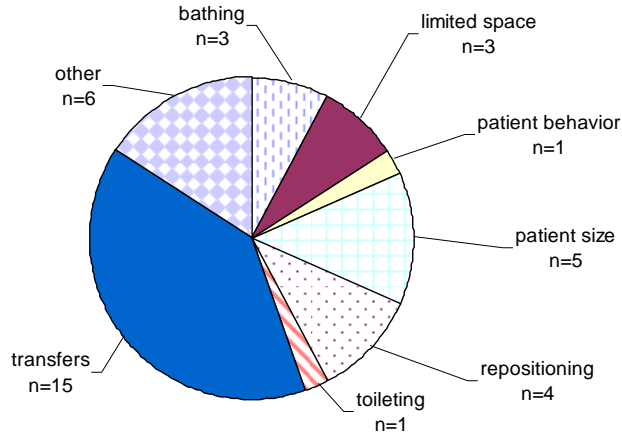


Figure 4. Employees' Physically Demanding Tasks or Activities

Most employee respondents indicated that long-term illness or serious injury (50%) or medical attention and several days off (50%) would likely be a result from the most physically demanding tasks (Figure 5).

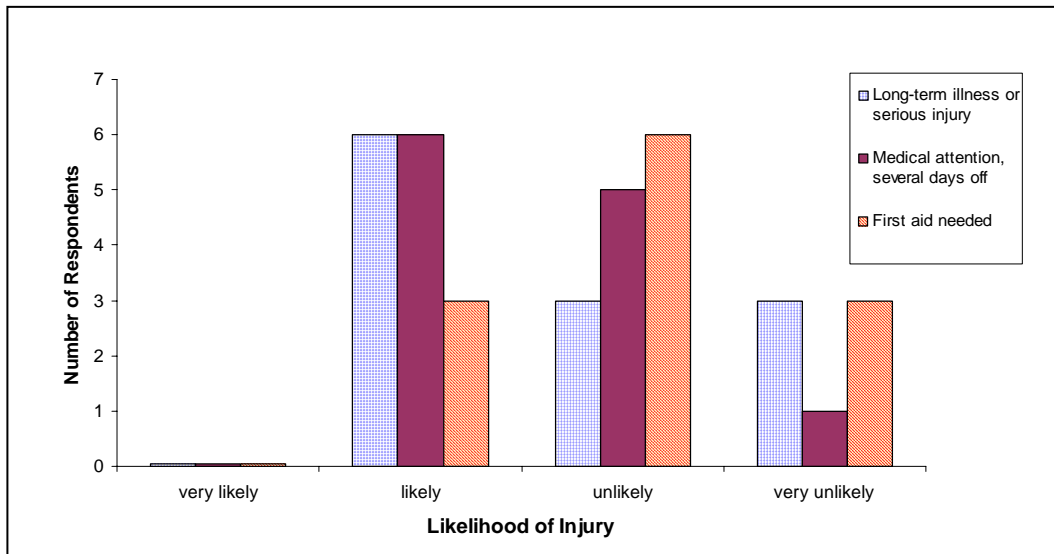


Figure 5. Employees' Perceptions of the Likelihood of Injury as a Result of the Most Physically Demanding Tasks

At the same time, two-thirds of the respondents (67%) acknowledged the presence of a committee working to prevent patient handling injuries. However, the remainder did not know if a committee existed. One-third of the employee respondents believed there was a no-lift program in their hospitals while six (6) indicated an absence of such a program and two (2) did not know. Respondents were asked to rate how well their hospitals had implemented the components of the no-lift program on a scale of no implementation to excellent implementation¹ (Figure 6). All the respondents believe each component of a no-lift program has been implemented to some degree (ranges of responses did not

¹ See Appendix 14 for key elements for each “no-lift+ program component

include zero). Management commitment and employee involvement scored slightly lower than other components.

Most employee respondents (75%) felt there was enough staff available to assist in patient handling and that they (83%) used the patient handling equipment, when needed. The majority (67%) also felt that the current number of patient handling equipment was adequate to meet the demands.

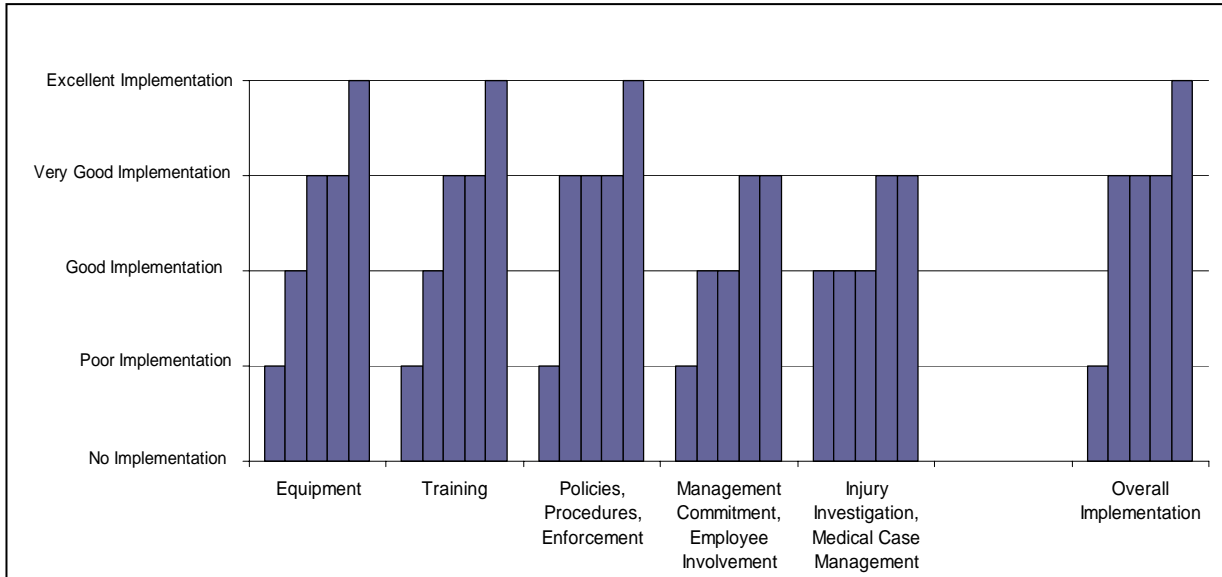


Figure 6. Hospital Employees' Assessment of Progress in Implementing Components of a No-Lift Program (n=5)

One possible barrier to using mechanical transfer equipment is the employees' perceptions of the equipment. The majority of the employee perceptions were positive for using mechanical transfer equipment. No employee respondents found the equipment extremely hard, worthless, harmful or foolish (Table 6).

Table 6. Employee Perceptions on Using Mechanical Transfer Equipment, Hospital Survey (n=12)

	←----- ----- ----- ----- ----- ----- -----→							
	extremely	very	somewhat	neither	somewhat	very	extremely	
description	NUMBER OF RESPONSES							description
HARD	0	0	3	1	4	2	2	EASY
WORTHLESS	0	0	0	1	2	4	5	VALUABLE
HARMFUL	0	0	1	2	2	3	4	BENEFICIAL
FOOLISH	0	0	0	1	2	2	7	WISE

Employee respondents were asked to rate the likely effect of using mechanical transfer equipment to several factors. This would help to identify potential barriers by employees to using such equipment. Most thought it was somewhat likely to very likely that it would take more time to use the equipment (Table 7). All believed that it was very unlikely to somewhat unlikely that using lift equipment would injure patients. Additionally, all

respondents believed that it was somewhat likely to very likely that using the equipment would decrease the chance of getting injured on the job.

Table 7. Perceived Likely Effect of Using Mechanical Transfer Equipment by Employee Respondents (n=12)

Effect	VERY UNLIKELY	UNLIKELY	SOMEWHAT UNLIKELY	SOMEWHAT LIKELY	LIKELY	VERY LIKELY
	number of responses					
Take more time to do	0	3	1	1	4	3
Decrease the chance the staff will get hurt at work	0	0	0	1	4	7
Require more help from co-workers	1	3	2	4	2	0
Be uncomfortable for the patients	1	0	4	5	2	0
Injure patients	4	2	5	0	0	0
Be refused by patient or family member	1	7	4	0	0	0

Figure 7 describes employee respondent the likes and dislikes regarding patient handling equipment. Employees liked the ease of use of the equipment the most (28% of respondents), followed by the availability of the equipment (19%), patient safety and comfort and staff safety and comfort, both 13% of the respondents. Conversely, difficulty in finding the equipment when needed was one the more common dislikes about the handling equipment. Also frequently noted was the insufficient capacity for bariatric patients and lack of equipment maintenance.

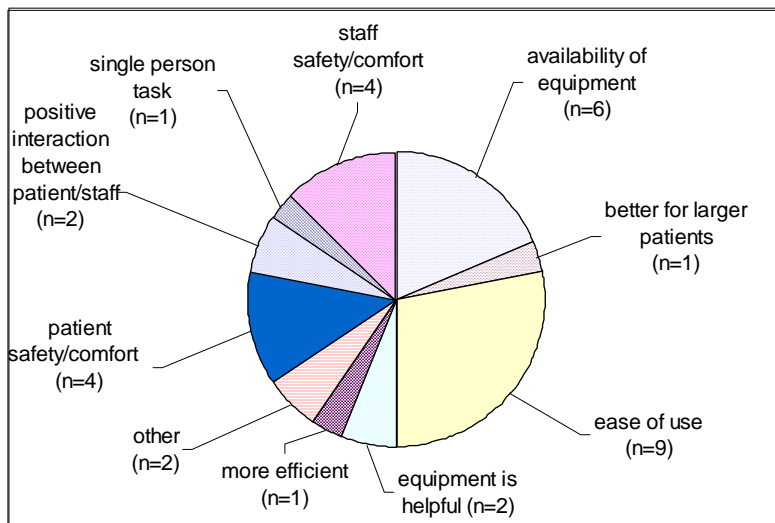


Fig 7a) Likes of the Patient Handling Equipment (n=32)

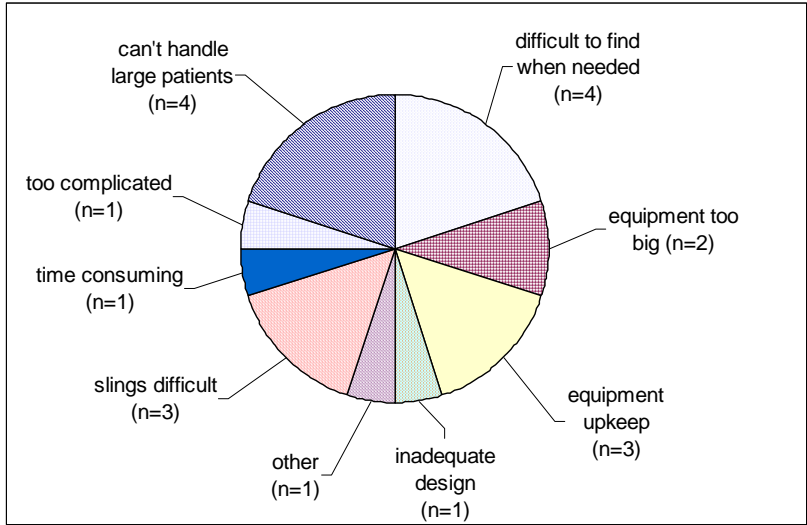


Fig 7b) Dislikes of Patient Handling Equipment (n=20)

Figure 7. Likes and Dislikes about Patient Handling Equipment at the Hospital, Employee Survey

In general, employees were positive about the use of patient handling equipment. They agreed that they received supervisory support for following policies, knew how to use the equipment and explain it to patients, and know the transfer status of each patient with respect to using the equipment. There was uncertainty in regards to being able to find the equipment, when needed. Approximately 17% were unsure if they could find the equipment, when needed (Figure 8).

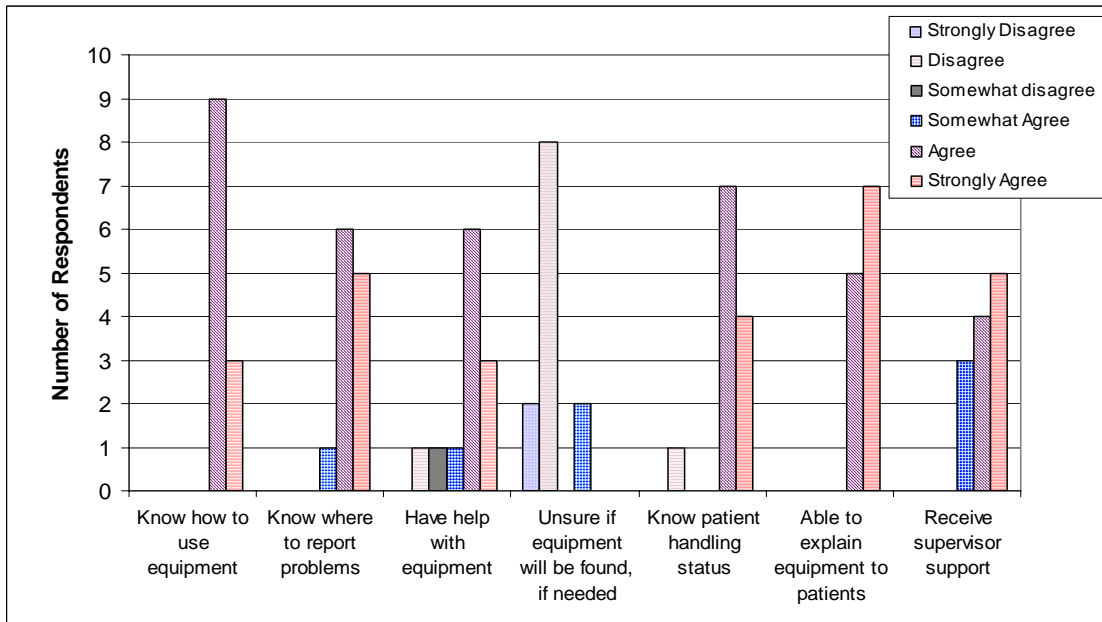


Figure 8. Employees' Beliefs about Patient Handling Equipment Use, Hospital Employee Survey (n=12)

To better understand the communication process, respondents were asked how patient transfer needs were communicated between staff. The most commonly reported methods of communication informal verbal reports (8 of 12 respondents), followed by care plans (7 of 12 respondents), patient charts (6 of 12 respondents) and flow sheets (5 of 12 respondents). One hospital will also ask the patient or family member about transfer needs. All of the employees indicated that multiple methods of communication are used.

In addition to understanding how transfer needs are communicated, it is equally important to understand how frequently employees check for changing patient handling needs. The following is a list of answers to the question of how often a survey respondent checks if patient handling needs have changed:

- Ask nurse
- Ask the patient
- Beginning of shift and nurse will tell you if there are changes
- Before transporting each patient
- Daily
- Every transfer
- Each shift
- Never
- When reported

4. General Facility Observations

Observations were made in a total of 18 hospital units.

General Environment

Most hospital units were clean and free of trip hazards and obstructed doorways (Table 8). Unfortunately, of those units with bathrooms in the rooms, very few were large enough to accommodate lift equipment

Table 8. General Safety Environment of the Observed Hospital Units (n=18)

Safety/Hazard	
Trip Hazard	Present in 6 units
Obstructed Doorways	Clear and free of obstructions in 16 units
Hallway Mirrors at Walkway intersections	Present in 1 unit
Visible spills on floor	Observed in one 1 unit
Floor surface	Tile/linoleum/laminate in 10 units Carpeting/tile/ in 2 units
Door Width	All doors wide enough for equipment 10 units (5 observations missing)
Use of equipment in bathrooms	Equipment used in 1 unit
Enough room in bathrooms for equipment	2 units had large enough bathrooms for equipment

Patient Handling Equipment

Every hospital unit visited had some kind of patient handling equipment. Almost all the units used gait belts, total lifts and slide sheets. Gait belts were not used in the emergency department and radiology. Ceiling lifts were seen in eight units. One hospital obtained a ceiling lift by winning an essay contest conducted by the industry association. One unit had a manual lift device but this was do

5. British Columbia General Hospital Visit, November 2005.

The key informants were the safety advisor for the district health authority and unit managers for the neurological and orthopedic units of the hospital as well as nursing staff on the units.

- Implementation of their no-lift program occurred in conjunction with the provincial regulation on musculoskeletal injury prevention and an early return-to work initiative.
- Rather than being punitive for those not using the ceiling lifts, they used a peer champion approach. The peer champion receives 16 hours of training (program fundamentals, manual handling, demonstration and practice). They have found this approach to be very successful in diminishing resistance to change.
- They did not see huge benefits in the first three years although there were some reductions in sick leave and injury statistics. The key indicators in the first few years were reduced work loads which eventually led to reduced injuries.
- The health authority concentrated on nursing homes first because of the higher injury rate, and is now concentrating on hospitals. In both areas, ceiling lifts have been installed because they solved more problems than they created (no storage issues, easier to handle patients, patients more comfortable).
- Established criteria for when to install ceiling lifts, what kind, what configuration.
- It is critical to work with good vendors who will help identify ways to overcome structural and financial barriers to implementation. Cannot mix ceiling lift manufacturers because equipment is not interchangeable.
- They were able to leverage volume needed by the whole district authority to obtain greatly reduced costs from the vendor.
- Getting more slings per patient was strongly advocated. They started with 3 and went to 5 because of various use problems and the need to reduce the number of times slings were placed on patient because of high demands on the physical load for nurses and discomfort for patients. This also eliminated any infection control problems. (Figure 9)
- There are different types of ceiling lift slings (walking, repositioning, transferring, etc) that come in different sizes. Neurological ward staff suggested that they get patients up more, they have less skin tears and contractures than before the use of ceiling lifts. One floor lift is in backup in case a patient falls out in the hallway. Because they have 5 slings per patient, they have no infection control problems.
- Their strategy was to start with ceiling lifts in highest need areas and then others will demand them.
- One motor can be used with a "spider" ceiling track configuration in a 4 bed room with access to the bathroom



Spider track



Sling storage in room

Figure 9. Patient Handling Equipment in British Columbia Hospital

6. Additional Washington State Hospitals Activities

According to the Washington Hospital Services Workers Compensation Trust Executive Director, a Patient Handling Specialist (PHS) program was implemented in 32 of their hospitals to facilitate implementation of zero-lift programs. The 10 most important roles and responsibilities are:

1. Be an in-house expert on patient transfer
2. Assure that the Zero Lift Program is being implemented and working effectively
3. Assure that manual lifting is replaced by mechanical lifts
4. Be on-call for any department that receives a complex patient or has questions about transfer safety
5. Assure that all mechanical equipment is functioning optimally
6. Assure that all slings are appropriate for style and size
7. Assist the facility in equipment selection
8. Be the principle trainer on all program elements
9. Help facilitate communication between care-givers, patients and family
10. Convene the Zero Lift Committee quarterly to evaluate the program.

Training for approximately 40 PHS for the 32 facilities in this system that have adopted Zero Lift took place in October 2005, which certified them for the first level of training. An advanced course is planned for spring 2006. While it is too early to evaluate the impact of this program, it is similar to that of the BIRN program mentioned in the literature review.

B. NURSING HOMES

1. Facilities and Staffing

Five large urban and three small (two rural) nursing homes were visited to identify successes and barriers in implementing a no-lift environment. They were equally distributed between eastern and western Washington. The site visits included a site walkthrough, interviews with administrators or directors of nursing services and safety committee members, observations of staff, and questionnaires completed by staff.

The trend over the past five years has been to move toward specialized Alzheimer's centers rather than separate units in nursing homes; half of the visited nursing homes had dementia beds. Five were authorized as Medicare beds but most of these were not filled with Medicare patients. A number of these nursing homes have seen an increase in younger residents with multiple sclerosis, cerebral palsy or brain damage resulting from vehicle crashes. Of concern to all nursing homes was the increase demand of bariatric residents, with some nursing homes not having the bed, space or equipment to handle them. For patient care, in addition to nursing staff, five facilities had therapists or contract therapists, and at least one had a part-time psychiatrist. All had close to the number of registered nurses and licensed practitioner nurses they desired, while several were having some difficulty obtaining the number of certified nursing assistants they wanted.

An issue for the nursing homes was the serious decrease in funding reimbursement rates. According to one facility, in 1995 they were paid \$0.93 for every dollar spent and now are paid \$0.82 for every dollar spent.

2. Administrative Survey Results

[Note: Selected side-by-side comparison information between employer and employee surveys can be found in Appendix 15]

Those completing the administrative interview included administrators, Directors of Nursing Service, Director of Quality Management and Resident Care Coordinator. Table 10 describes their experience and a general description of the facilities. All facilities had quite stable management, having the same administrator in the previous three years. Two facilities had changes in directors of nursing services. Six facilities were just about filled to capacity while two had approximately 10 vacancies.

Table 10. Description of Administrative Respondents and their Facilities.

Administrators' average years in the industry	21.9 years (range 12-34 years)
Administrators' average years at current facility	9.3 years (range 0.5-34 years)
Administrators' average years in current position	8.8 years (range 0.3-32 years)
Age of facilities	5-40 years
Average number of beds	80 beds (range 14-139)

Attracting and retaining resident care staff

Respondents were queried about the biggest challenges in attracting and retaining resident care staff. Responses included:

- Wages and benefits.
Every respondent reported low wages and often non-existent benefits to be a major challenge. With low financial re-imbursement from the state and Medicare (some estimated 80 cents for \$1.00 spent), Since most of the nursing homes have their own certification courses, once a nursing assistant receives certification and experience, the certified nursing assistant (NAC) may go to work in a hospital where the pay is better and work is less demanding.
- Competition for Workers Elsewhere.
It is extremely difficult for Nursing Homes to be competitive for low wage workers. Their wages are equivalent to fast food restaurants, Wal-Mart and Home Depot and do not require a nursing certificate, and some nursing homes are unable to pay for any benefits. They view the work of NACs as much harder than in fast food and retail.
- Heavy job demands.
Both physical and emotional demands were identified as challenges. The emotional demands are often difficult for new, young NACs in particular. Some expressed the concern that new workers are not as physically fit as their elders due to changes in the physical education requirements at school, etc. They are concerned that this may make them more vulnerable to injury.
- Rural location.
One of the administrators indicated that many low wage workers go elsewhere.
- Temporary Residents.
Recruitments and military transfers mean the NAC goes with spouse

Improvements to Recruiting and Retaining Staff

Some of the most important improvements identified to recruit and retain qualified staff included:

- Better pay
- The ability to pay benefits, especially health care benefits. More and more NACs are seeking employment with health insurance. The cost of health and dental insurance is becoming increasingly expensive. NACs rarely can afford co-payments and therefore tend not to participate. Several facilities have staff vote on what options they would like to have, given the increasing difficulty in obtaining low cost health care benefits.
- A no-lift program with better designed lifting equipment. Current floor lifts themselves are heavy.
- Better clinical support and oversight
- An employee morale program
- Commitment of managers
- The need for more staff development coordination
- Treating NACs as an important, integral part of resident care
- Accommodating staff schedule
- The need to provide recognition awards, educational opportunities
- The need to minimize hierarchy, improve work environment

Obstacles to Reducing Injuries Related to Resident Handling

When asked about the biggest obstacles to reducing injuries related to resident handling, the respondents had a number of concerns that fell into common themes:

1. Physical plant
 - Room size
 - Storage space
2. Policy
 - Change in use of medications]
 - Policy of the use of side rails
3. Staff
 - Following policy
 - Lack of training
 - Proper use of equipment
 - Staff asking for help
 - Staff turnover
 - Staffing levels
4. Equipment
 - Equipment design
 - Storage space
5. Training
 - Consistent training
 - Too many to train
6. Residents
 - Changing acuity of residents
 - Residents living longer

[Appendix 13 contains explanations and examples of comments for the themes described above]

Despite the obstacles described by administrators, one nursing home indicated that implementing no-lift was not a financial problem because you save money if you get enough of the right equipment and training.

Policies and Procedures

Five facilities had specific written policies for the prevention of musculoskeletal disorders (4 of the large and 1 of the small facilities). Three large and one small facility reported having a “no-lift” policy. All large facilities reported having policies on total lift and sit-to-stand lifting equipment, whereas only two of the small facilities had policies. None of the facilities had ceiling lifts or lift teams. All had resident handling requirements in the care plan, 75% used the care sheet, 50% had something in the room and 63% used a verbal report, 75% included NACs in shift report.

Resources

Although four of the eight homes indicated they knew about L&I’s job modification funds, none had utilized them. They seemed to be unfamiliar with utilizing these funds to obtain equipment such as lifting devices to return injured workers or keep them at work.

Difficult tasks

When asked “ What are three tasks that are most physically demanding for the resident care staff, or place them in awkward or fixed positions?”

- 100% indicated transferring residents from the bed (particularly low beds required by DSHS for residents who are at risk for falls from bed)
- 4 indicated repositioning in bed
- 3 indicated bathing the resident
- 3 indicated preventing a fall
- 2 indicated constant bending and stooping, particularly when cleaning the resident in the bathroom

- 2 indicated transferring combative residents
- 1 each indicated transferring obese residents, gait training, transfers from chair to car

Respondents were asked how likely they thought these tasks would result in injury (Figure 10).

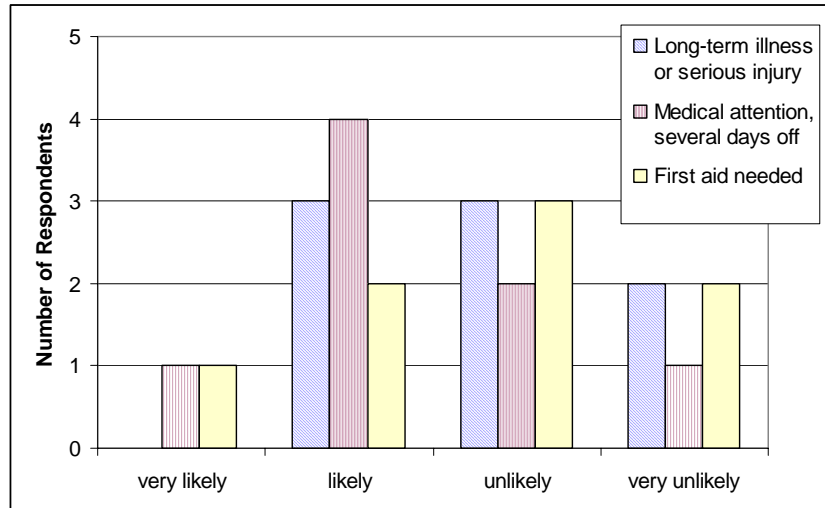


Figure 10. Administrators' Perceptions of the Likelihood of Injury as a Result of the Most Physically Demanding Tasks, Nursing Homes (n=8)

Equipment

All nursing homes had taken advantage of Washington Health Care Association's (WHCA) \$1,000 rebate to secure lifting equipment. All had at least one total lift and one sit-to-stand device, most had at least one of each for each unit. The use of sit-stand devices has increased enormously throughout the industry since the Washington State Labor and Industries/Washington Health Care Association "ZeroLift" initiative in 1998-2002 (Silverstein et al, 2003). None of the nursing homes had ceiling lifts although all knew about them. Most knew about their use in British Columbia where they have been supported by the provincial government and demonstrated to reduce injuries (Engst, 2005) and costs.

None of the nursing homes leased resident handling equipment in the past three years. However, on average, they spent \$2,728 on purchasing equipment in 2004 (range \$0-7,000) and \$346 on maintenance of resident handling equipment (\$0-\$800). In all cases, either the administrator or director of nursing services was involved in choosing what kinds and how many resident handling devices were purchased. Safety committees were involved in three facilities. All respondents believed the equipment was being used when appropriate and seven of the eight felt that they had enough equipment.

In general, management staff believed that using the mechanical transfer equipment was very easy to extremely easy to use, with one respondent believing it was somewhat easy to use (Table 11). They felt it was somewhat valuable and a wise investment.

Table 11. Administrators' Perceptions on Using Mechanical Transfer Equipment, Nursing Homes (n=8)

description								description
	extremely	very	somewhat	neither	somewhat	very	extremely	
NUMBER OF RESPONSES								
HARD	0	0	1	0	1	5	1	EASY
WORTHLESS	0	0	0	0	0	3	5	VALUABLE
HARMFUL	0	0	0	1	0	0	7	BENEFICIAL
FOOLISH	0	0	0	0	0	2	6	WISE

In attempting to identify potential barriers and benefits to using the equipment, we asked administrative respondents to rate the likely effect of using the equipment (Table 12). The most frequently perceived barrier was taking more time followed by requiring more coworker help. All believed use of the equipment would reduce likelihood of staff injury. Other barriers included room size and lack of storage space

Table 12. Perceived Likely Effect of Using Mechanical Transfer Equipment by Administrative Respondents (n=8)

Effect	VERY UNLIKELY	UNLIKELY	SOMEWHAT UNLIKELY	SOMEWHAT LIKELY	LIKELY	VERY LIKELY
	number of responses					
Take more time to do	0	2	2	4	0	0
Decrease the chance the staff will get hurt at work	0	0	0	0	3	6
Require more help from co-workers	0	3	1	1	2	1
Be uncomfortable for the residents	2	1	2	3	0	0
Injure residents	5	0	0	2	0	0
Be refused by resident or family member	4	1	0	2	0	0

Training

All eight facilities had staff development or training coordinators with only two of them having any turnover in the previous three years. All of the coordinators have multiple human resources responsibilities including training. Most provide in-service training on resident handling at least yearly and as needed based on incidents, or new equipment. Two facilities provide training twice per year and as needed. Most training is hands-on practice; videos may be used in addition. While previous training in resident handling is desirable it is not an important aspect in hiring decisions.

Of the eight nursing homes, six indicated that they had some components of a no-lift program.² Administration respondents were asked to rate themselves on the how well they had implemented the components of no-lift program, from no implementation to excellent implementation. As can be seen from Figure 11, implementation of policies, procedures and enforcement appears to be the most difficult. One respondent indicated that she needed a good model to follow.

² See Appendix 14 for key elements for each “no-lift+ program component

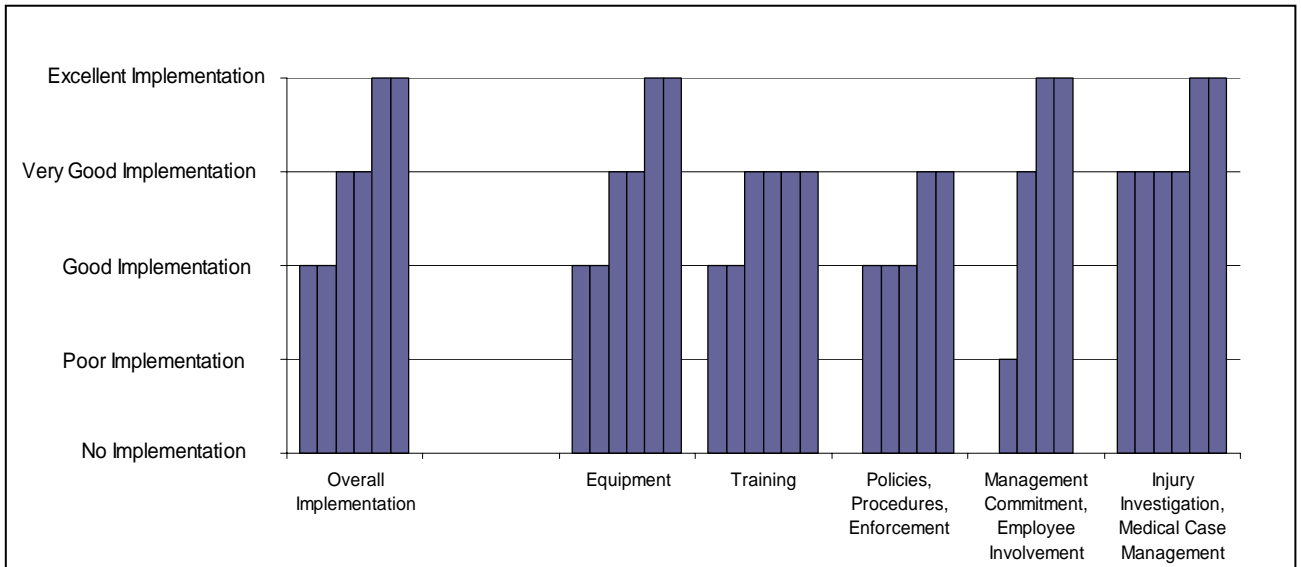


Figure 11. Administrators' Assessment of the Implementation of the Components of a No-Lift Program, Nursing Homes (n=8)

3. Employee Survey Results

[Note: Selected side-by-side comparison information between employer and employee surveys can be found in Appendix 15]

Twenty-two respondents (18 NACs) from the 8 facilities (average of 3 per facility, range 1-4) completed the employee survey. On average, they had been working in their positions for 9 years (range 0.1-22 years) and had been working at the current facilities for 5 years (range 0.1-18 years). The average reported portion of residents that required partial assistance was 54% (n=22, range 9%-100%), residents requiring total assistance during transferring was 54% (n=22, range 10%-100%) and residents requiring repositioning in bed was 41% (n=21, range 1%-100%).

Difficult Tasks

The most difficult tasks identified by staff included:

- Transferring residents from low beds
- Repositioning in bed
- Transferring combative residents
- Handling obese residents
- Awkward postures while transferring, dressing, repositioning
- Toileting
- Working short staffed
- Limited space to maneuver wheelchairs
- Equipment failure
- Lack of team work
- Being a man working with female NACs who ask for assistance lifting the heavy residents
- Dressing residents
- Transferring when a resident faints or loses his/her balance
- Lifting objects

Half of the respondents believed these difficult tasks would result in injury resulting in medical care or some lost time. And 32% (n=22) believed performing these tasks would very likely or likely result in the NAC having a serious injury resulting in long term lost time (Figure 12)

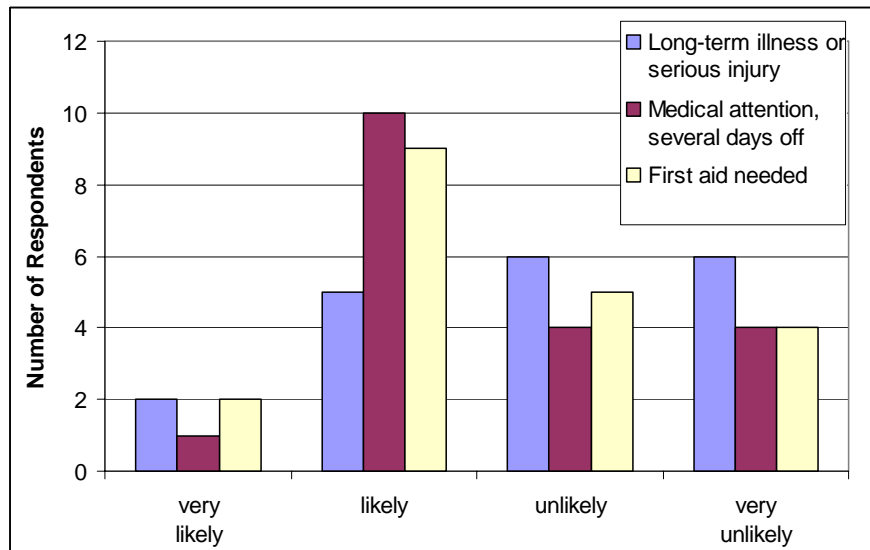


Figure 12. Employees' Perceptions of the Likelihood of Injury as a Result of the Most Physically Demanding Tasks, Nursing Homes (n=22)

Employee respondents indicated most frequently that having more staff and more equipment would make the job easier (mentioned by every respondent). Other things that would make the job easier included:

- "Having enough equipment available"
- "Better communication"
- "More people willing to help"
- "More time to be with residents"
- "Bigger rooms for using lifts"
- "More room for storing lifts"
- "Changing access to resident bathroom"
- "Adjustable height shower chair"
- "Slippery Slide"
- "More continuing education"
- "Bigger bathrooms"
- "Reduce clutter in the rooms"

Equipment

When queried about the use of mechanical lifting devices, all but one respondent indicated liking the lifts. Most had positive impressions of using the equipment including it being easy, valuable, beneficial, and wise (Table 13). The primary reason for liking the equipment was that it was both safe for the residents and for the staff. Additionally, some indicated they were more likely to get residents up if equipment was readily available;

that residents felt more secure, and they were essential for large residents. Mention was made of the use of sit-stand devices in helping with toileting and getting residents up. Note that the equipment has become better over time; the use is more efficient and easier as well.

More than half reported that the current number of handling equipment was adequate to meet the demands, and 86% felt that there was enough staff available to assist in resident handling (Figure 13). Equipment needs included more sit-stand devices, more total lifts with scales, and more gait belts.

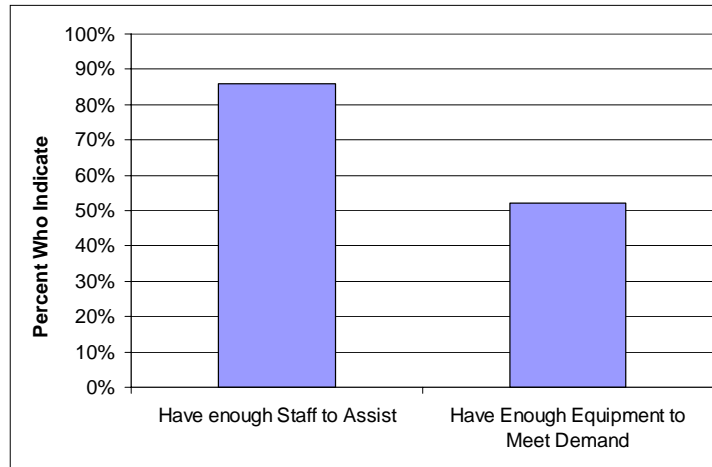


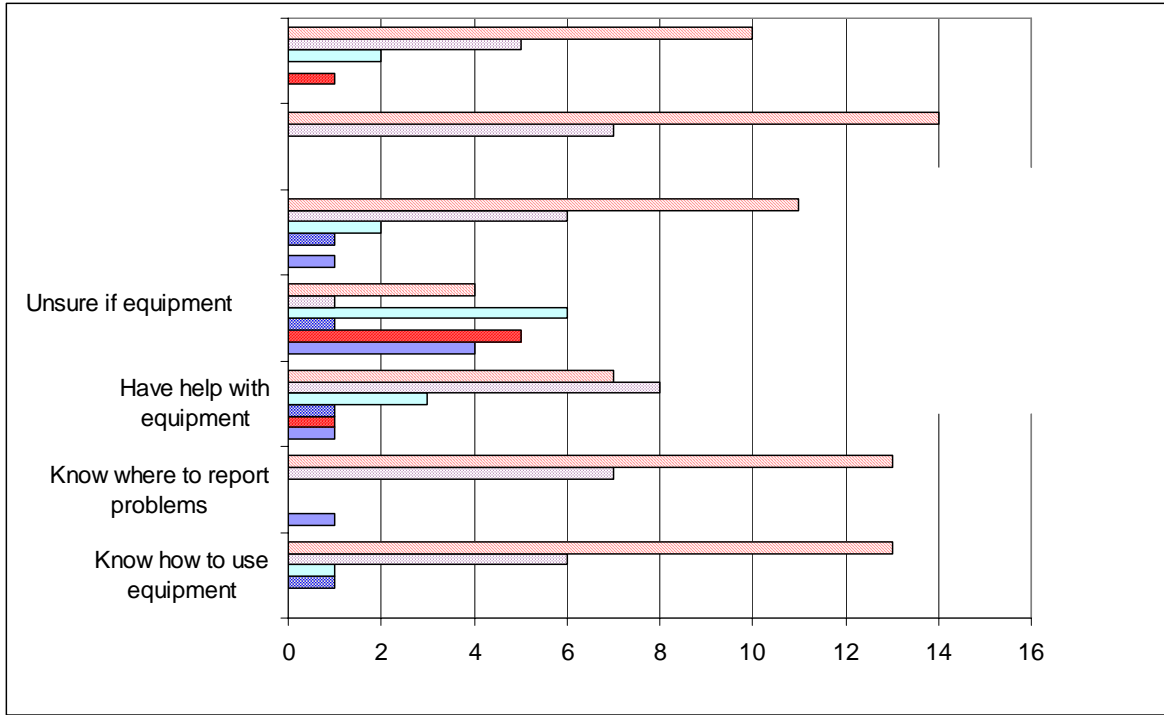
Table 14. Perceived Likely Effect of Using Mechanical Transfer Equipment by Employee Respondents (n=22)

Effect	VERY UNLIKELY	UNLIKELY	SOMEWHAT UNLIKELY	SOMEWHAT LIKELY	LIKELY	VERY LIKELY
	number of responses					
Take more time to do	2	4	2	1	5	7
Decrease the chance the staff will get hurt at work	1	1	1	1	6	11
Require more help from co-workers	2	1	3	4	5	6
Be uncomfortable for the residents	2	4	6	5	3	1
Injure residents	7	5	1	2	2	1
Be refused by resident or family member	0	2	9	5	1	1

In addition, the other problems identified with the mechanical handling equipment were:

- Finding it
- It takes longer
- Staff not recharging batteries
- Don't have big enough slings
- Need for more padding on sit-stand devices
- Preventive maintenance not routinely done
- Don't have enough equipment
- Need more slings (for each resident)
- If resident grabs hook, can get a skin tear

For the most part, employees felt they knew how to use the equipment, explain what they were doing to the resident, and to whom to report equipment problems. They were somewhat less sure about knowing current resident handling status, having help available when needed and supervisor support. Only about 40% felt they could find the equipment when they needed it (Figure 14).



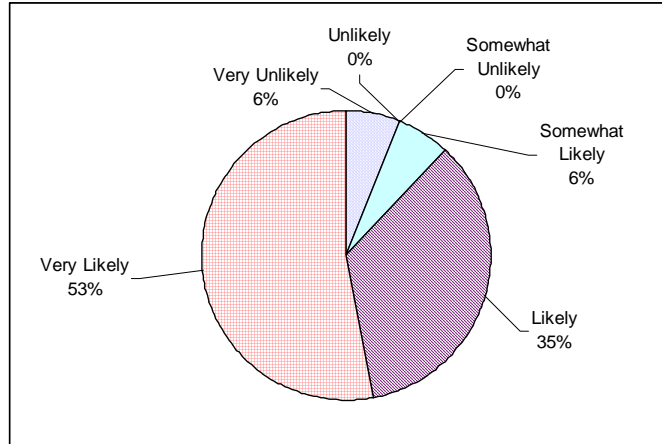


Figure 15. Likelihood of Working at the Same Facility Next Year, Nursing Home Employee Survey (n=22)

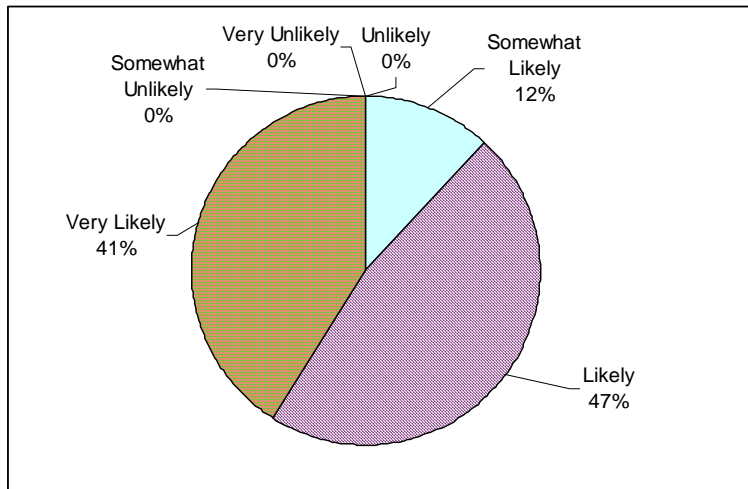


Figure 16. Likelihood of Taking The Same Job Again, Nursing Home Employee Survey (n=22)

Policies and Programs

Sixteen respondents indicated that there was a health and safety committee at the facility and 13 of those reported that the committee was working to prevent resident handling injuries. Sixteen also indicated that there were resident handling policies. Thirteen indicated specific consequences for not following the policy, ranging from counseling and warnings to firing for repeat violations of the policy. Resident handling requirements are communicated via care plans in all facilities. Additional means are via scheduled or unscheduled verbal reports or resident charts (reported by 10 of 22 respondents), care sheets (14 of 22 respondents), and some sort of notice in the resident room (11 of 22 respondents). Primarily, this information is checked every shift. Seven respondents indicated that there has been a no-lift policy implemented in their facility.

Overall No-lift program elements assessment

Eight respondents provided assessments of the degree to which they work in a no-lift facility, ranging from no implementation to excellent Implementation (Figure 17). Overall assessment is quite comparable between employees and the employer respondents. However, the employer thought there was a much lower level of management commitment/employee involvement than the employee respondents. Employees also tended to rate equipment and injury investigation lower than the employer.



Figure 17. Employees' Assessment of the Implementation of the Components of a No-Lift Program, Nursing Homes (n=8)

4. GENERAL DEPARTMENT OSERVATIONS

Research staff conducted observations of at least one unit at each of 8 facilities.

General Environment

In general, all the nursing homes were clean and free of trip hazards and spills on the floor (Table 15). All the facilities had doors that were clear and wide enough to accommodate lift equipment.

Table 15. General Safety Environment of the Nursing Homes

Safety/Hazard	
Trip Hazard	None observed
Obstructed Doorways	All clear and free of obstructions
Hallway Mirrors at Walkway intersections	Present in one facility
Visible spills on floor	Observed in one facility
Floor surface	Carpeting in hallways of 3 facilities, tile/linoleum in 7 facilities
Door Width	All doors wide enough for equipment in all facilities
Use of equipment in bathrooms	Equipment used in four facilities
Enough room in bathrooms for equipment	Six facilities had large enough bathrooms for equipment (Figure 18)



Figure 18. Handling Equipment in Nursing Home Bathroom

Transferring Residents

- No ceiling lifts were present in any of the visited facilities
- Every unit had at least one total lift, several had three total lifts, several had scales incorporated in the lifts
- Problems with the lifts were primarily related to the batteries in two units.
- All units but one had at least one sit-stand device. No difficulties were identified with these devices
- Hand crank lifting devices were observed on two units. In general, these appear to be phasing out of most nursing homes.
- In one facility, pump beds were observed that allow the bed to go from a low to high position. This is still rare in most nursing homes due to financial constraints
- Gait belts were observed being used by NACs in all facilities. Every facility had a mandatory gait belt policy. These were observed in use in almost every transfer.
- Use of walking belts with handles was rarely observed
- Slipsheets for repositioning or transferring from bed to stretcher were available in two facilities. In one facility, staff didn't like the handles.
- All but one unit had low beds for residents at risk of falling. In five units, these were somewhat height adjustable.
- Staff indicated having refresher training in lifting at least yearly
- In one facility, the type of lift to be used was marked on the door
- One facility was concerned about lifting hazards for non-nursing staff as well. This facility obtained small, light containers on wheels for trash and dirty laundry. PVC carts with big wheels were also obtained to facilitate rolling clean laundry. In the kitchen, large cooking pots had dump handles to reduce manual lifting of pots (see Figure 19). This relatively new facility also had five fully electric beds that go from the floor to bed height.



Figure 19. Equipment for handling lift hazards of non-nursing staff in nursing homes.

A number of different transfers were observed in the eight facilities, 13 were bed-chair transfers, 2 were low bed to chair, 5 were toilet/commode transfers, 1 was bed-bed, and 1 was sit-stand.,3 were chair-chair. Electric lifts were used in 16 instances, sit-stands and total lifts were almost equally used. In general, these transfers appeared relatively smooth. Additional assistive devices included gait belts (8) and turn discs (1). The manual transfers primarily involved under arm hook or bucket lift transfers. The majority of transfers were one- or two-person, manual assist with “hugging” the caregiver was observed on several occasions during manual transfers. In three instances of manual transfers, the resident was not completely cooperative. Bariatric residents were observed being transferred on two occasions, 1 manually from a low bed and 1 with a total lift. On four occasions, the observer estimated maximum exertion was used by caregivers during manual transfers and in two of the total lift transfers. One of those transfers was moving from bed to bed by having four caregivers lift the mattress from one bed to the other.

Eighteen assisted ambulations were observed, occasionally by PTAs and therapists.. Gait belts were used in most instances, but also sit-stands or walking holding on to wheelchairs were used. Residents were alert and cooperative.

Role of Safety Committee

At least one member of the safety committee was interviewed in six facilities, including resident care manager, staff coordinator, laundry manager, physical therapy assistant, and housekeeping manager. Time on the committee ranged between 2-7 years. Four indicated that discussion of staff injuries take place and all indicated resident handling issues were topics in the safety committee. Five indicated involvement with obtaining equipment and resident handling training activities.

C. HOME CARE, HOME HEALTH CARE, HOSPICE CARE

1. Facilities and Staffing

[Note: Selected side-by-side comparison information between employer and employee surveys can be found in Appendix 16]

Six home sector agencies were visited, ranging in size from 60 to 210 employees (Table 16).

Table 16. Description of Home Sector Agencies Visited

Home sector type	Number of surveys	Number of employees
Home Health/Hospice	3	130, 180, 210
Home Care	2	130, 210
Hospice (facility)	1	60

2. Administrative Survey Results

Six administrator surveys were completed and incorporated in the data presented in this report. Two administrators served as administrators for home health and home care services in their agencies. Four different administrators completed the surveys.

One hospice administrator survey was not returned before the writing of this report. However, an administrator survey and some employee surveys from an additional home health agency are included, even though home visits from that agency were not done. All the administrators interviewed were experienced, with an average of 11 years in their current position, 17 years at their current agency and 21 years experience in the industry (Table 17)

Table 17. Work Experience of Home Sector Administrators

Sector type	Title	Years of experience		
		Years in Current Position	Years at Current Agency	Years in Industry
home health/ home care	Director Supportive Services	8	21	21
home health/ home care	Home Health Director	5	5	11
home health/home care	Director of Clinical Operations and Services	19	25	25
hospice	Hospice Director	13	15	25

All agencies have had the same administrators or directors for the last three years except for the hospice, which has had 3 in the last three years.

Job Activities

Administrators were asked to list the most physically demanding tasks for the direct care staff. The tasks described were:

- Toilet transfers (includes commode)
- Transfers in/out of bed
- Moving (relatively) immobile patients such as those with MS, ALS, cord compression
- Bathing patient/client in tub or with bed baths and the associated awkward postures
- Lifting patients/clients
- Coping with environmental limitations
- Lifting patients/clients from floor after a fall
- Dressing patients/clients
- Working with patients/clients on low beds (includes catheter placement)
- Dressing patients/clients

Overall, administrators believed that caregivers were likely or very likely to incur long-term illness or serious injuries as a result of performing their work (Figure 20). All of the administrators believed it was very likely that caregivers would need to see a doctor or be off from work for a few days as a result of injuries occurring on the job (Figure 20).

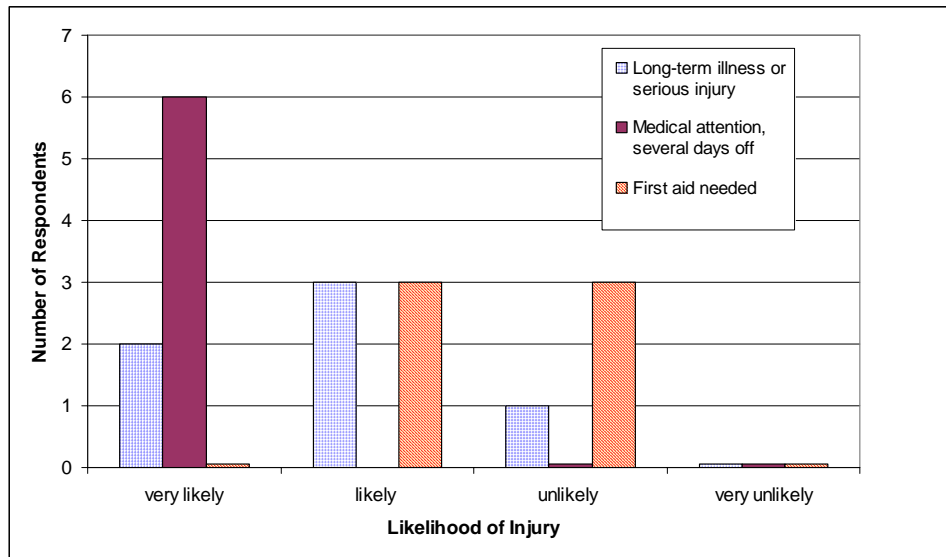


Figure 20. Administrators' Perceptions of the Likelihood of Injury as a Result of the Most Physically Demanding Tasks, Home Sector (n=6)

Equipment

In the home sector, patient/client handling equipment presents a unique issue. Administrators were asked to describe the equipment they provide to caregivers to take

to patient/client homes to assist with patient/client handling. In all agencies, gait belts and/or transfer belts were made available. In one agency, back belts were also provided. Only in the hospice facility were powered total lifts and transfer boards available.

The acquisition of needed transfer equipment is difficult. Transfer equipment is not covered by insurance in the home care sector and insurance will only provide limited types of equipment in the home health/hospice sector. However, more administrators believed it was somewhat to very likely that the patient/client already had their own equipment in the home to assist with transfers (Figure 21). Administrators were also asked what actions can be taken if recommended equipment is not affordable to the patient/client, not covered by insurance or not wanted in the home. Most depend on community services to find the means for acquiring the equipment (Table 18).

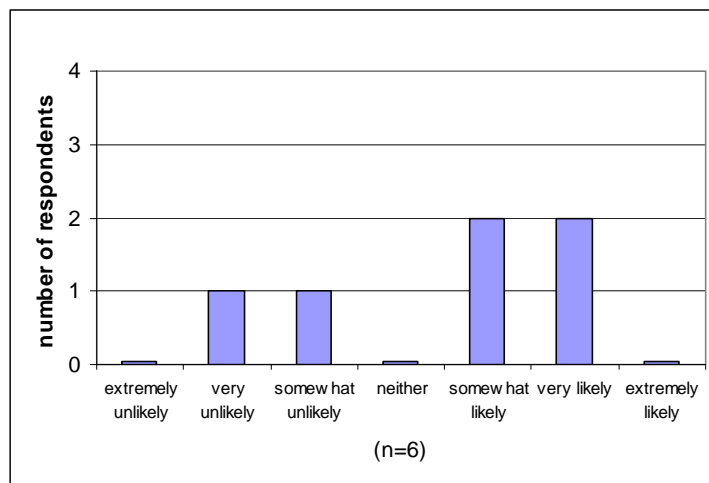


Figure 21. Likelihood That Patient/Clients Already Has Transfer Equipment at Home, Administrator Home Sector Survey (n=6)

Table 18. Actions Taken to Obtain Recommended Equipment, Not Covered by Insurance, Administrator Home Sector Survey

What is done when recommended equipment is not affordable to patient/client, not covered by insurance, or not wanted in the home:
<ul style="list-style-type: none"> • Strongly suggest (to patient/client/and family), otherwise we are unable to do anything • Look for any alternatives that are safe. Other than that, nothing...we are not a DME • Limit service - meaning we may still provide bathing/personal care but not move or transfer the patient • Discuss necessity with family, explain (caregiver's) refusal to lift • Report needs to social worker or case manager

Table 20. Perceived Likely Effect of Using Mechanical Transfer Equipment by Employee Respondents (n=6)

USING MECHANICAL TRANSFER EQUIPMENT WILL...	very		somewhat	somewhat		very
	unlikely	unlikely	unlikely	likely	likely	likely
	NUMBER OF RESPONSES					
Take more time	0	0	0	3	0	3
Be uncomfortable for patients/clients	0	1	3	2	0	0
Decrease the chance of employee injury	0	0	1	2	0	3
Require help from others	0	0	0	5	0	1

Training

Only one combined home health/home care agency indicated it has a staff development coordinator. However, all six agencies indicate that they provide training to direct care staff on how to reduce the risk of musculoskeletal injuries due to patient/client handling activities. Additionally, all the agencies provide patient handling training once per year. Four of six respondents reported that the training requires demonstrated competencies. One home care agency also does training within 120 days of hire. Another home health/home care agency's policy is that home health aides complete a skills demonstration as part of the hiring process.

Policies and Procedures

Only one of the six administrators stated that they had a written safety and health policy for the prevention of musculoskeletal injuries although one home health/home care agency has a policy that the "location" manager is responsible for implementing ongoing in-services of back safety training program. None of the agencies had a no-lift policy. Most administrators believe it would not be reasonable or would be difficult to institute a "no-lift" policy in home sector services. It would need to address the uniqueness of home environments and the quandary regarding patients/clients not able to be independent without transfer equipment yet not qualifying for getting mechanical lifts (insurance issue). Also, the patients/clients whom they serve are not all independent in transfers/mobility. One home health/home care administrator indicated that they are expected to provide assistance by their contracts and referral sources.

For the most part, skilled staff (nurses or therapists) determine the transfer or mobility status of the patients/clients. In the case of one home care service provider, this information is provided to staff by a DSHS Home & Community Services social worker or a county case manager.

Successes in Implementing a No-Lift Environment

- not providing tub baths without tub benches
- first home health aide visit must be made in conjunction with a nurse or therapist
- home health aides attend weekly team conferences regarding patients and are encouraged to bring up risk issues
- when appropriate equipment and/or conditions are not met, supervisors are empowered to place limitations on care provision

Obstacles and Challenges to Reducing Patient/Client-Handling Related Injuries

The biggest perceived obstacles/challenges to reducing injuries related to patient/client handling included:

- “Unique physical environment in homes”
- “Lack of patient/family compliance with recommendations”
- “Requirements for reimbursement of durable medical equipment (DME)”
- “Declining strength and ability of patients/clients due to aging, MS [multiple sclerosis], ALS [amyotrophic lateral sclerosis], etc.
- “Staff not always taking ownership for assessing and predicting risk”
- “Staff not always taking the time to use proper body mechanics”
- “Staff not always assessing the patient’s/client’s status before each transfer or lift”
- “Staff not always asserting themselves by refusing to perform unsafe lifts”

Barriers to Using Equipment in a No-Lift Environment

Perceived roadblocks for patients/clients getting needed equipment:

1. Financial
 - “Not affordable for patient/client to purchase”
 - “Not covered by insurance”
2. Physical Plant
 - “Home not set up for using equipment”
3. Equipment
 - “Delivery time of equipment not workable”
4. Staff
 - “Responsible person not able to get equipment if equipment is not delivered”
5. Policies
 - “Not feasible due to current regulations and insurance reimbursement”

The person responsible for purchasing or leasing equipment for employees is generally a manager or supervisor, sometimes consulting with physical therapists. None of the administrators were aware of any portable lift devices that employees could take from house to house. It would also be problematic as an infection control issue.

3. Employee Survey Results

Twelve home-visiting employees completed surveys. Hospice care and adult home care employees were considered facility based for this project, although most hospice care delivered in this state is home-based. Facility based employees at home health and home care agencies were not included in responses regarding home visits. Table 21 describes the work experience of the employees surveyed.

Table 21. Work Experience of Employee Respondents, Home Sector Survey

Job Title	Number Surveyed	Years of Experience
Home health aide/ NAC/ home maintenance aide	7	(5) had 10-15 yrs (2) had 2 or less yrs
Registered nurse	1	4.5 yrs
Licensed practical nurse	2	10 yrs and 2 yrs
Physical therapist	1	5 yrs

Typical caseloads

The majority of patients/clients were non-weight bearing (requiring total assistance and bed repositioning), Figure 23.

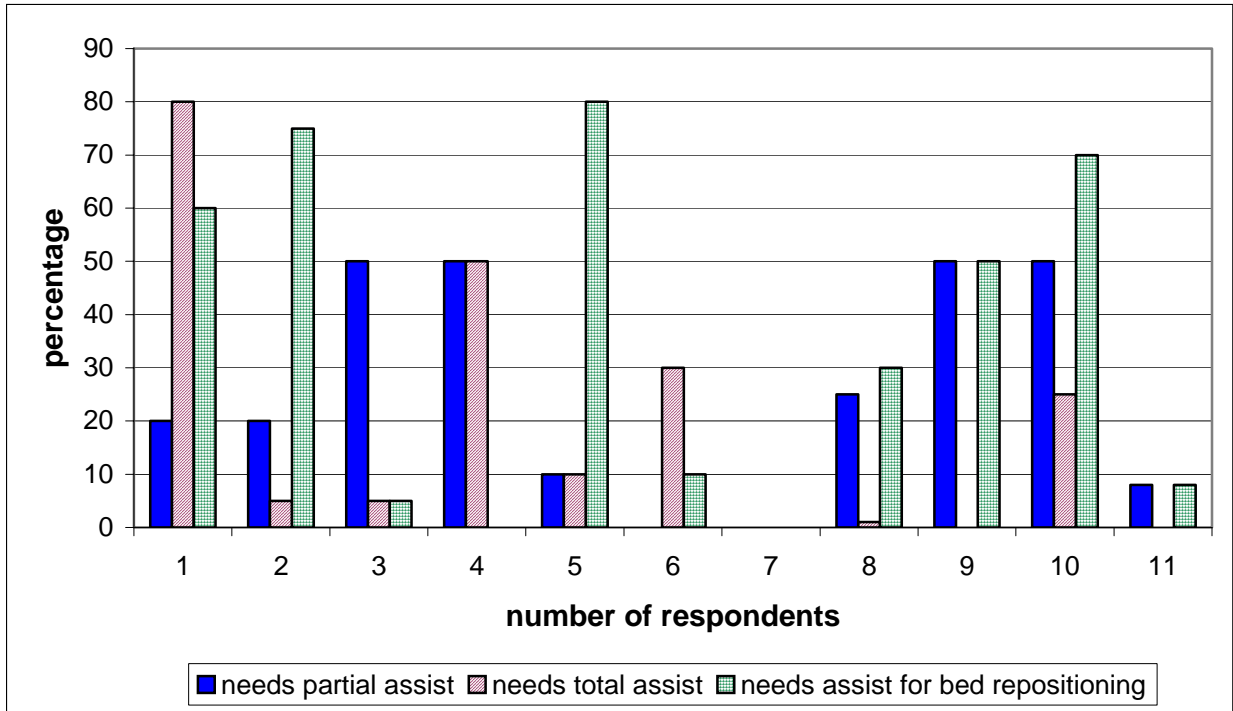


Figure 23. Types and Percentage of Caseload Requiring Physical Assistance (n=11)

Typically caregivers see their patients/clients 2-3 times per week, although there are variations of once per week, or even 5 times per week (Figure 24).

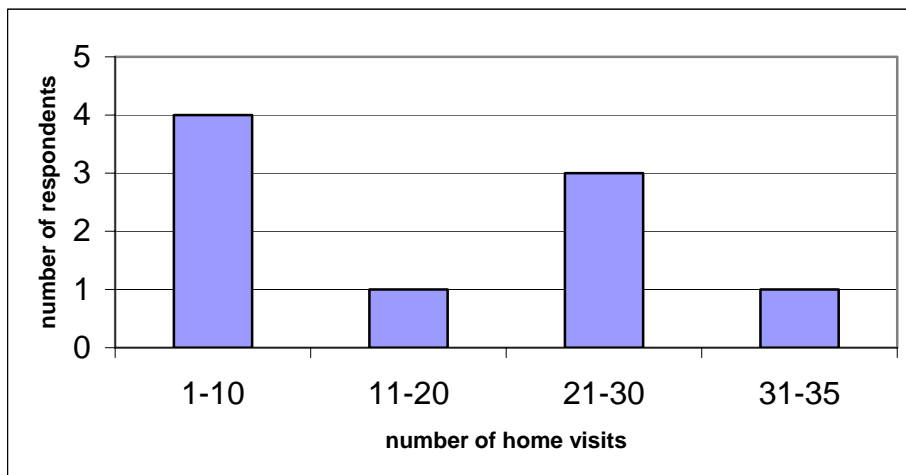


Figure 24. Typical Number of Home Visits per Week per Employee (n=9)

Job Activities

Perceived hardest tasks related to patient/client care:

- lifting
- bathing and associated awkward bending over tubs or beds (bed bath)
- repositioning patient/client on the bed
- assisting patient/client with toileting
- transfers (including to/from tub)
- stooping
- bending over bed while changing catheter
- kneeling on floor
- dressing changes
- putting TED's support hose on patients/clients
- carrying equipment/supplies (includes bag, scale, etc. and carrying them up/down stairs)
- rolling a "rigid" patient/client in bed
- standing for long periods of time
- sitting for long periods of time
- driving (back)
- phone use (neck)
- stress dealing with some family members of patient/client

Caregivers responded quite differently from their employers in regards to the physical consequences of performing the most difficult job activities. Caregivers believed they were unlikely (or even very unlikely) to incur long-term illness or serious injuries as a result of performing their work. Most of them also did not believe they would need to see a doctor or be off from work for a few days (Figure 25). When asked if they had been injured while moving a patient/client, four of ten respondents said yes while one respondent reported being injured moving a patient but not on the job (she was injured while caring for a parent).

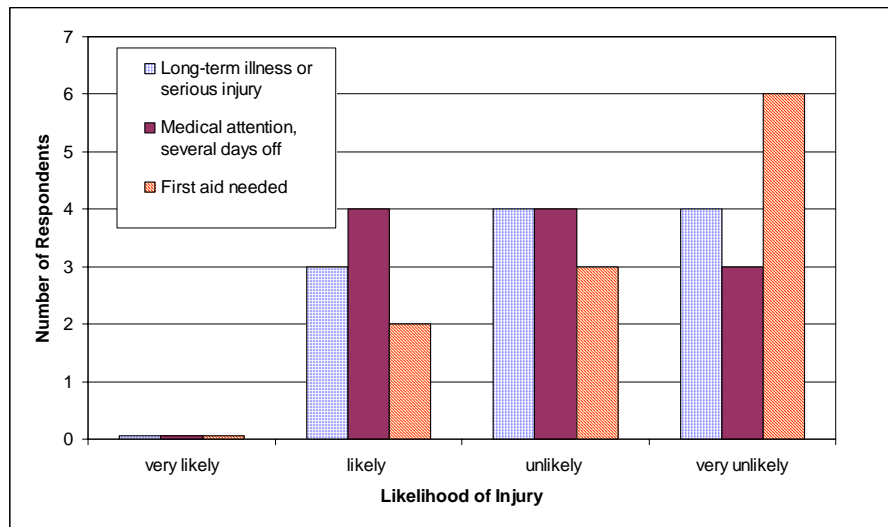


Figure 25. Employees' Perceptions of the Likelihood of Injury as a Result of the Most Physically Demanding Tasks, Home Sector (n=11)

Things home-visiting employees believe would make their job easier are:

- “Better accessible showers”
- “A helper”
- “More hand rails”
- “More equipment available to lower income patients/clients”
- “Walk-in bathing facilities”
- “More mechanical lift devices in homes when indicated, including powered lifts”
- “Higher beds”
- “Manual lifts that get people out of chairs”
- “Luggage carts”
- “Pillow for knees”
- “No lifting”
- “Assistance from others”
- “Good transfer mechanics”

Facility-based employees indicated the following would make their job easier:

- “Gait belts in every room”
- “Showers in every room”
- “More lift equipment and ample lift equipment to service each wing”
- “Slide boards”

Employees were asked, “What do you do if you need help with a patient/client to transfer or reposition?”

- 9 of 11 responded they would ask for help if someone was available (mostly from a family member or co-worker (if facility based), or an call emergency number)
- 2 responded: find correct equipment (one worked in a facility)
- 1 responded, modify technique
- for one worker's caseload, the patients did not need physical assist

Equipment

Similar to administrators, employees reported that gait belts were provided to them to help with patient/client handling. It was also mentioned that in the hospice facility, powered total lifts and beds were available. Employees overwhelmingly thought it was very likely that the patient/client would already have the transfer equipment in the home, if it was needed (Figure 26). Caregivers may or may not directly attempt to acquire recommended equipment (Table 22), but do use a variety of methods.

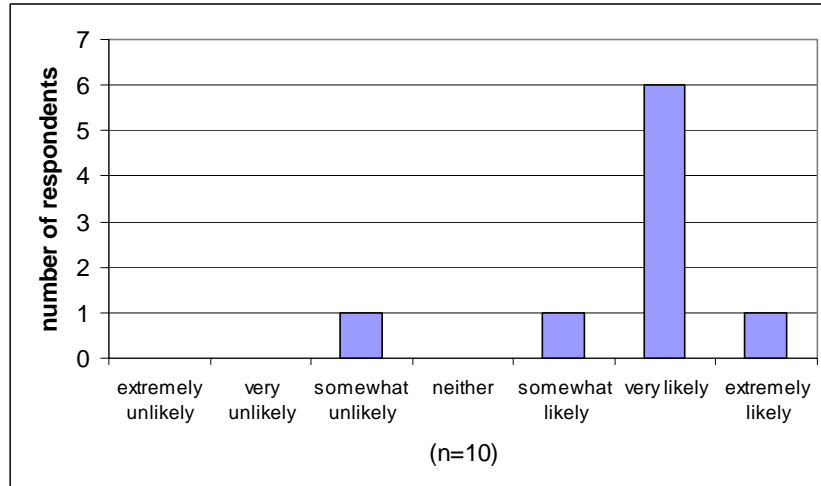


Figure 26. Likelihood That Patient/Clients Already Has Transfer Equipment at Home, Employee Home Sector Survey (n=10)

Table 22. Employee Actions Taken to Obtain Recommended Equipment, Not Covered by Insurance

What is done when recommended equipment is not affordable to patient/client, not covered by insurance, or not wanted in the home:
<ul style="list-style-type: none"> • Social worker coordinates with community services. Home health can't use donated equipment • Make referral to OT or PT • I recommend they call The Donor Closet 206-718-0426 (HELPING HANDS) • Talk with family or supervisor • Donor closet sells cheap, used equipment • Ask Bridge ministries equipment department, or my church has equipment to loan • Call nurse or DME. Talk to nurse about options • Often our nurse manager will find a way to provide the equipment if they can't afford it. We haven't had any refusals of equipment by my clients but if they refused it would be up to the nurse manager to decide if the client were safe without the equipment

Unlike the administrators, employees reported that they almost never order lift equipment (Figure 27). Generally it is the nurses and therapist who order the equipment. Most of the employee respondents to this survey were non-professional staff. This coincides with the actions described by employees to obtain equipment when needed (Table 23).

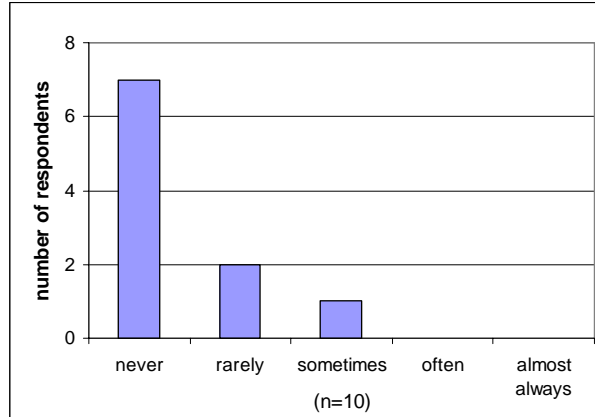


Figure 27. Frequency of Home Sector Employees' Ordering Lift Equipment, Home Sector Employee Survey (n=10)

Overall, employees favor using mechanical lift devices with their patients and believe they are valuable, useful, beneficial, and wise to use (Table 23). Some believe they may be somewhat hard to use. The spread of responses from employers were not as favorable in terms of their usefulness, value, benefit, and wisdom.

Table 23. Employees' Perceptions on Using Mechanical Transfer Equipment, Home Sector (n=9)

USING MECHANICAL TRANSFER EQUIPMENT IN THE HOME IS...									
	←	extremely	very	somewhat	neither	somewhat	very	extremely	→
description	NUMBER OF RESPONSES							description	
HARD	0	0	3	0	1	3	2	EASY	
WORTHLESS	0	0	0	0	1	4	4	VALUABLE	
USELESS	0	0	0	0	1	4	4	USEFUL	
HARMFUL	0	0	0	0	1	4	4	BENEFICIAL	
FOOLISH	0	0	0	0	1	4	4	WISE	

About half of the employees believe it will take more time to use mechanical lift devices (compared to manual transfers). Most employees believe the patient/client will be comfortable, using it will decrease the likelihood of getting injured, and they would be able to use the equipment without assist from others (Table 24).

Table 24. Perceived Likely Effect of Using Mechanical Transfer Equipment by Employee Respondents (n=6)

USING MECHANICAL TRANSFER EQUIPMENT WILL...						
	very unlikely	unlikely	somewhat unlikely	somewhat likely	likely	very likely
	NUMBER OF RESPONSES					
Take more time	0	4	0	2	3	1
Be uncomfortable for patients/clients	1	4	3	1	1	0
Decrease the chance of employee injury	0	0	0	1	2	7
Require help from others	3	3	2	0	2	0

Training

Administrator respondents reported that patient handling training was provided once per year. Overall, employee responses agreed. Nine of eleven respondents reported that they had received patient handling training within the last year. One respondent reported that the last training had occurred two years ago. Another respondent reported training given at hiring and with periodic in-services. Despite reporting patient handling training in the past year, demonstration of transfer/repositioning skills as part of the training exercise was varied greatly. When asked when the last demonstration of transfer/repositioning skills was, the eleven employees responded as follows:

- 3 responded within 2005
- 2 responded within 2004
- 2 responded between 6 and 10 years
- 1 responded “not recently”
- 2 responded “unknown”
- 1 responded “never”

4. Observations from Visits in Different Homes

Homes are very unique in style, size, and layout. Unlike hospitals or nursing homes, homes are not usually built with disability issues in mind. The floor plans and space around furniture varies from home to home. Some of the homes visited for this project included quite accessible sites that had ample room for wheelchair use. Two of homes had ramps to the front doors, and a few had modified bathrooms with roll-in showers. Some homes visited had manual hydraulic lifts and one had a ceiling lift. Mostly, individuals living in these homes had been disabled for many years. These home modifications are not likely to be representative of the full range of homes that home sector workers encounter, especially for those clients/patients who are newly homebound.

One home was built with the disabled client’s needs in mind including double-wide doorways. This client was disabled prior to the family purchasing the house. Over time, her strength and abilities decreased. Eventually the bathroom was completely remodeled to include a roll in shower. She had lots of special equipment in the home including: a manual hydraulic lift device, a shower wheelchair, an electric wheelchair, a hospital bed, an over-the-bed hospital tables, and many hand-held reachers. Only the hospital bed, wheelchair, and Hoyer™ lift were covered by her VA benefits. The bathroom modification costs were completely out-of-pocket expenses.

Caregivers provided varying levels of physical assist to their patients/clients. The range observed during the visits ranged from a lot of assistance (perceived as maximal assist by the observer) to barely any (perceived as only needing supervision or cues). A typical bath visit for a more able bodied person who could walk consisted of multiple sit-stand maneuvers during the course of a single visit due to the need to don/remove clothing, get into the tub, stand to wash as well as dry peri area, and stand up or down from a chair or the toilet. The worker often assumed awkward postures while assisting patients/clients while showering them in the tub. It was much easier for worker and patient/client when homes were equipped with roll-in or walk-in style showers. When individuals needed more physical assist for mobility, bath visits seemed to be quite demanding and fatiguing for the worker.

One caregiver, lifted her patient (patient did not assist) 4-5 times during the course of the bath visit. The lifts were from: chair to wheelchair, wheelchair to shower chair, shower chair to wheelchair, and wheelchair to bed. The caregiver was not aware that there was a manual hydraulic lift device in the home available for use.

Many of the homes visited had small bathrooms that would not accommodate a total lift device (manual or battery powered) but did accommodate walkers, albeit with some degree of difficulty. Sometimes it required quite a bit of maneuvering and sequencing to be able to open or close the door while assisting the patient/client. It was common to see grab bars installed on the bathroom wall and in the tub area, tub/shower seats, and raised toilet seats in the homes. Bathroom rugs, even with rubber backing still presented as potential trip hazards due to the uneven surfaces, especially when there were multiple rugs.

Common job tasks for caregivers (in home and institutions)

- Assist with transfers
- Assist with bed repositioning
- Assist with bathing/dressing/toileting

5. Equipment for homebound residents

[Relevant resources and equipment websites are available from SHARP, upon request]

Over the last ten years there has been a lot of research and attention advocating the use of mechanical lifts and sit-stand devices in hospitals and nursing homes. Their use and availability in these settings is beco

Doctors might also make their own equipment recommendations as a result of a recent doctor's appointment or may make referral for a home health/hospice therapist to evaluate the need. If an individual is not already connected to the healthcare system, he/she is less likely to be aware of equipment options.

A doctor of physical medicine, Heikki Uustal, MD, suggests that it is not likely for internists (or primary physicians) to keep up with the ins and outs of prescribing DME on their own. They should instead rely on other professionals to determine what DME a patient needs. ((Shaw 2005))

Common items recommended for home use	
Walker	Tub rail or grab bars
Cane	Tub stool/chair/bench
Crutches	Portable commode
Wheelchair	Raised toilet seat
Bathroom safety rail or grab bar	Gait belt
Hospital bed	Sliding board or related devices

New equipment continues to enter the market. Appendix 17 lists patient handling equipment that would be applicable in the home environment. If the healthcare professional is not abreast of the latest equipment available, he/she is likely to keep suggesting the same familiar equipment. This holds true for therapists, nurses, as well as doctors. The traditional "hoyer" lift may be one of these old faithful items that people continue to order despite the availability of more suitable new devices.

It would be wise to assign at least one healthcare worker per facility/agency to stay abreast of lift equipment on an annual basis. Good resources for doing this include vendor booths at healthcare conferences and periodic review of websites such as the Safe Patient Handling and Movement Technology Resource Guide (see:

<http://www.paWithoujj1> 0 10.98 392.0704 38109.28969T12.1648 0 0w 1 0lso c1 0 10.98 3

bathrooms and allow caregivers to assist with clothing adjustment without simultaneously trying to keep the person's balance.

In British Columbia, there has been an effort to develop and get an affordable ceiling lift out on the market for under \$2000 CDN (approximately \$1675 US). It is a simpler device than current commercial models that are battery operated. It is manually operated and uses a drive chain pulley mechanism with a portable ceiling track. Thus far it has been tested as a prototype with home health aides and in patients' homes on a limited basis. (Heacock; Paris-Seeley; Tokuno; Frederking; Keane; Mattie; Kanigan, and Watzke 2004) To date, the developers of this product are in the patent process and are working with potential partners to make it commercially available.

Recognizing that the cost of home services and equipment that allows individuals to stay at home compared to the cost of nursing home care is far less expensive, it behooves insurers to broaden their vision and allow coverage of such items. Some private insurers are beginning to accept such claims although it is rare. Overall the industry practice appears to be very slow to change.

6. Overview of the Obstacles to Implementing a No-lift Policy for Home Sector Workers

Workers are exposed to similar risks like those encountered by nursing assistants (NACs) in a nursing home or other direct care workers in a hospital environment because they perform some common job tasks. However, home sector workers have more obstacles and barriers to contend with due to working in highly variable non-institutional settings. (Galinsky; Waters, and Malit 2001)

Obstacles and barriers related to the home as the work environment

a. Physical Surroundings

- Homes are private residences of which employers and outsiders have little, if any control.
- Patients/clients/families often want their homes to still "look like homes" rather than like an institution.
- Homes are rarely designed to be accessible for physically challenged people. Frequently the physical layout is limiting so that there is not enough room for additional equipment like a wheelchair or a mechanical lift device. The layout of the home may not permit the caregiver to be in the good position to assist the patient/client with transfers (especially to the toilet or tub/shower). The size or location of furniture, doors, or walls may make it difficult to maneuver around the room.

b. Staff

- Home sector workers most often work alone. They do not have ready access to someone else who can assist with patient/client handling. At times home health/hospice workers may coordinate to jointly see a patient but this is not very frequent.

c. Equipment

- Handling equipment obstacles:
 - No handling equipment available
 - Non-adjustable beds
 - May not be room for handling equipment
 - May not be wanted by the patient/client or family
 - May not be affordable especially if not covered by insurance
- Cumbersome and not practical for home sector worker to take into the home and remove it on each visit. Since the patient/client would still need and benefit from the device when the home sector worker is not present, it is more practical for the device to be owned or leased by the patient/client. If equipment were to be regularly transported from house to house, it also would be very problematic to sanitize equipment between visits.
- The demand for the equipment is far greater than the duration of the home visit. Home sector workers are not the only people helping with patient/client handling activities. Family members are likely to perform some of these tasks and are exposed to the same lifting/repositioning hazards. Home sector workers generally are in the home for a few hours during the week, whereas the patient/client still has mobility and transfer needs during the rest of the week.]

Lifting equipment, costs, and insurance coverage:

Lift devices are occasionally requested for home use. Historically, the only type that is widely available for home use is the hydraulic manual patient lift or crank lift (commonly referred to as “Hoyer™” lift). Medicare will only cover this type of device, and only under specific circumstances. A hydraulic patient lift with sling or seat is covered if it is medically necessary and if the transfer between bed and a chair, wheelchair or commode requires the assistance of more than one person; and the patient would be confined to a bed without the use of a lift. (See www.medicare.gov website)

Most other insurers follow suit and use the same Medicare guidelines. The following items are generally excluded from coverage for purchase as well as on a rental basis for home use: battery powered mechanical lift devices such as total lifts and sit-stand devices, and ceiling lifts. The commonly stated rationale is that they are not medically necessary and are considered to be luxury or convenience items. (Facilities may be able to rent some of these items.)

C. PRE-HOSPITAL MEDICAL CARE (Emergency Medical Service/Ambulance)

1. Job Activities

Lifting Tasks

A number of interviewees worked as both Emergency Medical Technicians (EMTs)/Paramedics and Firefighters, so they have lifting tasks related to fighting fires as well as to pre-hospital medical care. The following were tasks that were commonly reported to be particularly physically demanding:

- Lifting and advancing a charged fire hose, especially moving up stairs
- Lifting and carrying firefighting equipment, protective gear
- Ventilating a roof (especially steep pitch) using chainsaws, ladders, etc.
- Lifting and carrying medical kits and equipment (e.g., 35-pound cardiac monitor)
- Lifting and moving patients, especially –
 - Lifting in tight spaces (between bed and wall, next to toilet, out from bathtub)
 - Lifting of bariatric patients
 - Automobile extrications
 - Lifting from floor
 - Lifting and carrying down stairwells
- Lifting patient and gurney weight together, especially outdoors
 - Transferring patient from bed to gurney in field
 - Transferring patient from gurney to bed/stretchers at hospital

Interviewees reported that lifting of patients during medical calls was typically much more frequently performed than firefighting activities.

Interviewees reported that they felt these activities were either likely or very likely to cause serious injury at some point in a career. They were most concerned with back and shoulder injuries.

Calls to Nursing Homes

A few EMTs/Paramedics mentioned having to respond to calls from nursing homes to lift residents who had fallen. They felt that these were unnecessary lifts and a service that they would prefer to stop providing. However, one fire chief believes that his crews are being called out to do a medical evaluation as well as a lift, and that it is part of the service that should be provided to taxpayers, which includes nursing homes. The chief also stated that these lifts are a relatively small percentage of all lifts (about 500/year out of 19,500 EMS calls/year).

2. Facilities

EMS and ambulance crews have no control over the facilities where they pick up patients, which can be nursing homes, private homes, public spaces, outdoors, or motor vehicles. Transport units also have no control over emergency room facilities where they transfer patients to hospital care. They do, however, have control over their rigs, which are essentially a mobile facility for them. The following are some recommendations to consider for EMS and transport units:

- When purchasing new vehicles, look for models that allow equipment to be placed in a convenient location for lifting, preferably between knee and shoulder height with no

obstructions to lifting close to the body. If possible, modify existing vehicles to place equipment in this location.

- A number of ambulance companies have reported developing a bariatric-specific transport unit, with a ramp and winch system for pulling gurneys into a wider-than-typical bay. One ambulance company took the additional step of modifying the vehicle's suspension so that it can be pneumatically lowered to make loading easier.

3. Equipment

[Relevant resources and equipment websites are available from SHARP, upon request]

The following pieces of equipment are commonly available to help lift and move patients:

- Gurneys/stretchers
- Backboards
- Tarps with handles (large for bariatric patients; "soft seat" for lifting from seated position in tight spaces)
- "Clams" or 2-piece stretchers that are easier to get under patients
- Slide boards and other simple lateral transfer devices

In addition, larger municipal fire departments mentioned the following:

- Stair chairs, some with treads to reduce the effort and control the rate of descent when going downstairs
- Rescue baskets
- Hook and hoist on ladder trucks

Also mentioned were gurneys with built in lift assist devices, which are relatively new and not widely used. One reason may be that they are heavier than standard gurneys, which adds to the effort to use them in all other conditions. Also available is a descent control system for taking gurneys down flights of stairs, which has treads similar to the stair chairs, but can be used when patients have to be moved while lying down.

A couple of interviewees expressed a desire for some sort of lifting device to assist them in the field, especially to help lift patients out of awkward locations. Mobile lifting devices commonly used in hospitals and nursing homes are not appropriate for EMS use, due to their weight, the space that they take up, and the design of their wheels. Portable lifting devices are available for home care and other situations where a mobile lift is needed, but again storage space on the rigs is an issue, and the time required to set these units up may make them infeasible in an emergent situation. These types of lifts certainly would have limited use.

Devices (essentially a multi-layer air mattress and portable air supply) may be useful for lifting patients from the floor in the field.

In addition to lifting patients, crews must also lift and carry medical kits and devices, such as defibrillators. EMS personnel who are also firefighters must carry fire hoses, axes, chainsaws, protective gear, 'jaws of life', and other equipment as well. The following are some strategies in use for reducing the risk of injury from this other type of lifting:

- Locate equipment in a good location for lifting, as discussed in the Facilities section,

- When replacing equipment, look for lighter, more compact models.
- Catalog medical kits to ensure that only necessary types and amounts of supplies are carried in order to keep weight down.
- Use more streamlined, briefcase-style cases for medical kits rather than bulky ‘tackle boxes’ that are difficult to lift and carry close to the body.

Most of the equipment mentioned here can be found by searching under the Emergency Services industry category in the Ergonomics Ideas Bank: www.ergoideas.lni.wa.gov.

4. Training

All interviewees reported receiving some form of training on lifting techniques and the use of equipment during certification training. One large municipal fire department reported on-going training arranged by the city’s risk management department. Smaller municipal fire departments and volunteer departments may be less likely to receive on-going training. More than one interviewee stated that the quality of the lifting techniques training varied greatly by presenter. These interviewees also questioned the usefulness of lifting techniques training given the reality of the lifting situations they face in the field. Interviewees did feel that training on proper conditioning did have value, though, and one even suggested that volunteer EMTs be provided with gym memberships. In addition to current training, interviewees thought that additional training should include:

- Periodic reminders to work safely, not become part of the emergency (i.e., get injured themselves)
- Training on new techniques (best practices) and updates on available equipment
- Employee involvement in coming up with new equipment (e.g., lifting tarp) and new techniques (e.g., ladder raises, rescues)

5. Policies

Most of the interviewees report some written lifting policies at their departments, although management seemed more aware of the actual content of the policies than staff did. Policies cover issues such as use of lifting techniques and equipment. Crews are for the most part allowed to determine how many people are required to perform a lift in the field (when extra staff is available to help out). Additional policies that may be useful include:

- Having more people at initial scene to help with lifting (4 crew members per call instead of 2 or 3)
- Responding to calls at nursing homes and similar facilities only when medical evaluation is required

6. Barriers to Making Improvements

Interviewees for the most part were quick to point out barriers to making improvements. These include:

- Increasing weight of patients
- Lack of control over conditions where lifting occurs (tight spaces, sometimes outdoors)
- Weight of some equipment makes it non-transportable

- Uneven ground, stairs, other conditions prevent use of most wheeled equipment
- Limited space on vehicles for equipment that will be used infrequently
- Time required to provide training on many different pieces of equipment
- Time critical nature of emergency calls
- Focus is on patient well-being rather than care giver well-being
- Cost-benefit of equipment hard to demonstrate
- Funding when levy votes do not pass

All interviewees reported that the crew members and administration were open to change if it meant protecting the health and safety of the staff.

CONCLUSIONS

1. Manual handling of patients has been recognized as hazardous for both caregivers and patients. The changing demographics of the state (older, heavier, more comorbidity) will increase the hazards for health care workers

Among the small numbers of employers and employees contacted in all health care sectors (hospitals, nursing homes, home care, home health, hospital, hospice and pre-medical services), all recognized the risk of injury from manual patient handling and all have been attempting to reduce that risk through the introduction of equipment that is appropriate for their industry. However, the presence of the equipment alone is not enough to eliminate the risk. The equipment must be used appropriately. Direct patient care staff in the health care industry must balance several, often conflicting, factors including the needs of the patients, the empathy the staff feels for the patient, the demands of the job and the need for the staff to protect themselves from injury.

2. The hazards of manual handling of patients can be reduced by a programmatic approach that includes
 - a) Policies for risk assessment and control,
 - b) Having adequate types and quantities of equipment and staffing,
 - c) Ongoing patient handling training,
 - d) Management commitment and staff involvement,
 - e) Incident investigation, follow-up and communication

All hospitals and nursing homes visited recognized the importance of no-lift programs for reducing staff and patient injuries and were working to so implement such programs. It was found that among the hospitals and nursing homes, the definition of a no-lift environment varied. While all facilities had implemented components to a no-lift environment to some degree, some did not consider themselves a no-lift facility because some manual lifting still occurred. Although these facilities had established definitive repercussions for failure to follow patient care plans when the patient was at risk, those facilities with patient handling policies rarely administered any repercussions when the patient handling plans were not followed.

3. The literature review of no-lift programs have shown reduced injuries to patients and staff, reduced lost time, reduced costs, and reduced staff turnover. Sustainability of such programs depend on management and employee stability (decreased turnover).

All the hospitals and nursing homes visited have some sort of patient handling equipment. The research and development has been more extensive in hospitals and nursing homes and accordingly, they have more choices. This, however, does not negate the importance or priority for solutions in the home sector and pre-hospital medical services. In nursing homes, equipment is almost exclusively mechanical floor lifts and gait belts, while in hospitals, there was greater variety (slide sheets, gait belts, total lifts, sit-stand devices, and ceiling lifts). Very little patient handling equipment was seen in the home sector. The equipment seen was privately owned. Aides did not carry handling equipment with them for two reasons, 1) nothing portable was readily available, and 2) the sharing of equipment among patient might create an infection control issue.

4. Home and pre-hospital medical services sectors present some unique but not insurmountable challenges to minimizing or eliminating lifting and manual handling. Patient handling equipment is slowly being introduced to pre-hospital medical services, mainly as a result of the increasing size of patients. However, widespread introduction may prove difficult because of the restrictive nature of sources of funding. In addition, state and federal regulations, local policies and jurisdictions must all be considered when developing patient handling solutions for pre-hospital medical services.
5. Nurse educators in United States' schools of nursing are still teaching outdated manual patient handling and lifting techniques. Nursing schools need to train staff on using mechanical patient handling equipment
6. Employer and employee associations have worked together effectively in other jurisdictions to implement "no-lift" type programs, often with government support.
7. One of the barriers to implementing no-lift programs in Washington State has been the lack of funding to purchase mechanical lifting equipment. Other countries are providing funding for the purchase of equipment.
8. Legislative and executive branches of government in other jurisdictions have used regulatory and financial incentives to assist in the adoption of no manual lift environments in health care

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