
Reducing Injuries in Intermediate Care

**A summary of the report on risk factors for
musculoskeletal and violence-related injuries
among care aides and licensed practical nurses in
Intermediate Care facilities**

A joint project of

- **Workers' Compensation Board of British Columbia**
- **Hospital Employees' Union**
- **Occupational Health and Safety Agency for Healthcare in B.C.**
- **Institute of Health Promotion Research**
- **Canadian Institutes of Health Research**
- **University of British Columbia**

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The full report, *Reducing Injuries in Intermediate Care*, is posted on the Workers' Compensation Board of B.C. website (www.worksafebc.com) and the Occupational Health and Safety Agency for Healthcare website (www.ohsah.bc.ca). A limited number of hard copies of the report are available from the WCB and OHSAH:

- WCB Industry Services – Health Care Prevention Division, PO Box 5350 Stn Terminal, Vancouver BC, V6B 5L5. Telephone: 604-276-3100. Toll free within B.C.: 1-888-621-7233.
- OHSAH: Telephone: 604-775-4032. Toll free within B.C.: 1-800-359-6612. Contact: Henrie de Boer, Manager of Communications, 604-775-4045.

The summary report is available on the Hospital Employees' Union website (www.heu.org) and the OHSAH website (www.ohsah.bc.ca).

Reducing Injuries in Intermediate Care

Summary report

Purpose and scope of the research

Injury rates are very high among staff in Intermediate Care (IC) facilities in British Columbia. Between 1994 and 1998, overall injury rates in IC were approximately 50% higher than in B.C.'s acute care sector and slightly higher than in long term care as a whole (Workers' Compensation Board of B.C.). The injury rate for care aides and licensed practical nurses in IC was higher still. Despite this troubling trend, very little attention has been focused on the hazards specific to IC nursing homes.

The Hospital Employees' Union (HEU) initiated this research project in 2000. The purpose of the study was to gain an understanding of the risk factors for musculoskeletal (MSI) and aggression-related injuries faced by care aides and LPNs in IC facilities. Funding was provided by the Workers' Compensation Board of B.C. and through the Community Alliance for Health Research (CAHR), a program of the Canadian Institutes of Health Research (CIHR). The project was affiliated with the Occupational Health & Safety Agency for Healthcare (OHSAH), the CAHR, and the Institute of Health Promotion Research and the School of Nursing at the University of British Columbia. There was a multi-stakeholder steering committee that included representatives from employers, unions, and the B.C. Ministry of Health, among others.

The context

Residents in Intermediate Care nursing homes have varying degrees of mobility, and the majority have some level of dementia. As a result, injuries among direct-care staff have less to do with resident handling (i.e., lifts and transfers) and more to do with assisting in "activities of daily living" with individuals whose capabilities and moods are in constant flux. A sensitive and flexible approach is considered essential when working with IC residents. The overall context of Intermediate Care in B.C. is also significant. In the last decade, a shortage of public facilities and the trend towards home-based care have led to a resident population with more complex and advanced needs than previously. Finally, most time-loss injuries in IC are musculoskeletal (MSI), a type of injury associated with job design and organizational culture.

Research objectives

The main objectives of the study were to:

1. Identify a broad range of organizational, psycho-social, and biomechanical risk factors associated with injuries in Intermediate Care.
2. Pinpoint key intervention strategies for reducing staff injury and improving staff well-being.

Researchers also set out to pioneer ergonomic methods for measuring physical workload in care providers and to develop a new survey instrument for assessing organizational culture in residential care and other healthcare settings.

Research design

The study focused on work environment factors, and two key premises informed the project's conceptual framework:

- **Direct-care staff in all Intermediate Care facilities would have a heavy physical workload.**
- **Low injury-rate facilities would have more successful ways of organizing work than high injury-rate facilities, thus mitigating the risks associated with heavy demands.**

The project was designed as a comparative study of eight IC facilities, four with relatively low injury rates and four with relatively high injury rates. Quantitative and qualitative research methods were integrated, including 1) on-site data collection of injury rates, WCB claims, staffing, workers' demographics, facility funding, etc.; 2) an ergonomic study of physical loads; 3) a telephone survey of care aides and LPNs; and 3) interviews and focus groups with managers, RNs, care aides, LPNs, and HEU health and safety committee representatives.

The research examined factors in the study facilities such as organizational culture (communication, support, decision-making, etc.); safety environment (training, equipment, attitudes, policies, etc.); and resources (resident programming, regional health services, etc.). A key element in the conceptual framework was "the fairness factor," a concept that embraces principles of group identity, trust, respect, procedural justice, organizational effectiveness, and social solidarity, as well as established principles of control-support-demand and job satisfaction.

Workload was the other major focus of the research (e.g., staffing levels, perceptions of work demand, resident dependency, and ergonomic measures of physical load). Finally, extensive data and information were collected on the characteristics of workers and facilities.

Summary of key findings

In general, the study found significant differences between workloads and work environments in low injury-rate (LIRFs) and high injury-rate facilities (HIRFs). These differences were apparent in all dimensions of the research. At the same time, the study found no significant differences between LIRFs and HIRFs regarding characteristics of workers (except seniority), characteristics of residents, and per diem funding levels. The project's premises – that workload and work organization would figure prominently in risk factors for injuries in Intermediate Care – were substantiated.

The significant relationships between workload, injury rates, and workers' reports of well-being included:

- **Staffing levels:** Resident-to-care aide/LPN ratios differed substantially between high and low injury-rate facilities. HIRFs averaged 16:1 residents to staff compared with 12:1 residents to staff at LIRFs (average day shift across all units).
- **Physical workload:** On average, workers in HIRFs had significantly higher cumulative compression on their lower back than workers in LIRFs. This higher spinal compression was also strongly correlated with days lost per FTE and MSI injury rates. Other studies have shown that this degree of cumulative compression creates a substantial risk of low back pain. Further, HIRF workers showed a trend towards higher peak compression in their lower backs and higher peak activity in their neck/shoulders.
- **Perceptions:** Workers in HIRFs had more negative perceptions of their job demands and workload pressures. They were more likely than other workers to report that they didn't have enough time to get their work done, to work safely, to find a partner, or to use a mechanical lift. Workers in HIRFs also reported more pain, more burnout, poorer personal health, and less job satisfaction.

Our findings also showed strong relationships between the overall work environment and workers' injury rates and well-being. These relationships were evident in:

- **Organizational culture:** Facilities with lower injury rates had more visible and consistent practices around information sharing, problem solving, policy dissemination and monitoring, and follow-up to concerns. In contrast to HIRFs, workers in LIRFs reported more supportive and trusting relationships between managers and front-line staff. Managers in LIRFs had high expectations of their staff as care providers and backed up those expectations with tangible supports, open communication, and respectful interactions.

- **Safety environment:** Facilities with lower injury rates had more consistent and clear policies/practices regarding resident aggression. The same was true regarding “no manual lift” policies/practices, which were reinforced with more accessible mechanical lifts. In contrast to HIRFs, workers in LIRFs reported being less worried about getting injured on the job and believed that their managers had a stronger active commitment to safety.

- **Organizational effectiveness:** Facilities with lower injury rates showed more capacity to deliver on the promises of their philosophy of care. In general, their programming for residents was better than that of HIRFs (e.g., recreation, rehabilitation, volunteer contacts). Front-line staff in LIRFs were more involved in care planning and reported more positive views of the philosophy of care, the overall quality and fairness of service to residents, and their own effectiveness and flexibility as care providers.

High and low injury-rate facilities also had features in common. The ergonomic study found that:

- Care aides from all facilities exhibited peak compression in the lower back that, on average, exceeded the U.S. National Institute for Occupational Safety and Health (NIOSH) Action Limit, indicating an increased risk of disc injury.
- Physical workload was intense for workers in all facilities before lunch and breakfast, especially during the pre-breakfast period when residents are wakened, transferred, dressed, and toiletted.
- Facility layout and equipment availability had significant impacts on workload. Restricted spaces such as small bedrooms and bathrooms increased the physical workload, a fact echoed in workers’ perceptions.

Managers and workers in all facilities expressed the belief that continuous and inclusive training on safe lifting and transferring techniques, in particular, would be beneficial. Managers spoke about the importance of physiotherapy and rehabilitation services in maintaining residents' capacity for self-care, which benefits residents and staff alike. However, many managers described difficulties accessing and providing such services.

Conclusions

From these findings, a conceptual interpretation was developed, as follows: The emphasis in residential care today is on home-like, personalized environments in which the dignity and uniqueness of each elderly person is respected. In particular, residents with dementia must be approached with sensitivity and flexibility. Managers who view their front-line staff as key members of the team that delivers this model of care – i.e., who see their workers as responsible and capable – are likely to have practices and policies that promote a safer work environment, cooperative relations, and a positive outlook on caregiving. In short, connections can be made between lower staff injuries and organizational effectiveness.

The project's design made possible a detailed examination of the salient dimensions of organizational culture in B.C.'s Intermediate Care facilities. Moreover, the study incorporated issues of fairness and congruency (social justice), which are not usually investigated in work organizational studies but are increasingly recognized as necessary to a meaningful analysis. Thus, the following recommendations, some of which deal with organizational culture, are consistent with current trends in occupational health, health promotion, and management literature.

Recommendations

We recommend that the appropriate stakeholder(s):

Rec. A1 Mandate the reporting of staffing levels in residential care facilities

We recommend that staffing levels (resident-to-worker ratios) be reported and made available in facilities, on an annual basis. Reporting should include a numerical breakdown of direct care, clinical, and support staff levels. To ensure meaningful comparisons across facilities, we further recommend the adoption of a province-wide standardized method of measuring and reporting staffing levels.

Rec. A2 Examine staffing levels across B.C. and recommend province-wide standards

We recommend that a province-wide committee be struck to examine direct-care and support staffing levels in residential care facilities. The committee would then recommend minimal staffing levels with an aim to reduce injury rates. The cost-benefit analysis proposed in rec. A4 could be useful in determining appropriate levels.

Rec. A3 Redistribute the physical workload of care aides/LPNs to eliminate bottlenecks and to spread demands more evenly

We recommend that facilities make efforts to re-organize work routines, on an interdepartmental basis, so that physical loads and tasks are distributed more evenly within shifts and during the week.

Rec. A4 Research the financial benefits of increased staffing as a method of reducing injury expenses

We recommend that research into costs and benefits of staffing increases be made a priority. Preliminary analysis suggests that a financial benefits argument can be made that, at a certain point, investments in staffing may “pay” for themselves in reduced injuries.

Rec. B1 Educate all concerned parties in the residential care sector about the connection between organizational culture and staff injuries

We recommend that the findings of this project be widely disseminated, as a first step in promoting best practices in B.C. facilities. An outreach program to managers, planners, policy makers, health and safety officials and committees, union representatives, conferences, and other interested bodies will help to pave the way for recommendation B2.

Rec. B2 Create collaborative intervention teams that support and promote organizational change in designated facilities

We recommend that intervention teams be formed to assist facilities to re-organize work routines (e.g., to alleviate workload) and strengthen communication and teamwork (e.g., to enhance safe practices). The teams should be collaborative (involving managers, professional, and front-line staff) and would be supported to deliver workshops that facilitate a process of organizational change based on best practices cited in this report and other sources.

Rec. C1 Increase the availability of publicly funded physiotherapy and occupational therapy professionals and assistants to seniors in residential care facilities

We recommend that regional health authorities make stable and sufficient funding available for OT/PT services on-site in residential care facilities, to benefit seniors and staff alike.

Rec. C2 Tangibly support and promote safe practices and policies, such as “no manual lifting”

We recommend that all facilities be encouraged to develop clear policies on safe working practices, such as a “no manual lifting” policy. We further recommend that facilities be supported with necessary material resources, such as:

- 1) Annual in-house training for care aides/ LPNs, with wage replacement funds, on safe lifting, transferring, dementia training, and other safety-related subjects.
- 2) Structural modifications to resident bedrooms and bathrooms to accommodate wheelchairs and mechanical lifts.
- 3) Funding for sufficient mechanical lift resources to meet the needs of residents, taking into account building layout.

Rec. D1 Ensure that factors relating to organizational culture and staffing are included in accountability processes for residential care facilities and seniors’ housing programs

A number of provincial and national initiatives are underway to create guidelines for healthful workplaces and to establish standards of care for purposes of licensing and accrediting residential care facilities and assisted living programs. We recommend that these initiatives include indicators that address the role of appropriate staffing, work processes, and working relationships in creating healthful and high-quality facilities and assisted living environments.

DISCUSSION

The aim of this research was to understand the organizational, psycho-social, and biomechanical risk factors associated with injury rates in Intermediate Care facilities. Our focus was not on the specific causes of workers' injuries. Rather, the task was to analyze and compare the *environments* in which injuries were more or less likely to occur. This study fits an ethnographic model, in which the research team asked: What makes some Intermediate Care facilities safer and healthier places to work than others?

The question was approached from multiple perspectives, using a variety of tools. The researchers examined the nature of the work itself (e.g., caring for elderly people in an institutional setting); the biomechanical demands of the job (e.g., ergonomic measurement of cumulative and peak compression in the lower back, and peak muscle activity in the neck/shoulders); the psycho-social dimensions of the workplace (e.g., relationships, beliefs, and perceptions of managers and staff); the organizational culture of the facility (e.g., policies, practices, support systems, and resources); and the physical setting (e.g., building layout).

The study was designed as a comparison between high and lower injury-rate facilities. Most data were aggregated for purposes of correlation and comparison. Data from a telephone survey with front-line staff, administrative data from facilities and WCB, and an ergonomic study of care aides were used to compare the four high injury-rate facilities (HIRF) with the four low injury-rate facilities (LIRF). The content of focus groups and interviews with managers and staff were analyzed to allow general comparisons between these two different groups of facilities.

The study sample of eight facilities was small. Nevertheless, our findings revealed strong patterns throughout all facets of the research. In general, we found that LIRFs had organizational cultures and staffing levels that differed significantly from those of HIRFs. Our working hypotheses – that work organization and workload would figure prominently in risk factors for injuries in Intermediate Care – were substantiated. The following discussion considers the context of these findings, the connections among various findings, the overall picture that emerges, and the implications for residential care in B.C.

Intermediate Care: The context

Intermediate Care facilities serve elderly persons who are partially mobile and often suffering from dementia. Care aides and LPNs spend most of their time assisting residents in the activities of daily living (ADLs): dressing, toileting, bathing, walking, transferring, and eating. Many

residents use a walker or a wheelchair. Individuals have varying abilities for self-care, and those abilities may change from hour to hour, day to day. Dementia alters their cognitive, social, and emotional dispositions. Physical pain, emotional distress, confusion, and delirium can make some residents agitated and aggressive; others may have a previous history of abusive behaviour. Age and illness eventually take their toll, and many residents die in their IC home.

On the surface, it is not surprising that workers in IC facilities have high injury rates. The work itself has demanding and stressful qualities. On the task level, care aides and LPNs must assist, lift and transfer elderly residents, many of whom have shifting abilities and moods, do unpredictable things, and may be very heavy or in pain. Intermediate Care facilities are rarely purpose-built. They often have small bedrooms, long corridors, cramped bathrooms, and no wandering paths where residents with dementia can safely walk unattended. Finally, care aides and LPNs have relatively low-status, high-demand jobs within hierarchical organizations.

Intermediate Care settings, then, are almost a textbook recipe for musculoskeletal injuries, which are widely associated with high job strain. Yet there are sizeable differences in injury rates among IC facilities. Our research shows that these differences are related to the work environment, and specifically to organizational culture and workload.

Characteristics of facilities and workers

To begin, it was determined that basic features relating to the study facilities probably did not play a role in the variation in injury rates. We found similarities between LIRFs and HIRFs regarding: 1) workers' characteristics (e.g., demographics, employment history, and education – with the sole exception of seniority); 2) residents' degree of dependency, and 3) per diem funding (the sum of the user fee and government funding, per resident). Thus, these factors were not confounders in the analysis: the personal qualities of staff and residents were not exacerbating risks, nor was there, on the surface, a fiscal disparity between high and low injury-rate facilities. Similarly, the findings about the physical environment of the facilities showed no clear pattern of difference. Two LIRFs had very challenging building layouts as did two HIRFs; two of each had good physical layouts. Thus, this factor was not contributing to the marked differences in injury rates.

Workload and job demands: More than a physical load

Staffing levels, biomechanical measurements of physical loads, perceptions of work pressures, and beliefs and experiences regarding job demands – all these showed strong associations with workers' injury rates and well-being. Workers in HIRFs reported poorer health, less job

satisfaction, more pain, and more burnout. They were also more likely to report that they felt pressured, rushed, and worried about being injured on the job.

The research showed that HIRF workers had a solid factual basis for feeling the way they did. Staffing levels in HIRFs were considerably less favourable than in LIRFs: an average of 16 residents per care aide/LPN (HIRFs) on day shift compared with 12 residents per care aide/LPN (LIRFs). The disparity had real consequences that were clearly captured in the ergonomic study. Workers in HIRFs performed more tasks, had higher peak compression and higher cumulative compression in their lower back, and higher peak muscle activity in their neck/shoulder region than workers in LIRFs. The higher peak spinal compressions meant that the risk of disc injury was ever greater among HIRF workers than LIRF workers. Not surprisingly, workers in HIRFs more frequently reported having pain that was moderate to severe than did workers in LIRFs.

Concerns about workload and staffing levels were common to all facilities, but there were differences between HIRFs and LIRFs in how workload was discussed in focus groups and interviews. Wear-and-tear on the body and vulnerability to injury were obvious worries, but low staffing produced a cascade of other risks. Care aides at Alder Home (HIRF) talked about being rushed and sometimes unable to focus: “You’re trying to do two or three things at once – there’s too much on your mind, and you’re not always able to be cautious.” The administrator at Alder said that staffing levels were problematic and that lack of attention to safety and details was a prime cause of injury. In general, workers at HIRFs reported being:

- frequently too rushed to look for lift equipment;
- often unable to find a partner to help with a transfer or lift; and hence
- likely to take short cuts (i.e., not use safety precautions).

Low staffing in HIRFs was accompanied by other negative features. Despite the heavy workload, HIRF workers reported that managers tended not to acknowledge the demands on them. “The administrator doesn’t [say anything],” said a care aide at Sumac Home (HIRF). “We get more thank you’s from residents and other staff.” LIRF workers generally reported a different experience, even if they didn’t always get relief. “Management realizes the demands but there’s only so much they can do about it,” said a care aide at Larch Home (LIRF).

Also associated with workload were concerns about the quality of care for residents. These concerns were not isolated to HIRFs. “Sometimes we feel guilty, treating people like machines,” said a care aide at Cherry Home (LIRF). But workers in *all* HIRFs were concerned that the heavy workload interfered with their ability to give unhurried, personalized care to their

elderly clients. They saw the situation as unfair to residents and stressful for themselves. "It's a shame there's no time to talk [to residents]," said a care aide at Juniper Home (HIRF). "They're just room numbers, cattle."

Workload pressures, according to other sources, are a serious issue in publicly subsidized residential care facilities throughout the province (Continuing Care, 1999). The review of Continuing Care services in B.C. stated that "[the] overall increase in care needs of clients makes it much more difficult for staff to manage their already large case loads" (p. 10). At least part of the problem is attributable to the level of public funding, which is based on guidelines for B.C. nursing homes established in 1979. As the Continuing Care review states, "The funding system for Continuing Care contains serious weaknesses" (p. 13) relating to inflexible per diems, lack of consistent coverage for medication and equipment needs, and regional differences.

Yet the problem is not just outdated funding formulae. Facilities are funded on a global basis, which means that they have discretion in how to allocate resources. Per diem grants were not significantly different among the eight study facilities. (We were unable to obtain complete information about property costs and cannot comment on that factor.) Our research suggests that LIRFs devote more of their financial resources to direct care staffing than HIRFs, which may be interpreted as a reflection of organizational priorities.

Willow Home (LIRF) is an example of this prioritizing. During a discussion of staffing levels, the administrator observed, "We are doing very well compared with other facilities. We reduced management positions [in 1990 and in 1999] and dietary positions [in 1997] in order to allocate to direct care instead." Shifting resources was not without ramifications; the administrator also noted that support staff "were feeling threatened and resentful" due to losses in the kitchen. The director of care at Willow echoed the need to focus on direct care. "It's a laughable amount of work," the director said regarding her own workload, yet she intended to take a cut in hours because "I can't see cutting care staff without also cutting my own [position]."

The issues of staffing and job demands go beyond physical workload. In HIRFs, management's failure to acknowledge heavy demands was read by workers as a sign of disrespect, as were low staffing levels themselves. In HIRFs, feeling too rushed to spend quality time with residents was stressful and discouraging. As will be seen below, issues of respect, fairness, and trust also arose while examining the work environment as a whole.

Financial benefits analysis

The findings of a strong relationship between injuries and staffing levels led the research team to conduct a statistical analysis regarding the potential financial benefits of hiring more staff as a means of reducing injuries. The preliminary analysis suggests that savings in direct and indirect compensation costs could offset the expense of additional staff. This analysis is based on a very small sample. Further research into costs and benefits is warranted and could contribute to a discussion of setting minimum staffing levels.

Work environment: The interplay of policies, practices, and relationships

In any workplace, the manner in which jobs are designed and work processes are organized may influence the hazards that employees face. Injury risks may be offset by support mechanisms, decision-making and problem-solving approaches, and communication methods, to name a few. The role of organizational culture in safety outcomes is well recognized. Arguably, organizational culture is especially critical in work sites that involve complex human interactions, such as Intermediate Care facilities with their mix of vulnerable elderly people, friends and family members, volunteers, and staff.

Our research found considerable evidence that, in general, the organizational culture of LIRFs had features that tended to promote safer work practices, cooperative working relations, and a positive outlook towards caregiving. The features were multi-faceted and tangible. For instance, LIRFs were workplaces in which:

- care aides had involvement in resident care planning (care conferencing) and in maintaining ADLs;
- meetings were more likely to be a two-way street between staff and managers, with workers participating, taking initiative to propose agenda items, and believing that their concerns would be addressed;
- staff saw their managers as approachable, good communicators, and likely to try and change things when asked;
- policies on the use of mechanical lifts were well communicated and enforced in a supportive manner;
- more and better mechanical lifts were available and accessible;
- serious incidents of resident aggression tended to be followed up in a visible manner;
- workers saw their managers as generally fair in their dealings with residents and staff: favouritism towards residents was not an issue, nor was blame or distrust of workers;

- resident programming and services were more substantial than at HIRFs; and
- workers reported being “in synch” with the facility’s philosophy of care and had a generally positive view of the quality of care being delivered, albeit amid many pressures.

In LIRFs, management’s approach to resident care and services appeared to have a correspondingly positive impact on workers’ well-being, as expressed in injuries, self-reported pain, burnout, health and job satisfaction. Overall, a picture emerged that suggests links between organizational effectiveness, lower injury rates, and better quality of worklife.

The connection between organizational effectiveness and workers’ well-being has surfaced in other studies. NIOSH has recognized that job stress and organizational health are linked; Sauter (1996) observed, “The concept is not simply that these two dimensions – organizational performance and worker well-being – are compatible, but that they are mutually reinforcing” (p. 250). Healthcare studies have established links between employee satisfaction and patient outcomes. This study appears to support the idea that fairness, congruency, and efforts to fulfil the employment “promise” – essentially, creating a match between what a caregiver is expected to provide and what they are able to provide – are associated with safer work environments. Managers, workers, and residents interact in Intermediate Care environments that have spoken and unspoken contracts (promises) about quality care, equitable treatment, compassionate responses, open communication, supportive action, and personal safety. LIRFs appear better able to honour those contracts – to keep the promise – by providing the necessary tools, mechanisms, and supports.

An example of this pact is the involvement of care aides in resident care planning. Among facility personnel, care aides have the most sustained and intimate involvement with residents. The director of care at Willow Home (LIRF) described their role in this manner:

The care aide is probably the most important component of the nursing team. Care aides provide the first approach, the first listening, the first contact [with the resident]. How they approach the resident will determine how the resident does throughout the day. A lot depends on whether the care aide is resident focused or task focused.

A care aide at Willow described her role in more heartfelt terms: “Very loving, helping, caring. You want to treat residents the way you treat your own family. Your approach should be patient, unhurried ... you have to feel that way to do the work – you have to be attached.”

Care aides at Willow Home attended care conferences, as did care aides at all other LIRFs. Willow staff also had regular input into care planning, attended ad hoc meetings with family members, and had permanent assignments to residents, which included updating their ADLs. In the Willow focus group, care aides described a procedural change one of them had instigated. She had suggested that the facility wait a week before drawing up the ADLs for new residents, to give them a chance to settle in; the RNs had agreed to this idea. At Elm Home (LIRF), care aides felt able to speak directly to activity workers and the dietician about resident concerns. For example, a care aide at Elm had learned that a resident liked pets, so she suggested that the activity workers start a pet program. Another care aide discovered that a resident was Catholic and arranged for a priest to visit her.

These are examples of management tapping into care aides' knowledge both in a structured manner (at care conferences) and by encouraging initiative and interaction among the whole care team – all in the service of benefiting residents. Indeed, administrators and directors of care at Willow and Elm had high expectations of their staff *and* gave them numerous avenues of input and support. Support in LIRFs manifested in many forms, from following up on incidents of resident aggression to dealing promptly when an unsafe working condition was reported. (The Joint Health and Safety Committee at Elm was not especially effective largely because informal ways of dealing with problems worked well – i.e., staff talked directly to the administrator, who tended to act on their concerns.) Input at LIRFs also took many forms, from formal roles in care conferencing, to more participation in staff meetings, to reporting a greater sense of choice and discretion in dealings with residents.

Managers and workers in LIRFs tended to be more trusting of one another, which could be seen as an extension of the trust and fairness built into work processes. Workers also had a more favourable view of the facility's philosophy of care, unlike workers in HIRFs who often were quite cynical.

Philosophy of care

This research suggests that formal training and formal communications (e.g., workshops) are neither sufficient nor even necessary to embed a philosophy of care in a facility. Only two study facilities (one LIRF, one HIRF) had consciously embraced a particular approach – Gentle Care (GC) – whereas others had drawn from eclectic sources (GC, the “Eden” model, etc.). More important factors seemed to be consistent and respectful practices and relationships, and a striving for high standards of care that did not pit residents and their needs against workers and their needs. LIRFs tended to have a consistency between how management expected their

workers to relate to residents and how management related to workers. Further, managers in LIRFs tended to see front-line staff as *the means* by which they would achieve their objectives as care providers, hence the framework of more open channels of communication, more respectful interactions, and more substantial resources.

A theme repeated at several study facilities, by many different participants, was the challenge for care aides and LPNs to be less task oriented and more process oriented – i.e., to work *with* the individual resident, rather than to simply perform task after task. This is not a simple issue. Some older care aides, after years of working in traditional nursing homes with strict lines of authority, may be unaccustomed and unwilling to take on the decision-making role implicit in process-oriented care. Other workers find themselves in situations where the message about being non-task oriented is at odds with reality, especially when staffing levels are inadequate or other personnel (RNs and food services, notably) are unprepared to support this flexibility.

Care aides at Juniper Home (HIRF) spoke about the challenges. Flexibility, they said, means constant juggling. “We’re circus performers cum care aides cum psychologists,” said one worker. Another talked about the unpredictable nature of the workload due to resident choices. “Your stress level in the morning can be very high,” she said. “It’s like hitting all the green lights on the way to work one day, and all the red lights the next.” In short, managers cannot expect their workers to be resident-focused without providing mechanisms for facility-wide coordination and cooperation. At Willow Home (LIRF), where care aides and LPNs reported a good degree of flexibility, the floor teams were a multidisciplinary group consisting of care aides, LPNs, RNs, and therapeutic, recreation, and housekeeping staff.

Resources for residents

In general, LIRFs offered their residents somewhat better programming than HIRFs. Two facilities in particular, Elm and Willow, did a very good job of providing in-house programming and of tapping into community resources. Elm Home was part of a network of seniors’ services and housing, and enjoyed proximity to a seniors’ centre. Elderly volunteers from the centre, for example, helped with Elm’s walking program by accompanying residents around the corridors. Willow Home had established a charitable foundation to raise funds for a variety of resident aids and services, including:

- increased medical coordinator hours;
- pharmacist services;

- purchases of mechanical lifts, bath tubs, electric beds, and transfer belts;
- enhanced security system (portable companion phones);
- therapeutic programming (music, horticultural, and walking);
- physiotherapist services;
- 20 hours a week of pastoral care; and
- dementia training for staff.

Both Willow and Elm had active boards of directors and vital community connections, which contributed to their abilities to provide this enhanced programming. “[The board] keeps me on my toes,” said the administrator at Willow Home. “There’s an expectation that anything presented to the board will include how it benefits residents.”

The importance of Special Care Units

Gerontology experts recognize that dedicated Special Care Units (SCU) for people with advanced dementia are valuable to a facility as a whole. The specialized features of such units – relating to physical safety, stimulation, programming, and staffing levels – have benefits for residents and staff both within and outside the SCU. People with advanced dementia may have greater tolerance for each other’s behaviour; they may, for example, have lost their sense of “ownership” and be relatively unconcerned about personal belongings. In contrast, non-dementia residents may be very disturbed if someone repeatedly wanders into their room; hence the importance of keeping the two groups apart. Residents with advanced dementia often require a great deal of re-directing and intervening by staff. If this results in non-dementia residents receiving little attention or rushed treatment, they too may become agitated or aggressive. Basically, the presence of a well-staffed SCU will theoretically offer all IC residents an environment and level of attention appropriate to their needs, while the lack of an SCU may cause disruptions, stress, and work pressures that are upsetting to everyone (Maureen Hogg, RN Community Assessor, Mount St. Joseph Short Stay Assessment and Treatment Centre, interview May 2001).

Six of the eight study facilities had SCUs. The two facilities without SCUs had the highest injury rates in the study. (It is important to bear in mind that, although the dependency of residents in SCUs was greater than non-SCU residents, the average dependency of all residents was similar across all facilities. In other words, the lack of an SCU was not a reflection of lower resident needs). In the case of one facility (Alder Home), the physical shape of the building made the creation of an SCU difficult. Management at Alder Home attempted to deal with the

situation in a few ways. Alder would not admit people who were at risk of elopement, special programming was offered for the residents with advanced dementia, and a separate, “quiet” dining room had recently been constructed for them. The other non-SCU facility, Sumac Home, did not report any such accommodations. Rather, the facility had constructed a new wing in the late 1990s, largely for private-pay residents.

In the other six facilities, all the SCUs had significantly better staffing levels than regular units. Managers clearly recognized the greater dependency of SCU residents and set the resident-to-worker ratio accordingly. The study found that the injury rate in a facility’s SCU was higher than the rate in the same facility’s regular units – in some cases considerably higher although it was not possible to test the statistical significance. SCUs are clearly risky places for workers, and the lack of an SCU appears to heighten the risk considerably.

Resident aggression – incidence and aftermath

The impetus for this project derived, in part, from a study of resident aggression in B.C.’s residential care facilities (Boyd, 1998). Our research examined the issue from several angles. The telephone survey asked care aides/LPNs about the frequency of abusive incidents (verbal and physical), their training around dementia, incident reports and follow-up, and their beliefs about vulnerability to aggression. Interviews and focus groups explored policies, practices, and perceptions with managers, RNs, and front-line staff.

The data were not especially informative regarding differences between LIRFs and HIRFs. There were no significant findings around the percentage of reported aggression-related incidents and time-loss claims. The telephone survey responses showed that 75.5% of HIRF workers experienced one or more incidents of physical abuse in the previous month compared with 68% of LIRF workers. Although these figures show that workers face considerable exposure to abuse, there was no significant statistical difference between HIRFs and LIRFs.

A real difference, however, did lie in how facilities dealt with incidents. In general, managers in LIRFs kept their workers better informed about a resident’s history of aggression and responded in more visible and supportive ways to serious incidents (e.g., arranging follow-up with a mental health team, or using an in-house tracking system). Workers in HIRFs, in contrast, often reported feeling blamed for incidents and unaware of any follow-up. Care aides at Juniper Home (HIRF) described the dynamic with the former management. “You can’t defend yourself if a resident strikes you,” said one worker. “It isn’t fair – even if you automatically defend yourself or hit the person back, you’re *fired*. But you’re only human, you can’t always control your reaction. You have feelings.” Another care aide said, “When you get hurt, you’re

told it's part of the job – yet there are no consequences for the [aggressive] resident.” Still another said, “You’re on your own.”

Workers in all facilities questioned the idea of filling out an incident report for every occasion – it wasn’t considered realistic or useful. But they did want information, follow-up, acknowledgement, and a caring response, and these were generally available to workers in LIRFs.

Training and education

Although training was cited as a useful preventive measure in every facility, by managers and workers alike, we are unable to make firm statements about the roles that education and training play in injury rates in these eight study facilities. (Nor is the literature on the subject clear regarding body mechanics training and injury prevention.) For example, about 90% of care aides/LPNs in the telephone survey had been trained in the use of mechanical lifts. Most workers in LIRFs and HIRFs had received training to work with dementia, though they tended to acquire the training from different sources: LIRFs were more likely to provide some dementia training for their workers (63% of LIRF respondents vs. 45% of HIRF), whereas HIRF workers were more likely to have received it as part of their formal education (47% of LIRF respondents vs. 64% of HIRF).

All parties, from administrators to front-line staff, agreed that continuous training around safe working practices would be valuable. The most desirable training would use skilled trainers (whether in-house, peer, or expert), be hands-on (practical rather than simply theoretical or in pamphlet form), reinforced at least annually, and available to all workers (wage replacement would help to ensure this, or at least scheduling training to overlap day and afternoon shifts – e.g., 2:00 pm to 3:00 pm). Some facilities noted the value of physio- and occupational therapists, not only in maintaining and restoring residents’ capabilities, but in instructing staff in safe and appropriate ways of working.

One LIRF offered an example of an innovative and apparently effective approach to safety training. Cherry Home (LIRF) adopted a “train the trainer” program for MSI prevention, in which a core group of care aides and RNs were trained by the regional physiotherapist; Cherry Home was amalgamated with the local hospital, and thus had access to a staff physiotherapist. The director of care formed the group by inviting participation from individuals who represented a variety of body types (e.g., short, tall) and experiences (e.g., formerly injured, well respected). These volunteers met and decided how they wanted to be compensated for their time, when to train, and what their vision/approach would be for the program. The group trained with the

physiotherapist for six months; thereafter, they trained their co-workers on transferring and lifting techniques, with each worker having at least one mandatory session. Cherry Home had some difficulties finding staff time for these sessions, but the region eventually reimbursed them for half the training time after seeing the program's effectiveness (the physiotherapist had tracked injuries pre- and post-training).

Safety policies and practices

The study showed a network of correlations between injury rates/ well-being and safety policies, practices, attitudes, and resources. The picture that emerges is of LIRFs with somewhat clearer policies (e.g., "no manual lifting"), backed up with better and more numerous resources (e.g., mechanical lifts), more constructive enforcement (e.g., educational in tone), and a work environment that was less rushed (e.g., higher staffing levels) and more flexible (e.g., discretion about working with residents and more likelihood that management and RNs would support those choices). The study suggests that neither policies nor equipment alone are sufficient to promote safe working habits. A "safety environment" is just that: a complex set of interrelated conditions and values.

The ergonomists in the study observed that the use of mechanical lifts was minimal in all study facilities and was inconsistent among care aides in the same facility. Participants in focus groups and interviews tended to agree that compliance with no-lifting policies was spotty. Nevertheless, LIRFs appeared to be managing the challenge more effectively with a combination of better resources, more consistent reinforcement, and better staffing.

The impact of ownership and governance status

The study examined the governance and ownership status of the study facilities, to determine whether these factors played a role in injury rates. The eight study facilities represented a mix. Four were stand-alone non-profit facilities, owned and operated by charitable organizations, with a variety of founders (e.g., a church, a service club, etc.). Two other facilities had originally been independent non-profits and were now amalgamated with the regional health authority and administered by the local hospital. One facility was a for-profit facility owned by a national corporate chain. The eighth facility had been a non-profit until the mid 1990s, when licensing board problems led to it becoming a public-private partnership. These last two facilities – Poplar Home and Sumac Home – were HIRFs.

Administrators in all eight facilities were asked about the role of boards and owners in fundraising, planning, and budgeting. We were interested in whether injury rates were associated with a facility's ability and practices regarding investments in equipment and aids, capital improvements, and staff training. Administrators and directors of care were also asked about relationships with regional personnel and programs (e.g., mental health teams, continuing care assessors, training programs). Among other things, we wondered if injury rates were associated with these connections or lack thereof, and whether governance and ownership were influential.

We found no clear patterns between LIRFs and HIRFs regarding these matters. (It is important to note that the budgeting category encompassed capital, training, and equipment expenditures in the last three years, and that the differences in mechanical lift resources did not stand out.) However, a number of noteworthy issues did arise concerning the mix of private and public beds in a single facility.

Mixing private and public: Two study facilities (Poplar and Sumac) had both private-pay and publicly subsidized beds. In both facilities, managers and front-line staff said that they treated private-pay and subsidized residents the same regarding quality of care, services, and access to programming. Nevertheless, dynamics between residents and staff may arise in mixed settings. For example, care aides in Poplar Home (HIRF) said that some private-pay residents feel they should be getting better care than other residents and will sometimes pressure staff to give them "special attention." The administrator at Poplar acknowledged that residents who pay thousands of dollars per month can have different expectations than others.

Another issue concerned the negative effects of low demand for private beds, a situation faced by Poplar Home. The facility had ongoing difficulties filling its private-pay beds and then keeping them filled. Poplar had a high turnover of short-term private-pay residents, placed by families who were, in the words of the administrator, "at the end of their rope" for a bed but unable to sustain the monthly fees. The family would move their relative out as soon as a subsidized bed became available. This high turnover meant that nursing staff were constantly dealing with new residents, many of whom were arriving from stressful situations and not staying long enough to acclimatize to their new home. Poplar's administrator estimated that, in the year 2001, 45% to 65% of the private-pay beds were temporary placements of 3 to 12 months' duration.

Another effect of the vacancy problem was that the facility was actively soliciting subsidized placements. "We're looking for more business [from the health authority]," said Poplar's administrator. These placements were also temporary: from two days to three months

but often only a week, according to Poplar's director of care. The facility, she said, was helping to relieve regional pressures created by early hospital discharges. This situation had several repercussions: 1) the director of care was extremely busy soliciting and administering the short-term placements; 2) pre-screening of residents was not possible, and the facility relied exclusively on information from continuing care; 3) placements arose suddenly, which made workload somewhat unpredictable; and 4) continuity of care was difficult because staff were dealing with unfamiliar residents who came and went frequently.

Allocation of resources: Sumac Home (HIRF) was the other study facility with a mix of public and private beds. Sumac Home was a private-public partnership, owned by the municipality and leased to the administrator's private firm. The majority of Sumac's beds were public. The private beds were in a new wing, constructed by the administrator after assuming control of the facility. As mentioned previously, Sumac Home did not have a Special Care Unit despite having residents who would benefit from such a specialized environment. Arguably, a better "investment" in the facility would have been a dedicated SCU rather than a private-pay wing.

Miscellaneous features of private or mixed facilities: In the study, Poplar and Sumac had some features in common, unlike the other study facilities:

- no medical coordinator, at the time of the interviews;
- belated acquisition of mechanical lifts (both had recently made such purchases); and
- little community involvement (i.e., volunteers, programming).

Features of amalgamated facilities: The two amalgamated non-profit facilities, Larch and Cherry, also shared some features. Facility administration was based off-site, and front-line staff generally regarded senior management as being distant and inaccessible. At Larch Home, care aides observed that "not as much management was happening" compared with pre-amalgamation, including less communication and "more secrecy." Staff morale had declined among care aides. People had a sense that promised improvements had not materialized and uncertainty had increased. The RNs, in contrast, believed the amalgamation had improved access to resident services, and they were simultaneously proud to be part of a hospital and worried about "being too small."

Cherry Home presented a different picture, yet with related themes. "The administration is not really part of the chain of command you would take your concerns to," said a care aide. "We have no idea who our bosses are – our managers are spread across too many facilities," said

another. Staff morale had suffered because of amalgamation. In part the problem related to identity – not wanting to attend amalgamated staff parties or do gift exchanges. Staff also had a sense that, overall, management and supervision had deteriorated, as had the building's upkeep, equipment, and supplies.

A conceptual framework

This research has given rise to a conceptual framework that encapsulates our understanding of what makes some residential care facilities healthier workplaces than others. To begin, it is essential to bear in mind the distinctive qualities of these work sites and, hence, of the work itself.

Each Intermediate Care facility is *a home*: a communal residence in which elderly individuals sleep, bathe, visit, roam, worry, dream, play, quarrel, eat, and sometimes die. These are not ordinary workplaces. Nor are they ordinary healthcare facilities where patients come and go. The work takes place in someone's home, by someone's bed, at someone's dinner table.

Unlike an ordinary home, however, there is loss built into these sites. Residents experience the loss of privacy, personal space, mental and physical abilities, and loved ones. The losses are ongoing. The administrator at Willow Home articulated this when she described the care aide's role:

Their role is to recognize that the resident is an individual, a human being with emotions, not "that resident with Parkinson's." And to understand that residents are vulnerable to staff and to their surroundings, and that the residents don't [necessarily] want to be here and are dealing with a tremendous amount of loss.

This is not to say the homes are unfortunate places. It merely recognizes the emotional and spiritual dimensions (and demands) of the workplace. This is not like caring for people who will go home soon or get better.

The work of front-line staff is intimate and personal. They touch, toilet, dress, bathe, and feed residents, each of whom is a unique and changeable human being in the last stages of his or her life. The work is customized. To be done well, it requires compassion and sensitivity as well as skills related to geriatric conditions. In particular, residents with dementia must be approached with sensitivity and flexibility. A nursing home does not lend itself to industrial organization or to cookie-cutter work processes.

The customized quality of the work is recognized by the sector, at least in theory. British Columbia has acknowledged the trend to replace the old-style institutional model of long term care with more home-like, personalized, and flexible environments. Maxims about honouring the dignity and uniqueness of each resident are well established. Also entering the lexicon are ideas about how workers should conduct themselves vis à vis residents. Of particular importance is the idea of being resident-oriented, rather than task-oriented. It isn't *what* you are doing, it is *how* you interact. A staff person doesn't merely do the work, he or she is expected to do it in a manner that respects individual preferences, acknowledges personal space, encourages the capacity for self care, and stays alert to changing needs, moods, and abilities from hour to hour, day to day.

This study shows that managers who view their front-line staff as key members of the team that delivers this model of care – i.e., who see their workers as responsible and capable – are likely to have practices and policies that promote a safer work environment, cooperative relations, and a positive outlook on caregiving. The key ingredients in such workplaces are (in no particular order – these factors are inter-related):

- 1. An engaged environment**
- 2. A substantive philosophy of care**
- 3. Concrete policies and practices**

1. Engaged environment means:

- multidisciplinary teamwork is cultivated
- feedback and initiative are encouraged, by participatory meetings and by manager responsiveness
- flexibility with residents is supported, by RNs and personnel in other departments
- problems are visibly followed-up

2. Substantive philosophy of care means:

- clear and realistic expectations about the model of care
- backed up by training that does not idealize working conditions, but rather works with them
- values are modelled by managers in dealings with staff, in a climate of mutual respect, trust, and fairness

3. Concrete policies and practices means:

- policies are clear and visible, e.g., no manual lifting
- policies are consistently monitored and enforced by peers, RNs, and managers
- staffing levels are appropriate
- mechanical lifts are accessible
- programming and services for residents are comprehensive
- training and staff development are ongoing and inclusive

Table 1 offers a detailed description of this paradigm, based on findings from this study.

Looking to the future

Although some IC facilities have higher injury rates than others, it is important to reiterate that injury rates are high throughout the residential care sector. Managers in the eight study facilities, irrespective of injury rate, referred to pressures in Intermediate Care that could be influencing this sector-wide problem:

- heavier resident demands in the last decade, especially regarding dementia;
- RN shortages, which affect supervision and reinforcement issues;
- lack of wage replacement funds to ensure continuous and comprehensive safety training;
- scarcity of specialized personnel – e.g., physiotherapists, occupational therapists, nurse educators, assistant directors of care, and rehabilitation aides – to provide services to residents and to help in building a safety culture; and
- low staffing levels, especially in regular units and on night shift.

This study shows that facilities can cultivate organizational cultures that mitigate these pressures. Yet the pressures remain and are likely to increase. The province of British Columbia is moving towards major changes in public access to residential care facilities. The designations Intermediate Care and Extended Care are slated to be eliminated and replaced by a new designation, Complex Care. A new assessment process is being introduced, and only clients with serious needs will be admitted to publicly subsidized beds, namely persons with advanced dementia and those nearing the end of life. In the near future, residential care facilities will become de facto Special Care Units in their entirety.

The significance of this change and its possible impact on staff injuries and quality of worklife cannot be overstated. As discussed earlier, existing SCUs are better staffed than regular units in recognition of the heightened needs of residents with advanced dementia. The research found significantly better staffing levels in SCUs compared with regular units throughout the study facilities. The injury rate within a facility's SCU was higher than the rate within regular units in the same facility, but still lower than the injury rate in facilities with no SCU. Presumably, the extra staffing was preventing the SCU injury rate from rising even higher. The implication is clear: Residential care facilities of the future will need better overall staffing than facilities today.

**Table 1 – Conceptual framework:
What makes some facilities safer and healthier workplaces than others?**

Observations about high-functioning LIRFs ↓	<ul style="list-style-type: none"> • teamwork is strong and multi-disciplinary in approach • staff are more likely to take initiative • RNs are more likely to support flexibility and respond to care aides' concerns about residents • in general, problems are visibly followed up by RNs and mgmt. • staff have positive attitude towards challenges of job, rather than cynicism or distrust 	<ul style="list-style-type: none"> • clear and realistic expectations about the philosophy of care: it is a work in progress rather than a <i>fait accompli</i> • backed up by explicit training or reinforced by "value messages" that are perceived as trustworthy (i.e., more than rhetorical) • values are modelled by mgmt. in dealings with staff 	<ul style="list-style-type: none"> • clear and visible policies (on use of mechanical lifts, for example) • enforced by whole team: peers, RNs, and mgmt. • appropriate staffing levels (as good as it gets) • sufficient, accessible, and appropriate mechanical lifts • comprehensive programming and services for residents
General ideas ↓	<ul style="list-style-type: none"> • staff are viewed as agents, as a resource – mgmt. recognizes the centrality of front-line staff to resident care • there is a "respectful hierarchy:" roles are acknowledged, and roles fit together rather than being at odds • people are candid about conflicts and shortcomings; there is little or no structural resentment 	<ul style="list-style-type: none"> • beliefs, goals, projects are real ("mgmt. walks the talk") and realistic (rather than token or idealistic) • the philosophy is actively applied • praxis: the goal is to have a consistent practice of putting beliefs into action 	<ul style="list-style-type: none"> • policies and practices are conspicuous, observable, visible • communicated clearly – staff know what is expected of them, and are supported, instructed, and reminded • "practices" includes material and human resources: staffing levels, mechanical lifts, programming for residents, training for staff, etc.
CONCEPTS	- Interactional - (how people relate) ENGAGED ENVIRONMENT	- Philosophical - (why people do what they do) SUBSTANTIVE PHILOSOPHY	- Practical - (how they do it) CONCRETE PRACTICES
↑ Atmosphere	<ul style="list-style-type: none"> • respectful, courteous • collaborative (people are brought on side, rather than left feeling outside) • fair-minded, empathetic • mgmt. is accessible • trusting (honest efforts, few charges of "lip service") 	<ul style="list-style-type: none"> • high expectations of self and others • honest about limitations • dynamic (not static, always room for improvement) 	<ul style="list-style-type: none"> • consistent (not haphazard or dependent on individual) • resourceful (tap into existing resources or create opportunities) • practical (material results)
↑ Actions	<ul style="list-style-type: none"> • exchange information (ask for and give) – consult, communicate • teach (not blame) • support workers, acknowledge demands • involve staff – utilize their skills and capabilities 	<ul style="list-style-type: none"> • deliberate implementation or re-inforcement of values • consider the big picture (not just little pieces) – work towards comprehensive changes • try to model values in all settings (btwn mgmt./staff; btwn staff/families; btwn residents/staff) 	<ul style="list-style-type: none"> • provide human resources, materials, and training • communicate verbally (in person), as often as necessary • reinforce by multiple avenues (on paper, in person, at mtgs, etc.) • visible follow-up, tracking, and evaluation are built into actions and policies

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