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### BACKGROUND

The Golden Horseshoe General Hospital (GH<sup>2</sup>) is a centre for complex acute and specialty care that serves the Golden Horseshoe region, including West Toronto, Oakville, and Hamilton and extending down the Niagara Escarpment. The structure and operations of the facility are typical of major medical centres concerned with containing costs while provide timely, high-quality medical care.

The following data provide a profile of the Golden Horseshoe General Hospital:

- 350 inpatient beds, including 40 beds in the intensive care unit (ICU);
- 600 medical staff, including physicians, psychiatrists, and consultants;
- 3,500 (FTE) staff including RNs, technicians, and building services;
- 65,000 visits to the Emergency Department per year (nearly 200 visits per day, about 40 of them by ambulance and one or two via medical helicopter);
- 800 volunteers who give more than 70,000 hours of supporting care each year;
- 300 outside contractors working in the hospital on a typical day.

The executive management team and board of directors at GH<sup>2</sup> suspect that workplace health and safety in general and worker compensation claims in particular are a major cost driver for the hospital operations, but they do not have a good handle on the problem. Their immediate challenge is to develop a plan for investment into health and safety practices that defines the problem, analyzes the costs and benefits of implementing a health and safety program, and provides a recommendation based on this assessment.

Managing occupational health and safety presents significant costs to organizations. However, organizations that fail in this area face much more significant costs for both the organization and the employees. Creating a culture of safety requires leaders to manage a complex change process. While it is easy to see the direct costs of workplace injuries, creating a safety culture requires more than simply reacting to the costs of injury claims. A health and safety culture reflects proactive investment in comprehensive health and safety practices. Creating a comprehensive plan for health and safety practices is essential to securing the commitment and investment necessary to successfully navigate the change process. The Board of Directors at GH<sup>2</sup> would like to see the plan and its underlying analysis so that they fully understand the nature of the health and safety problem and what should be done to address it.

The plan must take into account both prevention and insurance. A team of consultants hired to develop the plan has collected data and conducted interviews to gain a better understanding of the current state of health and safety practices.

## **WORKPLACE HEALTH AND SAFETY**

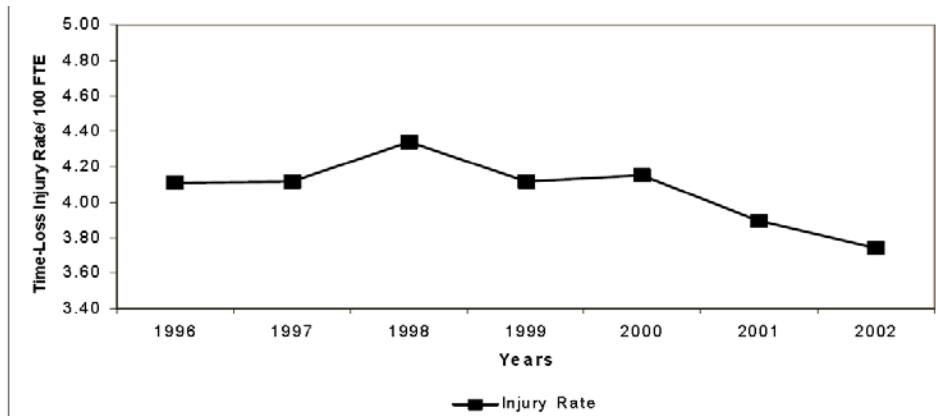
Workplace health and safety has two components. The first concerns prevention of accidents and enforcement of safety regulations. The Ontario Ministry of Labour administers the *Occupational Health and Safety Act* (OHSA) by providing education on prevention, health and safety audits of workplaces (Workwell audits), and enforcement of OHS regulations. In addition to external education and regulation, health and safety in Ontario depend on a well-functioning Internal Responsibility System (IRS) in the workplace. An IRS comprises such elements as a joint health and safety committee, trained and certified health and safety experts, training for general staff, and effective processes for identifying and removing hazards from the workplace before they result in injuries or illnesses.

The second component is insurance against workplace injuries and illnesses. Ontario's workers' compensation system is administered by the Workplace Safety and Insurance Board (WSIB), which both functions as an insurance agency and administers wage-replacement benefits and purchases health-care services.

### ***Occupational Injuries and Illnesses***

The incidence of workplace injuries is typically measured as the number of lost-time injuries per 100 full-time equivalents (FTE). Canada has made significant progress over time in reducing the injury rate. As shown in Figure 1, a study of the healthcare sector found that the injury rate dropped to a rate of 3.7 in 2002 after edging up slightly between 1996 and 1998. These declines have provided encouraging evidence for the effectiveness of health and safety program across Canada.

**Figure 1: National injury rate for the Canadian healthcare labour force**



Source: Occupational Health and Safety Association for Healthcare (2004), “Trends in workplace injuries, illnesses and policies in Canada”, p. 16.

At 3.0 (that is, 3.0 confirmed loss-time injuries per 100 FTEs), the lost-time injury rate in Ontario’s healthcare sector is lower than the national rate for healthcare workers. At GH<sup>2</sup>, the rate in the last year was slightly higher: among the 3,500 staff, there were 110 lost-time injuries. These figures do not include “near misses”, incidents that could have easily resulted in serious injury. On average each week, there were at least two accidents at the hospital that forced employees to get first aid and miss time from work. The average injury rate for hospitals in Ontario in 2011 was 2.0, which means that GH<sup>2</sup> has an injury rate 50 per cent higher than the industry average.

WSIB statistics on injury rates in healthcare include both the hospital sector and the long-term care sector. Injury rates in the long-term care sector tend to be much higher than in acute-care hospital settings. Therefore, while the injury rate at GH<sup>2</sup> may be only slightly above the rate in healthcare in general, the rate at GH<sup>2</sup> is well above the injury rates experienced at other Ontario hospitals. In comparison with other hospitals in Ontario, a 30 per cent reduction in the number of lost-time injuries at GH<sup>2</sup> is quite achievable. Table 1 presents data on the number of lost-time and no-lost-time injury claims at GH<sup>2</sup>.

**Table 1: Lost-time and no-lost-time claims at GH<sup>2</sup>**

Year	Number of lost-time claims	Number of no-lost-time claims	Full-time equivalent (FTE) workforce
2010 – 2011	110	106	3,500
2009-2010	115	98	3,595
2008-2009	118	108	3,602
2007-2008	121	115	3,781
2006-2007	128	105	3,828
2000-2001	134	74	3,200
1990-1991	154	63	3,412

Another issue that should be considered is the proportional rise of incidents that result in injury but not in lost time at work. There has been tremendous success across Ontario and Canada as a whole in reducing the number of such workplace injuries. Injury rates that result in time lost from work have declined dramatically in the past twenty years, including at GH<sup>2</sup>. The same is not the case for claims of workplace injuries that do not result in time lost from work but may require either follow-up medical care or accommodation or both.

There are several possible explanations for this apparently divergent trend in the data. First, return-to-work programs and the ability of firms to re-integrate injured workers before they have missed work have improved greatly. Second, and of particular concern to advocates for injured workers, is the financial pressure on organizations and individual workers not to report lost-time injuries in order to prevent increases in WSIB premiums. A US study that compared emergency department records against worker compensation claim data estimated that 68 per cent of workplace injuries were not reported.<sup>i</sup> A recent study in Ontario by the Institute for Work & Health found much stronger agreement between WSIB data and records from hospital emergency departments.<sup>ii</sup> Still the incentives for under-reporting present real challenges to ensure that cost savings are derived from actual improvements in health and safety practices rather than a failure to report such incidents.

A study by researchers at Health Canada and the University of Toronto<sup>iii</sup> found that nurses accounted to the majority (69 percent) of the 2,293 lost-time claims filed by Ontario hospital workers in 1998. Nurses represent the largest occupational group at GH<sup>2</sup>, but as in the rest of the province, nurses are over-represented in the number of lost-time injuries they experience.

From an interview with Jaquie First, R.N., Emergency Department Nurse, Chair of ONA's OHS Committee:

“One word could change the health and safety culture here: respect. SARS was big news, but every day we face hazards in the workplace. A safety culture has to start with respect and listening to nurses. Staffing is the other big problem. If you are short-staffed, you try to cut corners to take care of the patients, and that means compromising health and safety.”

## DIRECT COSTS OF WORKPLACE INJURIES AND ILLNESSES

The most obvious direct cost to the hospital is in the form of workers' compensation insurance premium payments. Premiums are determined by industry rating and insurable earnings, or the size of the organization's payroll. GH<sup>2</sup> is in the hospital industry group and has annual WSIB premiums of \$2.7 million. Based on the most recent financial reports (please see Appendix A), WSIB basic premiums constitute about one per cent of payroll and nearly thirty per cent of surplus revenue.

In addition to the insurance premiums paid to WSIB, there are other direct costs related to replacing the injured worker through overtime by existing workers or a larger employee pool. Under the collective agreements, the hospital provides a supplemental “top-up” of WSIB wage-replacement benefits. For the 2011 accident year, the average direct cost per lost-time injury was estimated at \$33,513.

Generally, indirect costs are estimated to be at least four times the direct costs of lost-time injuries, though these factors can be as high as ten times the direct costs, depending on the nature of the accidents.

## **INDIRECT COSTS OF WORKPLACE INJURIES AND ILLNESSES**

Direct costs such as the lost-time benefits paid to an injured worker are just the tip of the iceberg in considering the total financial and non-financial costs of workplace injuries. Total equipment damage and repair costs accounted for nearly \$5 million of the general expenses in the last fiscal year. While most of those costs were attributable to normal wear and failure of equipment, damage related to incidents of workplace injuries could make up as much as 20 per cent of those costs.

Reports from a number of departments alerted the consultants to the costs associated with equipment damage. One case in particular involved an environmental services technician who was cleaning the MRI room when a lab technician turned on the machine. Having been badly injured during the civil war in his home country of Somalia, the cleaner had to wear a metal brace on his knee at all times. The worker suffered minor injuries when the magnetic field ripped off his brace, but the damage to the machine cost nearly \$75,000 to repair and the department estimated another \$10,000 in lost revenues from lost production while the machine was inoperative and the replacement was not yet on-line. Renting an MRI as a temporary replacement added another \$15,000 in extra costs.

From an interview with S. Rowland, VP of Human Resources:

“Jaquie certainly has a point about staffing being a concern. Recruiting and retaining RNs is a problem across Ontario. But it takes more than putting workers on the floor. I think we need to evaluate our organization from a healthy workplace perspective. We need a comprehensive training program for all staff on an annual basis. We need to promote healthy lifestyles, especially mental health. Emotional exhaustion and burnout are the big reasons for nurses to leave the profession. There is no silver bullet when it comes to creating a culture of safety. We have to approach the problem from every angle. I don’t know how much this would cost. I imagine that a full-scale training program could cost \$500,000, but that is far less than what we have to pay for just a handful of bad accidents.”

Reflecting on the implications of such incidents, the consultants worked on matching injury claims to forensic audit data in order to estimate lost productivity costs of workplace injuries over the past twelve months. It is common in the hospital to reschedule procedures and surgeries for a variety of reasons (the patient develops a fever, an emergent case requires the operating theatre, or the stakeholders simply want to wait), but there is a cost of doing so.

Workplace injuries do affect the operations and can result in service disruptions. Administrative costs are significant. Time and resources are needed to manage the scene of the accident. Managers spend time investigating the incident, and staff needed to manage the paperwork for the WSIB and the MO and to follow up with the injured employee, especially if ongoing medical attention is needed, consume vast amounts of time and resources.

There are also opportunity costs: if the hospital did not have to devote so much

staff time and resources to managing workplace injuries, those funds could be invested in professional development or other improvements in the quality of service. Through interviews with HR staff and accounting clerks, the consultants estimated that every lost-time injury takes an average of five FTE days to manage. Some cases are straightforward, and everything can be managed in a few hours. If a case goes to a legal hearing, however, administering the claim may involve dozens of person days.

In addition to costs, the consultants also encountered other factors to consider, especially the negative impact on staff morale and trust in management leadership. The loss of a key ICU nurse may increase risks associated with compromised quality of care. A hazardous work environment may be self-sustaining if workplace injuries result in short-staffing and the shortage of staff increases the risk of injury. The perception of poorly managed health and safety may result in heightened attention from the Ministry of Labour and more frequent (and costly) Workwell inspections.

In a highly unionized environment like GH<sup>2</sup>, poor or inadequate health and safety practices will lead to an exponential increase in employee relations issues. First, there is the direct concern that workplace hazards are not being properly identified and managed. New legislation requiring policies and programs to address workplace harassment and violence makes health and safety practices even more important for employee relations. Second, managing the re-integration of injured workers and ensuring that the hospital provides reasonable accommodations takes an astonishing amount of time and resources. GH<sup>2</sup> has one in-house staff attorney and two HR managers who work nearly full-time on matters concerning workplace accommodations.

The consultants found that part of the problem was that the culture of managing workplace injuries is adversarial. Rather than focusing on awareness and prevention, the union and management tend to disagree over every incident. Management are hawkish over what they see as abuses by workers taking advantage of workers' compensation and the hospital's supplemental benefits. In response, the union typically files a grievance after every workplace incident. Such an adversarial relationship regarding workplace health and safety may be a significant cost driver.

"Problem" workplaces are more likely to be the target of unannounced inspections by the Ministry of Labour (MOL). Enforcement of the OHSA includes both scheduled and unscheduled site visits by MOL occupational health and safety inspectors. These inspections can result in various orders to bring the organization into compliance with the Act. In serious cases, an inspector has the authority to issue a "stop work order" – an enforceable mandate that the employer cease operations until the health and safety violation is corrected. There are costs associated with compliance with these orders from the MOL, including equipment or process modifications as well as costs associated with administrative procedures.

Finally, legal costs associated with WSIB claims can escalate rapidly. There are legal counsel fees, management and employee time in preparation and giving testimony at hearings, fees for expert witnesses or professional medical opinions, and fines. The consultants' audit of legal costs indicates that they have ranged

from a few hundred dollars to over fifty thousand dollars. On average, they cost just under three thousand dollars per claim.

## **LEGAL REQUIREMENTS UNDER OHSA**

Under the Act, employers in Ontario have to pay regular WSIB premiums based on the size of their payroll and type of industry. Workers' compensation has long been promoted by labour unions as a form of protection for injured workers. At the same time, WSIB benefits replace the workers' right to sue for similar benefits. Employers are required to cooperate with injured workers to achieve early and safe return to work. Employers must report work-related injuries and complete WSIB accident report forms. Violations of WSIB policies can result in administrative penalties and violations of the Act can result in large fines or orders to stop work until the violation is addressed and the hazard is removed from the workplace. Human rights legislation further obligates employers to make a reasonable accommodation to workers with a chronic or permanent injury or illness.

### ***New Experimental Experience Rating (NEER)***

The NEER program is an initiative by the WSIB to reward organizations that invest in health and safety. By applying an experience rating to premium calculations, NEER seeks to create a fairer distribution of the premium burden. Under NEER, an organization with a good record relative to the industry average gets a refund on its premium. In contrast, those organizations with a poor record relative to the industry average pay a surcharge.

The way NEER works is essentially to calculate the difference between expected costs, based on industry data, against the organization's actual costs. Figure 2 provides a schematic of how NEER works.

The *Performance Index* under NEER is a simple ratio and can provide a quick benchmark on performance.

$$\text{Performance Index} = \frac{\text{NEER Actual Costs}}{\text{Expected Costs}}$$

If GH<sup>2</sup> matched the average for the hospital sector, its Performance Index would be 1.0. As shown in the table below, for three of the past four years, GH<sup>2</sup> has had a performance index that was capped at 4.0, resulting in the maximum surcharge.

**Table 2: NEER Performance Rating for GH<sup>2</sup>**

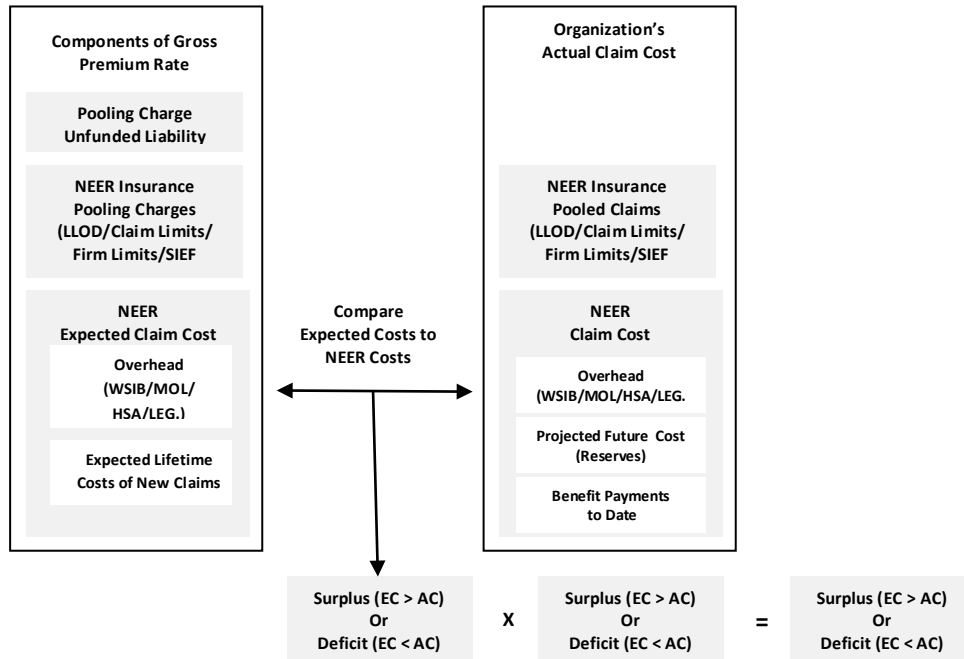
<b>Accident Year</b>	<b>Premium (\$)</b>	<b>Expected Cost Factor (%)</b>	<b>Expected Costs (\$)</b>	<b>NEER Costs (\$)</b>	<b>Rating Factor (%)</b>	<b>Refund (Surcharge) (\$)</b>	<b>Performance Index</b>
2011	2,700,000	33.12	894,240	3,686,430	83.15	(2,321,706)*	4.1*
2010	2,689,500	32.25	867,363	2,968,380	82.56	(1,734,599)	3.4
2009	2,668,902	33.55	895,416	4,300,982	82.25	(2,801,078)*	4.8*
2008	2,649,788	32.97	873,635	3,973,519	82.20	(2,548,105)*	4.5*



\* The maximum surcharge is capped at a performance index of 4.0. Therefore the surcharge for 2011 was capped at \$2,974,242 or slightly more than 1 per cent of total payroll. Put another way, the surcharge for lost-time workplace injuries and illnesses at GH<sup>2</sup> reduced the revenue surplus by more than 20 per cent.

**Figure 2: New Experimental Experience Rating Program Formula**

**How NEER Works**



Source: WSIB (2011), *User Guide: New Experimental Experience Rating (NEER)*, p. 4. Available from the WSIB website <http://www.wsib.on.ca/en/community/WSIB>

The detailed formulae for determining NEER rebates can be very complex, but again, it is essentially a matter of measuring the difference between expected costs (what the industry average is expected to be) and the actual claim costs (what the organization's actual costs were for the year). The rating factor used in the formula is based on the size of the firm, ensuring that small businesses do not experience volatile swings in rebates and surcharges. GH<sup>2</sup> is relatively large and has a rating factor of 83.15 percent. If GH<sup>2</sup> had had no injuries or illnesses (NEER costs = \$0), the maximum rebate for 2011 would have been

$$(\text{Expected costs } (\$) - \text{NEER costs } (\$)) \times \text{rating factor} = \text{Rebate (surcharge)}$$

$$(\$894,240 - \$0) \times 83.15\% = \$743,560$$

Adding the maximum unrecovered rebate (\$743,560) with the surcharge for 2011 (\$2,974,242), the total average unrecovered rebate per lost-time injury was \$33,798.

## RETURN-TO-WORK PROGRAM

The hospital has managed the re-integration of injured workers on an *ad hoc* basis. An effective return-to-work program is considered an essential component of a comprehensive health and safety system. The dominant view of managing accommodations at GH<sup>2</sup>, especially those for injured workers with permanent restrictions, has been shaped by the adversarial culture in health and safety practices. Lack of accommodations has been criticized as violating human rights law. Past experiments with aggressive return-to-work program initiatives were criticized for forcing people to work before they were healthy enough to return. The economic incentives for reducing the number of lost-time claims may be compelling, but the business case must consider how to do so in a way that builds trust and organizational commitment. The unions have suggested that there should be a sub-committee of the joint health and safety committee – a joint return-to-work committee.

In order to assess the economic potential of an effective return-to-work program, the consultants asked the HR division to outline the costs of three scenarios (shown in Table 3) relating to Susan, a 35-year-old environmental services worker earning \$21.01 per hour, who is injured on the job and suffers a minor but permanent impairment with restrictions. Differences in potential return-to-work (RTW) scenarios add up to big differences in costs.

**Table 3: Return-to-work cost scenarios**

		Total estimated costs
RTW Scenario #1	Employer finds suitable work immediately. No lost time beyond day of injury.	\$862
RTW Scenario #2	Job accommodation are offered but not until one month after injury (one month of loss time direct and indirect costs).	\$69,402
RTW Scenario #3	Employer does not accommodate: no job offer, no return to work.	\$305,951

## LEADERSHIP

The role of leadership has been a consistent theme in the investigation of health and safety issues at GH<sup>2</sup>. The leadership of the organization is not opposed to health and safety; the problem is that they have not been engaged with it as a priority for the organization. Hospital executives and the board of directors continuously face important and pressing challenges in the areas of clinical practices and outcomes, infectious disease control, and financial management.

Changes to OHSA in 1991 made workplace health and safety an explicit responsibility for directors and officers in corporations. Under the Act, the Board of Directors at GH<sup>2</sup> have a responsibility to manage the health and safety program. Section 32 of OHSA states: “Every director and every officer of a corporation shall take all reasonable care to ensure that the corporation complies with,

- (a) this Act and the regulations
- (b) orders and requirements of Inspectors and Directors
- (c) orders of the Minister. R.S.O. 1990, c. O.1, s. 32.”

To meet this obligation the Board needs to have information and data analysis on health and safety efforts; for example, the Board should receive (but have not been getting) regular reports on preventive initiatives and consultations with the Ministry of Labour. Other information the Board should receive on a regular basis includes summary analyses of incidents of injuries and illnesses, financial analyses of the direct and indirect costs of workplace injury and illness claims.

## MONITORING AND CONTINUOUS IMPROVEMENT

The consultants are somewhat concerned that the Board of Directors believe that the health and safety problem can simply be “fixed”, rather than requiring on-going monitoring and continuous improvement. What systems can be put in place (and how much might they cost) to ensure that:

- The hospital has an effective process to address and correct unsafe conditions.
- Employees are trained about their responsibilities and are empowered to report unsafe conditions.
- Investigations of accidents and near misses involve the union, determine root causes, and take action to correct the root cause.
- A health and safety system audit is completed at least annually.
- Occupational health and safety goals focus on making improvements to the safety system and promote a safety culture (not just reduce costs).

APPENDIX A

**Golden Horseshoe General Hospital**  
Consolidated Statement of Revenues and Expenses  
For the year ended March 31, 2011  
(000' s)

	2011	2010
Revenues		
Ministry of Health	\$ 324,254	\$ 312,874
Other inpatient	14,244	13,024
Outpatients	13,455	11,258
Clinical education	35,175	33,412
Marketed services	5,581	5,621
Recoveries and other revenue	19,113	18,894
Investment income	231	77
Amortization of deferred capital – major equipment	5,548	6,631
Total revenue	\$417,601	\$401,791
Expenses		
Salaries and benefits	\$ 278,332	\$ 267,220
Patient care supplies	68,601	67,162
Utilities	5,132	5,421
General	39,255	42,154
Amortization of major equipment	11,789	14,122
Total expenses	\$ 403,109	\$ 396,079
Surplus of revenue over expenses before undenoted item	\$ 14,492	\$ 5,712
Unrealized gain on interest rate swaps	142	-
Surplus of revenues over expenses before building amortization	\$ 14,634	\$ 5,712
Amortization of deferred capital contributions – building and land	3,805	3,922
Amortization of building and land improvements	(7,032)	(6,945)
Surplus of revenues over expenses	\$ 11,407	\$ 2,689

<sup>i</sup> Rosenman, K.D., Kalush, A., Reilly, M.J., Gardiner, J.C., Reeves, M., and Luo, Z., “How Much Work-Related Injury and Illness Is Missed by the Current National Surveillance System?”, *Journal of Occupational and Environmental Medicine*, Vol. 48, No. 4, April 2006, pp 357-367.

<sup>ii</sup> Mustard, C., Chambers, A., McLeod, C. Bielecky, A. and Smith, P. (2011). Emergency department visits for the treatment of work-related injury and illness in Ontario. Institute for Work & Health.

<sup>iii</sup> Shamian, J., O’Brian-Pallas, L., Kerr, M., Koehoorn, M., Thomson, D., and, Alksnis, C. (2001). *Effects of Job Strain, Hospital Organizational Factors and Individual Characteristics on Work-Related Disability among Nurses*. Final report submitted to WSIB.