Creating Healthy Health Care Workplaces in British Columbia: Evidence for Action

A Discussion Paper

July 2006

PROVINCIAL
Health Services
AUTHORITY

Province-wide solutions.
Better health.

Prepared for Dr. John Millar and Lydia Drasic

by Graham S. Lowe, Phd
The Graham Lowe Group Inc.
www.grahamlowe.ca
1537 Lakeview Street
Kelowna, BC
V1Y 6N1 Canada
tel: 250.712.0630

Acknowledgements:
The assistance of Stephanie Barclay-McKeown in conducting the literature search also is gratefully acknowledged.

This is a Provincial Health Services Authority Prevention, Promotion and Protection Project.

Provincial Health Services Authority
700-1380 Burrard St.
Vancouver, B.C.
V6Z 2H3 Canada
tel: 604.675.7400
www.phsa.ca

Table of Contents

Foreword

The BC Healthcare system is under unprecedented, multiple financial pressures driven by an increased prevalence of chronic diseases such as hypertension, diabetes, heart disease, stroke, cancer and mental health conditions. By 2017, assuming no changes to the system, it is projected that government funding will only be able to sustain the costs of the Ministries of Health and Education leaving all other areas of government responsibility without adequate funds.

This financial trend is a consequence of the combined effects of an aging population and lifestyle factors - such as obesity, unhealthy eating, inadequate physical activity and smoking – all of which are driving up the health care costs. Most jurisdictions, including British Columbia, are already addressing these issues on many fronts, including in the home, in communities, schools, workplaces and in healthcare settings. The BC government, for example, has set ambitious, yet manageable goals for the health of British Columbians – with the goal of making this province the healthiest jurisdiction to host the Olympics in 2010.

The workplace is of particular importance as employment has been recognized as an important positive determinant of health. Considerable evidence exists suggesting that efforts to improve working conditions can improve health and productivity of employees and their families and interventions to improve workplace health in all settings show a positive return on investment.

However, the 2004/2005 report of the provincial Auditor General, *In Sickness and in Health: Health Workplaces for British Columbia's Health Care Workers*, found that the costs to the healthcare system of injuries, absenteeism and loss of productivity due to ill health – including claims of mental and emotional stress – are significant. It was estimated that the direct costs of absenteeism and injury to health employers in 2002/2003 was more than $250 million and that annual indirect costs were projected to be more than $1 billion.

The financial stability of the healthcare sector and its ability to care for increasing numbers of aging citizens is inextricably linked to the health and wellness of its employees. The magnitude of this challenge is underlined by the fact that the healthcare sector represents more than 10% of the entire labor force of BC.

Ironically, the healthcare sector has been identified as lagging behind when it comes to buying-in to workplace health initiatives. The reasons are many – among them, the limited opportunity to devote time to workplace health during extremely busy days and the sectors' inherent bias of the biomedical model which adheres to stringent definitions of "results" and "evidence".

A consequence is that the evidence around effective healthy workplace strategies within the health sector is thin. Although many healthcare organizations have implemented proven programs aimed at injury prevention, healthy diets and exercise, there is a lack of available evidence from this sector even though other workplaces show that comprehensive and coordinated workplace health programming has proven again and again to be effective. In fact, to address the relatively limited

evidence about healthcare workplace health in BC, results and case studies relevant to healthcare and other sectors have been examined and extrapolated to the BC context in this paper.

This review – *Creating Healthy Health Care Workplaces in BC: Evidence for Action; A Discussion Paper* – has identified opportunities for the healthcare sector that have shown encouraging results in other sectors, such as:

- The workplace, particularly in the health sector, has the ability to effectively monitor the trajectories for chronic diseases related to healthy weights, nutrition, physical activity and tobacco use and to encourage positive lifestyle choices.

- Workplaces which have management cultures attuned to the positive health outcomes of healthy work environments and which incorporate strategies of participatory management, increased decision latitude, and span of control for employees, foster the concept of employment as a positive determinant of health.

The Provincial Health Services Authority (PHSA) recognizes this dynamic and understands that comprehensive programming, including prevention- centered initiatives focused upstream, along with other workplace wellness initiatives can lead to success. PHSA is uniquely positioned to help BC healthcare organizations understand, discuss and address workplace health by supporting comprehensive and coordinated programming as well as the development and dissemination of knowledge products through its Prevention, Promotion, Protection strategic direction.

This paper is designed to spark discussion among health authority administrators and staff at all levels. It is our conviction that utilizing evidence to guide dialogue and discussion around the health and wellness of our employees in the health sector will help organizations across BC meet future challenges, lead to healthier employees and, in turn, a healthier and more sustainable healthcare system.

John Millar BSc, MHSc, MD, FRCP (C)
Executive Director, Population Health Surveillance
and Disease Control Planning

Mark Allen MBA, BSc (Hons)
Chief Human Resources Officer

Key Messages

- There is a business case for investing in healthier work environments within health care. Furthermore, there are substantial costs to inaction.
- Return on investment (ROI) analyses has been used to evaluate workplace health promotion programs in various settings, but rarely in health care.
- Designing evaluation into healthy workplace interventions, and disseminating the findings, will go a long way to filling this information gap.
- Workplace health promotion interventions that are comprehensive, well designed, and successfully implemented tend to have good ROI.
- Decision-makers must be aware of the limitations of conducting ROI research on organizational interventions.
- Research on the causes and consequences of healthy and unhealthy work environments also indicates directions for change.
- Further improvements in employee health and organizational performance will require changes in job design, organizational systems and structures, and work environments.
- Healthy workplaces can contribute to the major strategic directions of health care system renewal.
- Creating healthier workplaces requires a shift in leadership thinking and organizational culture so that human assets are highly valued.
- Successful healthy workplace change requires strong commitment from top management that is reinforced in all their decisions and actions.
- In healthy workplaces, all managers and supervisors have the time, encouragement, and training needed to be effective people leaders.
- Measuring progress requires four categories of indicators: healthy workplace drivers, working conditions, employee outcomes, and organizational benefits.

Executive Summary

Overview

- There is a business case for investing in healthier work environments within health care. Furthermore, there are substantial costs to inaction.
- There is relatively little intervention research on the return-on-investment (ROI) for healthy workplace change, so the direction for change comes from research on the causes of workplace illness and disability.
- Designing evaluation into healthy workplace interventions, and disseminating the findings, will go a long way to filling this information gap.
- Healthy workplace solutions must go beyond workplace health promotion programs.
- An organization's structures, values, culture, working relationships, and human resource management practices all contribute to a healthy work environment.
- This situation is not unique to health care. Indeed, most organizations lack rigorous return-on investment (ROI) research for healthy workplace change, and most organizational change does not involve academic researchers.

Benchmarking BC's Health Care Workplaces

- Health care workers in BC exhibit symptoms associated with unhealthy work environments.
- Reducing absenteeism in BC's health care workforce on par with health care workforces in Alberta, Manitoba and Ontario could yield annual savings of $10.85 million.
- Most overtime by hospital employees and managers is unpaid. Employers should set optimal overtime levels and establish fair practices regarding unpaid overtime.
- The relatively high levels of self-reported stress among health care workers, compared to other occupations, call for immediate action.

Unhealthy Health Care Work Environments

- There is extensive research showing that health care workplaces pose a wide range of health and safety risks to workers.

- High stress levels are associated with increased health care and disability costs, absenteeism, turnover, and reduced productivity.
- For nurses, healthy outcomes are associated with job control, job demands balanced with resources, positive relationships, skill development, and good supervision.
- Hospitals exhibiting positive work environments have better organizational performance, in terms of staff recruitment and retention, and patient outcomes.
- Health care restructuring and reorganization have had negative unintended consequences for organizational performance and worker health.

Healthy Workplace Interventions

- Return on investment (ROI) analysis has been used to evaluate workplace health promotion programs in a wide range of settings, but rarely in health care.
- Workplace health promotion interventions that are comprehensive, well designed, and successfully implemented tend to have good ROI.
- The strongest evidence is for reduction of personal health risk factors such as smoking, weight, inactivity, and diet.
- Most of the interventions with documented ROI do not involve work-environment modifications to reduce stress or work-life conflict.
- Decision-makers must be aware of the limitations of conducting ROI research on most kinds of organizational interventions.
- While specific job and organizational factors pose risks to health and productivity, few studies evaluate the effectiveness of interventions to make workplaces healthier.
- There is sufficient evidence to justify health care employers making investments intended to create healthier workplaces.

Benefits and Costs of Healthy Workplaces

- Savings in time-loss injuries, disability costs, and compensation payments can result from targeted interventions to reduce musculoskeletal injuries.
- Positive employment relationships, supportive work environments, and increased satisfaction influence employee self-reported health and productivity outcomes.

- Absenteeism rates in hospitals vary systematically by the presence of healthy and supportive work environments.
- Nurses' absenteeism is related to high levels of stress and high risk of injury.
- International research shows that nurses' job satisfaction impacts turnover.
- Magnet hospitals achieve positive retention, recruitment and health service quality outcomes through organizational change guided by a leadership focus on people.

Determinants of Healthy Health Care Workplaces

- Research on the causes and consequences of healthy and unhealthy work environments seeks to understand etiology, not the ROI of changes.
- Workers' health and performance improve when they have active job conditions, which provide more control, autonomy, and opportunities to use and develop their skills.
- Lack of control over work and lack of participation in decision making have been associated with injury and disease among health care workers.
- To address this problem, there have been initiatives in health care to increase employee involvement through various forms of work redesign.
- Job stress can be reduced by better communication, stable work teams, decision making involvement, recognition, fairness and respect, and professional development.
- Nursing research shows the positive influence of job empowerment on employee well-being and job performance.
- Organizational justice research suggests that when fairness is present, employees experience less job stress and their productivity is higher.
- Organizational change that is guided by a clear leadership vision, open communication, and the participation of staff and unions contributes to positive results.
- Creating healthier workplaces requires a shift in leadership thinking and organizational culture so that human assets are highly valued.

Healthy Cultures

- A healthy organizational culture nurtures employee well-being, engagement, and performance.
- A truly healthy health care environment takes a systemic, holistic approach to creating positive employee and organizational outcomes.

Evidence on Healthy Workplaces in Other Industries

- Stress management interventions aimed at increasing an individual's coping skills are generally ineffective.
- Worksite health promotion programs aimed at modifications to lifestyle have limited to mixed results in terms of reducing health risk factors.
- Clinical and cost outcomes for comprehensive worksite health promotion and disease management programs are generally positive, if modest.
- Further improvements in employee health and organizational performance will require changes in job design, organizational systems and structures, and work environments.
- Future research must evaluate the impact of working conditions, and planned interventions, on health and performance.

Reframing the Case for Healthy Workplaces

- Healthy workplaces can contribute to the major strategic directions of health care system renewal.
- A prerequisite for interprofessional teams is a workplace culture of mutual understanding and respect.
- Healthy work environments contribute to long-range health human resource goals.
- Quality and safety frameworks could usefully be expanded to include work-environment factors. A safety culture is a healthy culture too.

Making Health Systems Healthier

- Creating healthy workplaces is based on population health and health promotion thinking.
- Successful, healthy workplace change requires strong commitment from top management that is reinforced in all their decisions and actions.

- A successful, healthy workplace strategy requires that all managers and supervisors have the time, encouragement, and training needed to be effective people leaders.
- There is inadequate accountability within health care organizations for human resource outcomes. Performance measures can fill this gap.
- Measuring progress requires four categories of indicators: healthy workplace drivers, working conditions, employee outcomes, and organizational benefits.

Closing the "Knowing-Doing" Gap

- Barriers to moving from talking to action are a perceived shortage of time, and the inertia created by entrenched systems, practices, and ways of thinking.
- Enablers of healthy workplaces include executive and board support for cultural change goals, a supportive policy framework, and active employee involvement.
- Better coordination and integration at the provincial level is needed to speed up the diffusion of innovation and implement system-wide healthy workplace goals.
- The way forward is a comprehensive and coordinated approach to creating and maintaining healthy work environments in all health care work settings.

1. Introduction

A human resource crisis threatens the viability of Canada's health system. Workforce aging and unhealthy, low-quality work environments pose significant risks to achieving health system goals. Creating healthy work environments is not optional – it must be viewed as an essential prerequisite for building future health human resource capacity. Retention, development, and better utilization of existing staff has to be a top priority, and for this to happen, work environments must be healthy.

To move in this direction, health system decision-makers need answers to very practical questions. Foremost among these are the following:

- Which interventions will make the biggest improvements in employee health and wellness?
- How can healthy workplace change be designed for maximum positive impact on system outcomes, particularly patient care and operational efficiency and effectiveness?
- What combination of human resource management, health and safety, and work organization practices will contribute most to a more sustainable and high-performing health system?

In short, while improving the health and well-being of people working in the health system is important in its own right, health authority boards and executive teams require a business case for making these investments.

The purpose of this report is to provide some answers to these questions. Initially, the report was intended as a synthesis of the scientific literature on the costs and benefits of healthy workplace interventions in the health care sector. However, the literature review found that within the limited range of intervention studies of healthy workplace change, very few focused on health care. This does not mean that healthy workplace changes are not being introduced in health care organizations. On the contrary, there is a groundswell of front-line healthy workplace initiatives. Yet few of these have systemic evaluation components, and few have been documented in peer-reviewed scientific journals. This situation is not unique to health care. Indeed, most organizations lack rigorous return-on-investment (ROI) research for healthy workplace change, and most organizational change does not involve academic researchers.

Where does this leave us? The short answer, expanded throughout the report, is that the cumulative weight of the evidence on the causes and consequences of unhealthy work environments supports a business case within health care for investing in healthier work environments. However, this is based on inferences from research findings in a range of disciplines and research settings. It also comes from exploring the workplace implications of research on quality, safety, and interdisciplinary collaboration within health care. The report's advice to decision-makers is that a lack of direct evidence should not be grounds for inaction. That's because of the substantial, and unsustainable, costs of the status quo. Another key recommendation flowing from the report's review of healthy workplace research relevant to health care is to rigorously evaluate the costs and benefits of

any healthy workplace change. Designing evaluation into healthy workplace interventions, and disseminating the findings, will go a long way to filling the basic information gap identified in this report.

More broadly, the intent of the report is to stimulate creative discussions among BC's health system stakeholders about opportunities for coordinated action on employee and workplace health. The best available evidence suggests that the scope and depth of workplace health challenges today require solutions that go beyond traditional workplace health promotion programs. This is true regardless of the industry. An organization's structures, values, culture, working relationships, and human resource management practices contribute to a healthy work environment. This perhaps is the most compelling lesson from the rapidly accumulating research on the causes and consequences of healthy, or unhealthy, workplaces.

2. Benchmarking BC's Health Care Workplaces

The Auditor General's 2004 report, *In Sickness and in Health: Healthy Workplaces for British Columbia's Health Care Workers* helped to put workplace health issues on the agendas of health authority boards and executive teams. Since the report's release, relatively few of the recommendations for enhancing leadership, accountability, and change have been fully implemented. However, health authorities are moving sincerely and incrementally to create healthier work environments. Human resource departments and occupational health, safety and wellness professionals have been developing new initiatives. Real progress requires embedding employee and workplace health within each health authority's strategic thinking and planning at the board, executive, and line manager levels – and accountability through internal performance management systems and public performance reporting.

This section of the report uses the best available benchmarking data, from Statistics Canada, to expand on a key conclusion in the BC Auditor General's report: health care workers in BC (and across Canada) exhibit symptoms associated with unhealthy work environments (see "Healthy workplace benchmarks" text box below). Four basic indicators of healthy workplaces are examined: absenteeism, overtime, and self-reported health and stress. These benchmarks should prompt health system decision-makers to reflect on the costs these trends currently impose on the health care system and, looking into the future, the costs of not acting to find proactive solutions that will reduce absenteeism, hospital overtime, and work stress.

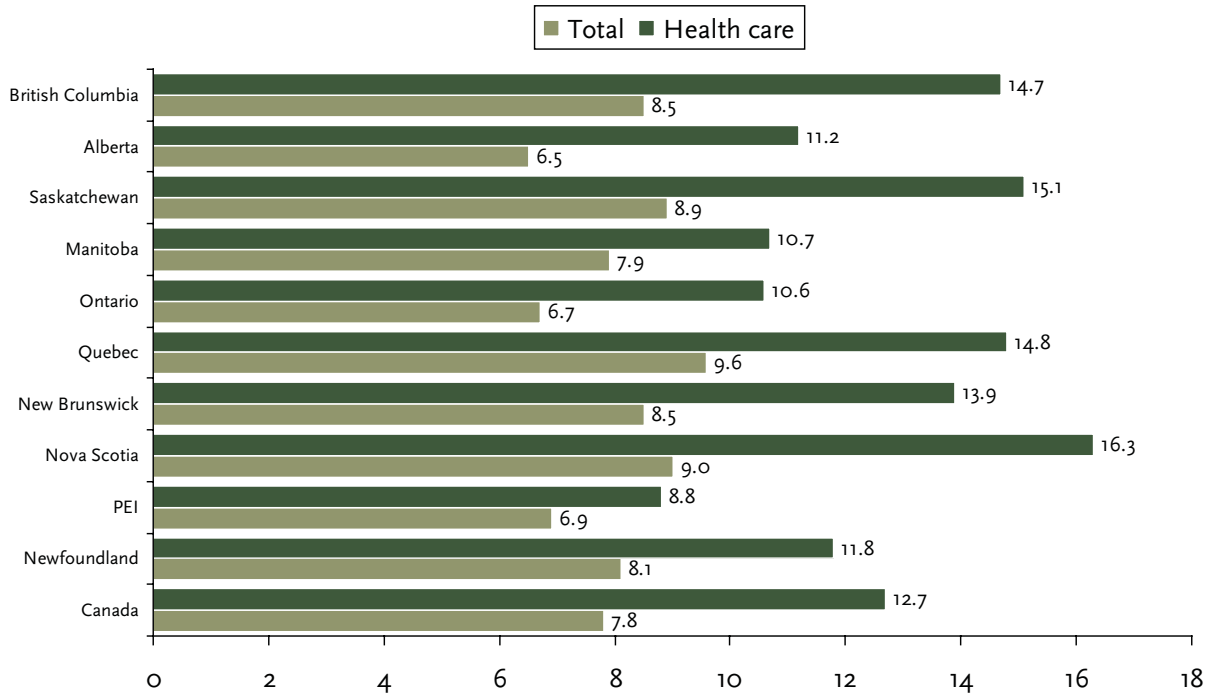
Healthy workplace benchmarks

Statistics Canada data (see Figures 1 to 4, below) provide accurate benchmarks on key indicators of healthy workplaces: absenteeism, overtime, and self-perceived health and stress.

- Absenteeism: Full-time health care employees in BC have absenteeism rates due to own illness or injury that are higher than in the workforce as a whole. BC's full-time health care workers have higher absenteeism rates than their counterparts in 6 of 9 other provinces. Health care workers in Alberta and Ontario have relatively low absenteeism.
- Overtime: Overtime work can be paid, unpaid, or both. If unpaid, it reflects high job demands on workers. Paid overtime reflects additional wage costs to an employer, especially if overtime premiums are paid. Also at issue is the voluntary nature of overtime work. In BC, the overall incidence of overtime in the health care sector is close to the provincial workforce average, and is only slightly higher than the national rate for health care. Overtime use is considerably higher in hospitals than in ambulatory care or nursing and residential care facilities. While average overtime hours reported by BC hospital employees is somewhat less than the workforce (6.6 versus 8.2 hours), more than 1 in 4 hospital employees work overtime.
- Health and stress: Health care workers in BC perceive themselves to be in better overall mental and physical health than workers in other occupations. However, health care workers are more likely to report high levels of self-perceived stress in their lives. Furthermore, among health care workers, the incidence of work stress is notably higher than for overall life stress. While work stress among BC's health care workers is below the national average for health care, the gap between BC health care workers and other workers is nonetheless striking: 39% compared with 26% reporting that most days at work are "quite a bit" or "extremely" stressful.

Source: Statistics Canada, Labour Force Survey; Canadian Community Health Survey.

Figure 1: Average days lost per full-time employee due to own illness or disability, all employees and health care employees, by province, 2005*



Source: Statistics Canada, Labour Force Survey, custom tabulation.
* Self-employed are excluded. Excludes maternity leave and leave for other personal reasons.

The absenteeism rate in BC's health care workforce in 2005 was higher than the provincial average, and higher than health care workers in most other provinces (see Figure 1). Inaction means incurring substantial and unjustified productivity costs. Reducing absenteeism in BC's health care workforce by 3.7 days to 11 days – the level in the health care workforces in Alberta, Manitoba and Ontario – would yield direct wage savings of approximately 488,000 worker days, or the equivalent of 271 full-time positions. This represents an annual cost saving of at least $10.85 million.[1] Bringing the health care absenteeism rate down to the level of the BC workforce would almost double these savings. This is not to advocate absenteeism management programs, which only focus on symptoms. Cost savings can be best realized by addressing the root causes within the work environment. As a start, health employers need to understand what these causes are, and the research reviewed in the next section can be helpful in this regard.

Figure 2: Paid and unpaid overtime, employees in all industries and in health care, Canada and British Columbia, 2005

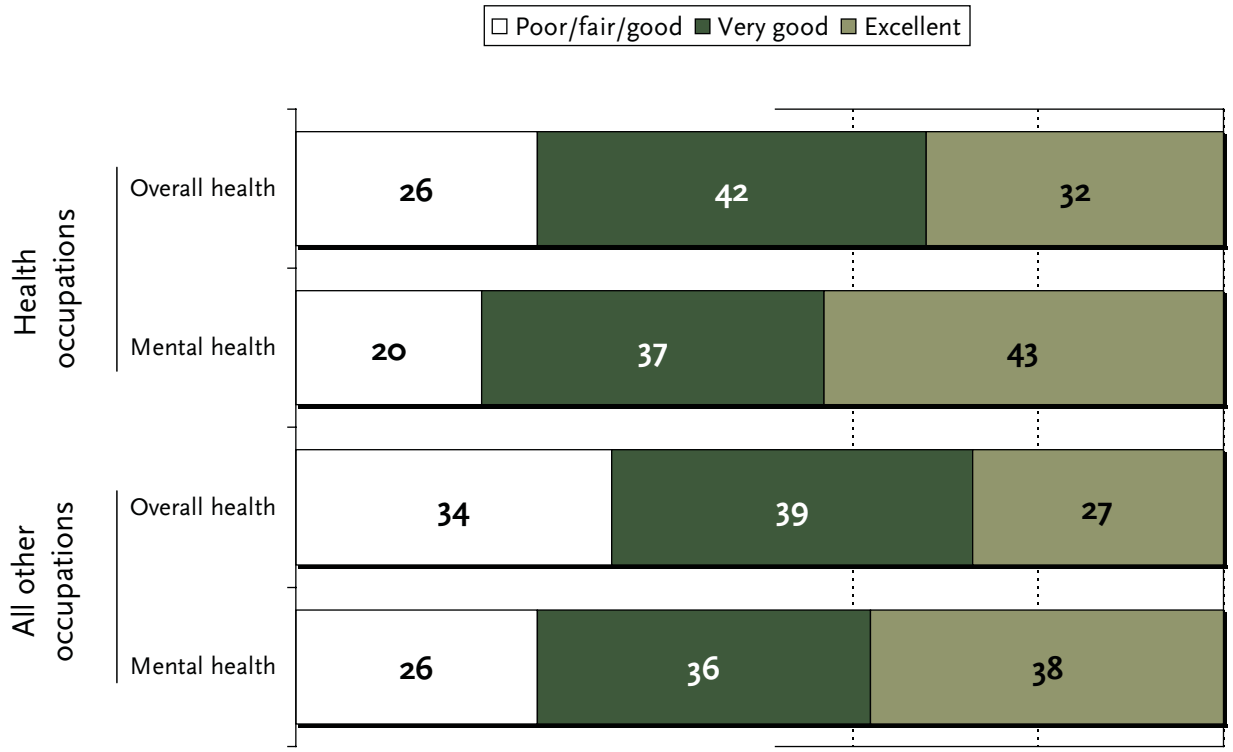
	Number of employees working paid and/or unpaid overtime ('000s)	% of employees working paid and/or unpaid overtime	% of employees working paid overtime only	Average number of overtime hours per week
CANADA				
All Industries	2,910.7	23.2%	10.2%	8.5
Health Care Total	208.3	19.8%	9.0%	6.6
Ambulatory Health Care Services	43.5	17.1%	7.2%	6.1
Hospitals	124.2	23.3%	11.1%	6.7
Nursing & Residential Care Facilities	40.7	15.4%	6.4%	7.0
BRITISH COLUMBIA				
All Industries	348.4	22.2%	9.7%	8.2
Health Care Total	28.2	21.3%	9.1%	6.3
Ambulatory Health Care Services	5.9	16.1%	6.8%	5.3
Hospitals	17.0	26.6%	11.3%	6.6
Nursing & Residential Care Facilities	5.3	16.8%	7.3%	6.4

Source: Statistics Canada, Labour Force Survey, custom tabulation

* Self-employed are excluded.

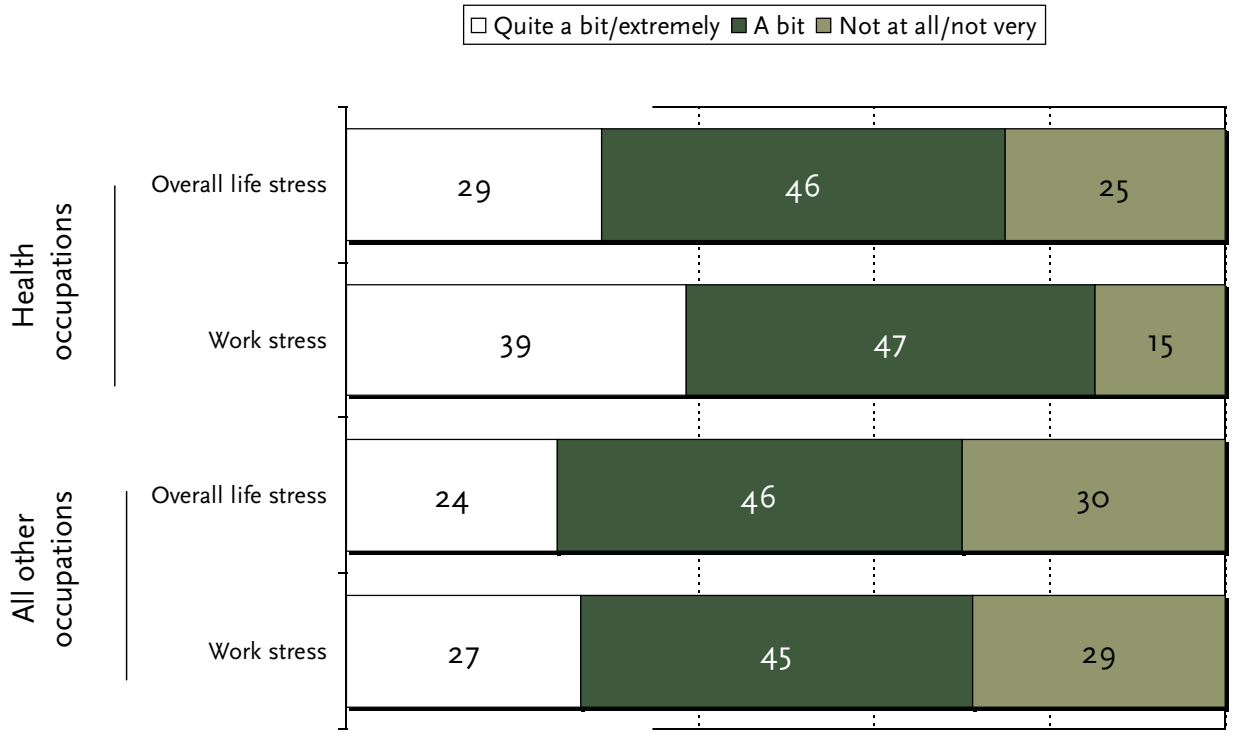
The fact that 27% of hospital workers in the province worked overtime in 2005 raises concerns about excessive job demands resulting from a combination of adequate staffing levels and overwork (see Figure 2). Hospital employers' tracking of overtime does not capture the full cost burden. That's because most overtime is unpaid, imposing costs that are borne by the employee, such as foregone earnings and reduced personal time. Considering that some overtime is inevitable in health care, it would be useful to have a detailed analysis of optimal overtime levels for patient care and employee health, and to establish fair practices regarding expectations of unpaid overtime.

Figure 3: Self-perceived health, comparing health occupations with all other occupations, British Columbia, 2003



Survey respondents were asked: "In general, would you say your health is (excellent, very good, good, fair or poor)?" "In general, would you say your mental health is (excellent, very good, good, fair, poor)?" Source: Statistics Canada, Canadian Community Health Survey, custom tabulation.

Figure 4: Self-perceived stress, comparing health occupations with all other occupations, British Columbia, 2003



Survey respondents were asked: "Thinking about the amount of stress in your life, would you say that most days are (not at all stressful, not very stressful, a bit stressful, quite a bit stressful, extremely stressful)?" "The next question is about your main job or business in the past 12 months. Would you say that most days were (not at all stressful, not very stressful, a bit stressful, quite a bit stressful, extremely stressful)?" Source: Statistics Canada, Canadian Community Health Survey, custom tabulation.

A systemic view of healthy workplaces

"Health care workers need healthy workplaces, yet the common cry in Canada is that we have too few people working too hard. Staffing shortages and workload problems have led to stress, burnout, and early retirement. The resulting impact on the health of the workforce and the loss of experience and training investment represent a massive and unnecessary burden on our health care system."

Source: Health Council of Canada. (2005). Modernizing the Management of Health Human Resources: Identifying Areas for Accelerated Change. Report from a National Summit. Toronto: Health Council of Canada. p. 44.

The relatively high levels of self-reported stress among health care workers, compared to other occupations (see Figure 4), call for immediate action to document the impact on employee health and productivity, building on initiatives already underway. The Occupational Health and Safety Agency for Healthcare (OHSAH) in BC has launched several action-research programs that will address the psychological and social factors in workplaces that affect stress and mental health. These include the development, for future use, of a common survey tool to assess and report worker and workplace health, including psychosocial factors known to be related to stress, and a focus on mental health-related disability and its workplace causes. OHSAH also is analyzing BC results from the Canadian Institute of Health Information's 2005 national survey of nurses, to obtain baseline data on the relationship between health, the work environment, and the work-life experiences of nurses.

3. Evidence of Unhealthy Health Care Work Environments

While the healthy workplace indicators of absenteeism, overtime, and self-perceived work stress are sufficient grounds for action, other health and wellness issues also must be addressed as part of comprehensive healthy workplace change strategies. This section presents a broader context through an overview of the main health-related outcomes and their determinants in health care work environments.

There is extensive research showing that health care workplaces in general pose a wide range of health and safety risks to workers.[2] Musculoskeletal injuries are well above the national average. Front-line care providers, especially nurses, are subject to violence from patients, clients or residents. Workers in health care occupations, compared with other occupational groups, have the highest incidence of stress from too many demands or hours, risk of accident or injury, and poor interpersonal relations. These elevated stress levels are associated with higher health care and disability costs, absenteeism, turnover, and reduced productivity. Health professionals, compared with other occupations, have lower levels of trust, commitment, communication and decision-making influence; their job satisfaction is below the national average and they are least likely of all occupations to describe their work environment as healthy.

Studies of health care workers document that psychosocial working conditions directly affect sickness absence and physiological stress, including increased blood pressure and stress hormone responses.[3] For nurses, positive health outcomes are associated with high job control, a balance of job demands with sufficient resources (adequate staffing, time available to plan and carry out work), positive relationships with colleagues and supervisors, opportunities for skill development and use, and good supervision as measured in particular by regular communication and feedback.[4] Many studies have linked organizational factors to nurses' quality of work life and health, which in turn can influence the quality of patient care. Hospitals exhibiting positive work environments have demonstrated better organizational performance, in terms of staff recruitment and retention, and patient outcomes.[5]

Research on psychosocial work environments reveals that job strain in the health care sector – and elsewhere – affects personal relationships, increases sick time and job dissatisfaction, and is associated with increased workplace conflict and turnover.[6] Other studies have linked work organization characteristics with injury and disease among health care workers. The main organizational factors associated with negative health outcomes include work overload or pressure, a lack of control over work or a lack of participation in decision making, relations in the workplace, including poor social support or problems with management style, such as unsupportive leadership or a lack of communication and feedback.[7]

Workload, work pace and work scheduling are among the most serious work-environment risks facing health care workers. Chronic understaffing, mandatory overtime and on-call, reduced time off for education and training, and placements in areas outside of their specialty have become common

conditions for nurses and other health professionals. These problems are not uniquely Canadian; a five-country survey found that the majority of nurses reported inadequate human resources in their work areas to meet patient needs.[8]

There is growing evidence that the work environment of physicians is becoming increasingly stressful and less satisfying. Higher levels of physician stress and dissatisfaction have been linked to a variety of adverse work outcomes that affect not only the health and well-being of the physician, but also impact other health care employees and patients. Job burnout is a theme in research on physicians and residents, focusing on depersonalization and emotional exhaustion.[9] For example, a recent study of Canadian physicians found that 46% are in advanced stages of burnout.[10] Major causes of burnout, distress, and dissatisfaction include heavy workloads, long work hours, lack of influence over daily work and work processes, institutional resource constraints, perceptions of unit management and organizational leadership, and opportunities for personal growth. Negative consequences for physicians include diminished work performance, including suboptimal patient care, higher levels of absenteeism and turnover, disengagement from the organization, increase in the frequency of accidents and adverse events, greater alcohol and drug abuse, and suicide.[11]

Research also documents that organizational change has affected the health of health care workers. Health care restructuring and reorganization have had negative unintended consequences for organizational performance and worker health.[12] These effects include decreases in job satisfaction, professional efficacy, and ability to provide quality care; physical and emotional health problems; increased turnover; and disruptions to team relationships. Several studies show that this type of change contributes to the perception among those staff most affected that patient care has deteriorated. Costs can rise as a result of an increased incidence and duration of sick leave. Furthermore, the benefits of initiatives designed to increase front-line provider quality of work life and job effectiveness can be negated if restructuring or downsizing happens at the same time.[13]

Most of the research on health care workers and their work environments focuses on nurses and hospital settings. These limitations have practical implications for decision-makers. First, the abundant evidence on the causes and consequences of healthy and unhealthy work environments on nurses can be used to inform the design of healthy workplace interventions for this profession. To reiterate a key conclusion in the Canadian Nursing Advisory Committee report, after more than 20 years of research on nursing quality of work life and retention, we know what needs to be improved.[14] Given that nurses are the largest occupational group in health care, any improvements in health outcomes could have significant cost and performance benefits, such as better retention, for the health system. Moreover, applying insights from studies of nurses or hospitals to other groups of health care workers can be achieved by using pilot studies with built-in evaluation components to facilitate learning and adaptation.

4. Healthy Workplace Interventions

This section offers an overview of research on interventions and addresses the question: Is there evidence that specific workplace changes can improve health care providers' health and quality of work life, show a net ROI, and contribute in other ways to organizational performance? Note that this question uses three rigorous criteria for assessing published research: impact on individual health, ROI, and impact on non-financial performance. Readers are encouraged to reflect on whether these are appropriate criteria. To this end, as a prelude to reviewing healthy workplace interventions, we will critically assess the assumptions that underlie calls for a "business case" and "evidence" for decision making.

Making the "business case"

There will always be some employers who invest in healthy work environments because this reflects organizational values. However, most employers require ROI data to be convinced of the value of workplace health promotion interventions. A business case for workplace health and productivity interventions can utilize three kinds of health-related cost data: direct costs of medical treatment, lost time, and lost performance at work (referred to as presenteeism).[15]

ROI and other cost-benefit analyses have been used to evaluate workplace health promotion programs in a wide range of settings. Benefits typically are calculated as reduced absenteeism and employer health care costs; costs are those associated with the program or intervention. Recent reviews of workplace health promotion research conclude that workplace health promotion interventions that are comprehensive, well designed, and successfully implemented will have ROI in the range of $3 to $8 for every dollar over a five-year period invested in the intervention.[16] But there are relatively few ROI studies. Despite the huge volume of literature on workplace health promotion, a recent meta-analysis of this literature found approximately 450 formal program evaluation studies published, only 42 of which calculate financial benefits.[17] The overall conclusion from these studies (based on close to 1.5 million person years of observations) is that multi-component worksite health promotion programs result in average reductions in sick leave, health plan costs, workers' compensation and disability costs of just over 25%.

Most ROI is achieved through reduced absenteeism. For example, a review of 13 studies found a mean benefit of $3.72 in reduced health care costs (per dollar invested in the program) and $5.06 in reduced absenteeism.[18] Another review shows a median benefit of $8.88 for workplace disease management programs.[19] Other potential cost benefits include short- and long-term disability, workers' compensation, administrative costs, and employee productivity. The strongest and most convincing evidence is for reduction of personal health risk factors such as smoking, weight, inactivity, and diet.[20]

Most of the interventions that have been studied for ROI do not involve work-environment modifications to reduce stress or work-life conflict. There are many methodological challenges for researchers, among them finding accurate measures of productivity, for which there are no standard

measures. Health and productivity researchers in the US are addressing this gap, but the focus is on providing evidence that will enable employers to more precisely target health and disease management programs. US researchers have examined the top 10 physical and mental health conditions affecting employees, concluding that employee absenteeism and disability accounted for 29% of the health and productivity related costs for physical health conditions and 47% for mental health conditions.[21]

An emerging area of research integrates data from administrative claims databases with self-reported measures of presenteeism to obtain a comprehensive assessment of the cost burden of specific illness conditions.[22] Presenteeism costs (based on self-reported work productivity) account for 61% of total costs associated with 10 common health conditions (allergies, arthritis, asthma, cancer, depression, diabetes, heart disease, hypertension, migraines and headaches, and respiratory disorders). Four conditions (arthritis, hypertension, depression/sadness/mental illness, allergies) have an annual presenteeism cost, per employee reporting these conditions, of over $200 (based on $23.15/hour wages and benefits).

Workplace health experts point to a double standard of evidence required by employers for investing in workplace health interventions that are proactive and preventative. Employer-sponsored health plans fund expensive medical treatments that are based on evidence of efficacy rather than on ROI data. As observed in one article, "The health promotion field, however, is continually challenged to prove something medical researchers cannot—that the financial benefits of health promotion exceed its costs."[23] The number of studies in the area of health and productivity management has increased substantially since the late 1990s. However, lack of convincing data is only one reason for management inaction. Research by the Institute for Health and Productivity Management in the US found that in many large companies, the resistance of senior management was the major barrier to the diffusion of healthy workplace innovation.[24] Even more pervasive is the lack of internal data that could be used to assess how productivity and health are related.

A useful point of comparison is with quality improvement interventions in health care organizations. Despite the diffusion of many types of quality-enhancing changes, there is insufficient hard evidence of financial payoffs.[25] In short, there is no solid ROI "business case" for quality. Only 1% of articles reporting quality improvement interventions have business case data. A search of MEDLINE for evidence of positive financial returns (a "business case") for quality-enhancing interventions found only 15 studies published between 1980 and 2004 in peer-reviewed journals (mainly in the US) that calculated ROI, cost benefit, or cost-effectiveness. Interestingly, this was fewer studies than the number published on the positive ROI for workplace health promotion.

The US Joint Commission on the Accreditation of Healthcare Organizations links high-quality care and healthy workplaces

"A healthy workplace is one where workers will be able to deliver higher-quality care and one in which worker health and patients' care quality are mutually supportive. That is, the physical and emotional health of workers fosters quality care, and vice versa, being able to deliver high-quality care fosters worker health."

Source: John M. Eisenberg, et al. (September 2001). Does a healthy health care workplace produce higher-quality care? Journal of Quality Improvement. p. 447.

To shift our focus away from the ROI of specific changes, it also is important to assess the costs of inaction.[26] The current cost burden for organizations and society of unhealthy and unsafe workplaces include absenteeism, accidents, rising drug benefits costs, turnover, reduced commitment and job satisfaction, related health care costs, errors, and lost productivity. For example, one estimate suggests that stress, depression, anxiety, violence at work, harassment, and intimidation account for 18% of all health-related problems at work, with a quarter of these resulting in absences of two or more weeks. Another estimate suggests that unhealthy workplaces account for 20% of total health care costs. Work-life conflict alone is estimated to cost Canadian organizations roughly $2.7 billion in work absences.[27] Indirect costs include job dissatisfaction, disengagement, lower commitment, and turnover. However, rising work pressures do not necessarily lead to increased absenteeism, because some workers may feel compelled to work even when sick or injured – another form of presenteeism.[28]

In summary, decision-makers must be aware of the realities of conducting this ROI research on most kinds of organizational interventions. In the case of health care quality improvements, the constraints are clear. Most investigators are not trained to calculate ROI, being clinicians more concerned with improving care delivery and patient outcomes. Internal sponsors of quality initiatives may not require or be interested in such information. Calculating a business case presents considerable methodological challenges. Peer-reviewed journals do not require this information for publication purposes.[29] Yet nobody is suggesting that health care organizations not invest in quality improvement.

Much needed, then, are rigorous evaluation techniques as part of implementation strategies – and skepticism – when faced with calls for an ROI-based business case before proceeding with change. Successful change results from a process of learning and continuous improvement. The same points apply to healthy workplace change. An organization can readily develop a healthy workplace action plan by drawing on the large body of workplace health etiological research, summarized in the next sections of this report.

Assessing the evidence

We know from several decades of research that specific job, work-environment, and organizational factors pose risks to workers' health, well-being, and productivity. The goal of the vast majority of these studies is to better understand underlying causes, or etiology, of specific health-related outcomes. Relatively few studies evaluate the effectiveness of interventions to make workplaces healthier, though more of these studies have been published this decade than previously. Given the extent of unhealthy working conditions in health care, do we have sufficient evidence to justify health care employers making investments intended to create healthier workplaces? Based on a review of current research across many disciplines, the answer is a qualified "yes."[30]

A reasonable standard for judging whether there is adequate evidence for action within health care is to use the entire field of intervention research on healthy workplaces. Only a small percentage of the voluminous research on healthy workplaces presents evaluations, including ROI of interventions. In

occupational epidemiology, a field where one would expect to find use of the most rigorous evaluation methods, there are very few intervention studies using a randomized controlled trial (RCT) design to assess changes in worker behaviour, work organization or the psychosocial environment. Some of these are in health care, focusing on injury reduction through the introduction of mechanical lifts, ergonomic education, and handwashing to prevent nosocomial infection.[31] None assessed comprehensive workplace health promotion interventions in health care.

Another recent systematic review of RCT studies of interventions that made modifications to the work environment intended to change employee dietary and exercise behaviours. This review found 13 mostly multi-centre trials, with a few including health care. None focused exclusively on health care worksites. The review concluded that environmental modifications (e.g., awareness and educational campaigns, changes in cafeteria and vending machine food, food labeling) can positively influence diet. However, there is no evidence from these studies showing how environmental interventions can increase physical activity among employees.[32]

The most recent review available of the impact of comprehensive worksite health promotion and disease management programs observes a decrease in the use of RCT research designs. Nonetheless, research results continue to demonstrate that a combination of comprehensive and high-risk interventions show positive, if modest, clinical and cost outcomes. The author of this review concludes that given the cumulative evidence, the relevant issue for management is not whether to introduce such programs to reduce health risks and increase productivity, but how to design, implement, and evaluate programs to achieve the best outcomes.[33]

It is unlikely we will ever have "gold standard" evidence from RCT about the impact of specific worksite interventions on individual and organizational health in any industry, never mind in health care. Workplaces have never been ideal research settings, largely due to research costs, logistical constraints, and ethical limitations of conducting research in real work settings, compared with laboratories. Furthermore, the urgency of addressing unhealthy work environments in health care leaves practitioners with no option but to apply existing knowledge, however incomplete, to find solutions now. Reflecting these realities, the Canadian Health Services Research Foundation (CHSRF) is promoting the concept of "evidence-informed decision making."[34] Even this may be difficult to achieve, however, given that managers face many organizational barriers to using evidence in any decision making.[35]

5. Benefits and Costs of Healthy Workplaces

Having acknowledged the paucity of intervention studies, especially ones that conduct cost-benefit analysis, there nonetheless is some useful research in health care settings that highlight the value of improving workplace health and safety. This section is illustrative of this research. We will examine three areas – injury, absenteeism, and retention – where researchers sometimes provide actual or estimated costs of improving the health, safety, and overall quality of health care work environments.

Injury

Interventions aimed at reducing musculoskeletal injuries have been thoroughly evaluated. For example, the Occupational Health and Safety Agency for Healthcare (OHSAH) in British Columbia has developed and evaluated, in partnership with employers and unions, an integrated musculoskeletal injury (MSI) prevention, early intervention, and return to work process.[36] The goal of PEARS (Prevention and Early Active Return to Work Safely) is to reduce the incidence, duration, time loss, and related costs of workplace MSIs through early intervention and the implementation of preventative strategies, such as ergonomic assessments and workplace accommodation. Evaluation of pilot sites found no reduction in incidence. However, the program was effective in returning injured nurses and health science professionals (but not facility support staff) to work more quickly, resulting in savings in time loss and compensation payments.[37]

Patient lifts also have been carefully evaluated for their contributions to reducing the risk and associated costs of injuries caused by lifting, transferring and moving patients. OHSAH also has studied this by conducting a longitudinal case study in an extended care facility, examining injury trends over a 6-year period: 3 years before the introduction of lifts and 3 years after their introduction.[38] Analysis of injury trends showed a sustained decrease in days lost, workers' compensation claims, and direct costs associated with patient-handling injuries. This translated into cost savings that support further investments in patient lifts.

Absenteeim

Absenteeism is perhaps the most widely measured and reported health outcome in workplaces. The Ontario Hospital Association's (OHA) Healthy Hospital Employee Survey (©HHES) provides strong evidence of how work-environment factors directly influence levels of absenteeism. This research found that positive employment relationships, safe and supportive work environments, and increased satisfaction were consistently related within work units to employee self-reported health status, absenteeism, job performance, and intention to quit.[39] The ©HHES was developed in partnership by Brock University's Workplace Health Research Unit (WHRU) and the Ontario Hospital Association (OHA).

Costs of absenteeism and presenteeism

"Based on rates for workers' compensation, long term disability, and medically-related absenteeism, a conservative estimate of the total direct and indirect costs to BC Health Authorities attributable to medically related absenteeism and presenteeism (reduced productivity of employees who remain working when ill or injured) is $1 billion annually."

Source: Dr. Larry Myette. Great Expectations: Investing in Workplace Health. A discussion paper for Healthcare Executives in BC, Healthcare Benefit Trust, January 2004.

The survey of 8,000 employees in 19 hospitals compared absenteeism levels by six job types: nurses, RPNs, support service workers, clerical workers, paramedics (allied health professionals), and administration. The researchers created a composite score that measured elements of healthy and supportive work environments, including leadership support, working relationships, respect, recognition and rewards, involvement in decision making, and communication. Absenteeism rates within all occupational groups varied systematically by healthy and supportive work-environment scores. The difference between high-scoring and low-scoring groups in average number of annual sick days absent ranged from 1.9 for paramedics to 3.5 for RPNs and 3.9 for support service workers.

The OHA's research suggests that healthy workplaces will improve hospital effectiveness by substantially lowering absenteeism. While the study was not intended to make these calculations, extrapolating from its absenteeism findings to direct cost savings is a straightforward exercise. For example, for every service worker whose work environment improves from unhealthy and unsupportive (low score) to healthy and supportive (high score), the expected annual wage cost savings (based on an hourly wage rate of $17.00) would be $530 per worker. For 1,000 workers to experience this improvement nets $530,000. The costs of these improvements have not been documented. However, the fact that both healthy and unhealthy hospital work environments exist within the same jurisdiction and fiscal constraints suggests that this has more to do with management's human resource priorities than it does with funding of special initiatives. Sound management and human resource practices, such as giving workers feedback, having open and effective communication, treating workers respectfully, and involving workers in decisions that affect their work life, appear to make the most difference. In fact, the ©HHES found that hospital employees, when given a choice, put much higher priority on these work-environment improvements than on having a health promotion or wellness program.

Veterans Health Administration (VHA), the largest integrated health system in the US, has calculated the costs of absenteeism. Since 1996, the VHA has undergone a remarkably successful structural and cultural transformation. This transformation is based on electronic health records, performance management, and a patient-centric focus.[40] Quality of care, patient safety, and cost-effectiveness of service delivery have been substantially improved. One of the outcomes tracked is absenteeism. An evaluation of nurse staffing in VHA facilities found that by reducing absenteeism in a group of 2,349

inpatient FTEs, 23.6 FTEs could be saved. Projecting this reduction across the VHA would save $17.8 million, using average national annual salary costs.[41]

A synthesis of the research on nursing work environments and how they affect the health of the nursing workforce and the quality of nursing care reached several key conclusions. Absenteeism among nurses is related to high levels of stress and high risk of injury. The same factors affect nursing shortages, because unhealthy work environments tend to burn out experienced nurses and discourage new entrants to the profession.[42] Another review of research literature on health care work setting factors that influence the quality of work life for nurses in health care identified the following key factors: teamwork (coordination and communication); organizational culture and climate; span of control of nurse managers; nursing workload and productivity; autonomy and decision making; and professional development. Outcomes include absenteeism and overtime utilization.[43]

While there have been far fewer studies of physician health, there are parallels with studies of nurses. Feelings of being overloaded and having lack of job control are common sources of stress among physicians. A Finnish study that examined the determinants of sickness absence among physicians in 11 hospitals over a 2-year period corroborated other studies in terms of the impact of workload and job control, but identified teamwork as having the greatest impact on physician absenteeism.[44] Teamwork did not have the same effect on absenteeism in comparison groups of nurse supervisors and managers. Physicians working on poorly functioning teams were 1.8 times at greater risk of taking absences of longer than three days compared with physicians on well-functioning teams. This finding is especially important in light of the growing emphasis on multi-disciplinary teamwork.

Despite evidence on the costs and causes of absenteeism, health care organizations encounter considerable barriers to reducing sickness absenteeism. This is illustrated by the experiences of National Health Service (NHS) trusts in Wales, who were mandated to set corporate targets and timelines for reducing sickness absenteeism by 30% of 2000-01 levels by 2003-04. Only 2 of 15 trusts achieved any reductions in absenteeism. An audit by the Auditor General for Wales documents that total absenteeism costs in the 15 NHS trusts amounted to 6% of total staff time or a cost of 66 million pounds.[45] By reducing absenteeism to the level of trusts in England, direct and indirect savings would be 17 million pounds (additional staff time, costs of agency and locum staff). The biggest barrier identified was the lack of information on the causes and costs of sickness absenteeism, preventing targeted resource allocation, and effective evaluation of interventions.

Taking a different approach to understanding root causes, opportunities to make improvements, and change barriers, Canadian researchers documented the perceptions of nurses, chief nurses, CEOs, and occupational health experts in 10 Ontario acute care hospitals regarding the causes of nurses' musculoskeletal injuries, stress, and related absenteeism.[46] Consistent with previous research, nurses rated adequate staffing and reasonable workloads and job demands as the most important interventions to improve their health. However, Chief Nursing Officers and CEOs did not identify workload as a leading cause of injury or stress. This discrepancy in perceptions and experience likely explains a lack of action to address workload and its relationship to absenteeism. While workload interventions are costly, this study notes that in Ontario in the late 1990s, $171 million was spent on

overtime for inpatient nurses and $39 million on inpatient nurses sick time – money available for reallocation to increase regular staffing, assuming of course that additional staff are available and willing to work for the organization.

Retention

Retention is another outcome that reflects both employee quality of work life – including health and wellness – and organizational performance. International research on nurse retention shows that job satisfaction causally impacts turnover.[47] Organizational factors associated with job satisfaction among nurses include workloads, emotional exhaustion, negative effects of staffing on patient care, hours worked, how executive nurse leaders value front-line nurses, a facilitative style that promotes autonomy, self-managed units and teams, autonomy, the quality of nurse-physician relationships, career development, and learning opportunities. The effects of pay on turnover is less consistent than the impact of work-environment factors. These findings apply in hospital and non-hospital settings.[48]

The magnet hospital concept is viewed by experts as "the single most successful organizational reform to attract and retain highly qualified professional nurses in hospital practice" in the past 20 years.[49] The extensive research on magnet hospitals provides a clear picture of the key determinants of retention, recruitment, and health service quality. The approximately 200 hospitals that have achieved Magnet Hospital certification from the American Academy of Nursing exhibit the following characteristics: good relationships with colleagues and supervisors; adequate staffing and time available to plan and carry out work; participatory management; opportunities for skill development and use; and strong leadership on people issues.[50] All these attributes also define healthy workplace cultures.

A strength of many magnet hospital studies is that by comparing magnet hospitals with similar non-magnet facilities, they can identify how and to what extent magnet working conditions, organizational systems, and cultures make a difference for nurses and patients.[51] Evidence shows that magnet hospitals are very successful at recruiting and retaining highly skilled nurses, because of the professional practice environments they provide. This in turn has positive impacts on nurses' quality of work life – satisfaction, safety, psychological well-being – and patient care. Indeed, magnet hospitals consistently have lower turnover than non-magnet hospitals. Total per-patient costs of care can be lower with better patient outcomes achieved because of lower nurse-patient ratios. For example, magnet hospitals had a 4.6% lower mortality rate than a matched control group of non-magnet hospitals, taking into account severity of illnesses among patients. Patient satisfaction and nurse satisfaction are higher, and nurse burnout rates lower.

The organizational features of magnet hospitals – increased nurse autonomy and control, a decentralized and participatory management style, extensive training and career development opportunities, and positive working relations between nurses and physicians – do not increase operational costs. Magnet facilities also are less likely to have implemented restructuring, reengineering, and downsizing initiatives – organizational changes known to seriously erode the quality of nursing work environments. Magnet hospital standards, and the supporting research,

provide an opportunity for organizational leaders to engage staff in improving existing programs and initiatives, thereby strengthening the culture.[52] The immediate challenge is to expand this and other hospital-based nursing models to address the needs of all staff groups and all types of health service organizations.

Research by the VHA also amplifies the benefits of magnet hospital characteristics by documenting turnover costs.[53] Direct and indirect turnover costs include recruiting, reduced productivity, training, and termination. VHA uses 100% of a nurse's annual salary to estimate the cost of filling a vacated nursing position. This is a conservative estimate; research by the Nursing Executive Centre in the US shows that actual turnover costs can be 4 to 5 times higher than estimated, mainly due to lost productivity in orienting and integrating new hires.[54] Nonetheless, the VHA looked at turnover in specific facilities, estimating substantial cost savings of bringing these to the VHA national average (9.4%). Also found was that excessive use of overtime and mandatory on-call – by-products of high absenteeism rates – led to job dissatisfaction. One of the VHA recommendations is to involve nurses in staffing decisions – an approach we will consider next.

6. Determinants of Healthy Health Care Workplaces

By focusing on three major health-related outcomes, we have seen how work and organizational factors influence employee well-being and some aspects of health system performance. Injuries, absenteeism, and turnover are widely measured by health care employers and can be used to evaluate the costs of specific interventions without incurring costs of additional data collection. However, as noted, such cost calculations are rarely published. Still, it is reasonable to assume that reductions in any of these indicators have cost savings potential, if these are not offset by intervention costs (which are especially scarce in the published research).

Another way of looking at healthy workplaces is to examine the determinants of healthy outcomes for employees and organizations. This section summarizes several key themes in this extensive literature on health care. The purpose of this research is to understand the causes and consequences of healthy and unhealthy work environments; it does not examine the ROI of changes. Yet it is possible to identify specific changes that are consistently related with either healthy or unhealthy outcomes for health care workers. As such, this research offers insights helpful in designing interventions.

Stressful conditions

There is solid evidence on the impact of stressful working conditions in health care, using the demand-control model and the effort-reward imbalance model of work stress outlined in Section 8. However, there are few rigorous evaluations of interventions targeting these causal factors.[55] One example of an evaluated intervention used a quasi-experimental design to test the impact among hospital cleaning staff of increased control over work and support received at work on rates of sickness absenteeism 12 months before and after the intervention.[56] The study was theory-based, using the demand-control-support model of job strain. While sickness absenteeism fell 2.3% in the intervention group 6 months after the intervention, this was not sustained. The researchers recommended a longer follow-up period and collection of additional data, especially staff perceptions of changes, on factors influencing sickness absenteeism.

More generally, health care studies confirm a basic finding in job stress research: worker health and performance improve when they have active job conditions, which provide more control, autonomy, and opportunities to use and develop their skills. Lack of control over work and lack of participation in decision making have been associated with injury and disease among health care workers. To address this problem, there have been numerous initiatives in health care to increase employee involvement through various forms of work redesign, with goals such as better skill utilization and increased organizational commitment.[57] Evaluations of employee involvement programs in health care organizations have focused on nursing subunits, and include quality of work-life programs, quality improvement teams, pay-for-performance, shared governance, and various employee suggestion systems.[58] Job design strategies aimed at increasing health care providers' decision-making participation and improving communication positively contribute to employee commitment, job satisfaction, and job and team performance. The same research identifies manageable workloads as a determinant of employee and workplace health.

Participation and empowerment

Research in health care settings identifies practical steps that can be taken to alleviate known sources of job stress and burnout, such as communication and information sharing, stable work teams, participation in decision making, encouraging local initiatives, recognition, fairness and respect, and individual and team development.[59] Positive outcomes are associated with participatory work redesign initiatives. For example, job satisfaction increases among nurses following the introduction of autonomous clinical practice in which nurses are involved in decision making and believe they have control.[60] Yet most nurses lack autonomy and have few opportunities to participate in decisions that affect them.[61] Additional organizational factors consistently linked to nurses' job satisfaction include the value placed on nursing throughout the facility by administration and by physicians. Also important are supportive relationships with peers, physicians, and management, based on mutual respect and mutual concern for providing quality care.[62]

A related theme in nursing research is the positive influence of job empowerment on employee well-being and job performance. Empowerment is achieved through work redesign, specifically through teams that enable learning and professional development, access to information, adequate support and resources, and control over decisions affecting care delivery. Furthermore, empowerment conditions among nurse managers improve their ability to create positive work environments and mentoring.[63] It is important to recognize that empowerment, or employee involvement, are not stand-alone programs. Lasting impact on employee commitment, performance and job satisfaction interventions requires a total approach to human resource management that fosters an employee-centred culture.[64]

Organizational justice

Other factors also have been related to health and performance outcomes for employees. Organizational justice is a growing theme in health care research. Perceived lack of respect in relationships with supervisors or other professions, or perceived lack of fairness in organizational procedures, can reduce nurses' job satisfaction and trust in management, increase the risk of burnout (emotional exhaustion), and lead to perceptions of reduced quality of care.[65] Interactional injustice (being treated with a lack of dignity and disrespect in relationships) has been identified as a predictor of poor self-reported health status, psychiatric problems, and high absenteeism among 4,000 hospital staff.[66]

A longitudinal study of over 3,000 hospital employees, controlled for the effects of baseline health and demographic characteristics, also predicted poor self-reported health status, psychiatric problems, and high absenteeism. Because this was a longitudinal research design, researchers were able to confirm that injustice was the causal factor in job strain, ruling out the possibility that healthy workers are less likely to perceive injustice in their organization.[67] The practical implication of this research is that when fairness is present, employees experience less job stress and their productivity is higher.

Unhealthy organizational change

There are important lessons about healthy change processes in health care that will not put individual health and service quality at risk. This is a key point emerging from the research on the negative impacts of health care restructuring and downsizing. Compared with other industries, health care has experienced more organizational change since the early 1990s.[68] For example, the restructuring process itself is a critical factor in staff morale, stress, job satisfaction, and perceived job effectiveness. Change that is guided by a clear leadership vision, open communication, and the participation of staff and unions will contribute to a positive transition. Change strategies that provide opportunities for empowerment, increasing nurses' sense of control over their practice environment, have been shown to improve worker engagement as well as physical and mental health. It also is important for leaders to acknowledge the need to maintain a healthy environment during periods of rapid change and to clearly communicate this to staff.[69]

Illustrative of the challenges of conducting evaluation research in constantly changing health care settings, two studies designed to test the impact of workplace interventions were both affected by downsizing that happened simultaneously. A study at a Swedish hospital used surveys and collaborative groups to improve employee well-being.[70] Surveys provided baseline measures and a 12-month follow-up of psychosocial work quality, supporting resources, and self-reported health and well-being. Management and staff in each department used the survey results to improve workplace social climate, leadership, performance feedback, goal clarity, skills development, workload, employee involvement, organizational efficiency, and mental energy. However, a 20% staff reduction prior to the follow-up assessment resulted in a decline in most outcome measures, though the intervention buffered the negative impact of the downsizing. Another study used an RCT design to assess the efficacy of nurse-manager consultation and problem-solving meetings for improving staff morale and care quality, and reducing absenteeism.[71] Outcomes were measured through a survey of employee morale, absenteeism, incident reports, and patient satisfaction to assess quality of care. The experimental group receiving problem-solving training showed more positive perceptions of the work environment and working relationships, but there was no effect on absenteeism. However, the study began at the same time as significant layoffs, making it very difficult for nurse managers to apply the problem-solving skills they may have acquired.

> "At Baptist Health Care, we recognize the strong correlation between employee commitment and customer satisfaction. We know that happy, committed employees work more productively and provide better service. By valuing and recognizing our staff, we harness the power of motivation and generate sustained levels of achievement."
>
> Source: Al Stubblefield. (2005). The Baptist Health Care Journey to Excellence. Hoboken, NJ: John Wiley & Sons. p. 95.

Furthermore, organizational change also directly affects employee health and job functioning. In a study of over 800 Hamilton hospital employees in diverse occupations during a period of organizational restructuring, researchers found that while reengineering increases workers' level of

emotional exhaustion, especially if they are in demanding jobs, active job conditions improve health outcomes and better enable workers to cope with organizational change.[72] Active jobs that provide employees with control over challenging tasks and enable problem-solving not only contribute to health and psychological well-being, especially a sense of mastery, but these conditions also support workers to initiate and contribute to organizational change. These findings are even stronger in situations where workers have supportive colleagues. This can have substantial organizational performance benefits.

Creating healthier workplaces requires a shift in leadership thinking and organizational culture so that human assets are more highly valued and nurtured over the long term. Health and performance can be enhanced by applying concepts such as autonomy, involvement in decision making, procedural and interactional justice, and empowerment. Other factors, such as workload, communication, supervisory support, learning and development also contribute to positive outcomes that benefit both employees and employers. However, there are limits to the above research. Most studies are in hospital settings and focus on nurses. So in order to generalize these findings, it is important in the future to examine these relationships in other health care settings and with other groups of providers. Interestingly, these organizational conditions accurately describe the magnet hospital model, discussed earlier.

7. Healthy Cultures

It is difficult to imagine a healthy job or workplace without a healthy culture as the foundation. A healthy organizational culture nurtures employee well-being, engagement, and performance. Culture refers to a system of shared understanding about how organizational life ought to be conducted – how things get done. In a healthy and high-performing workplace, behaviours are guided by people-centred values that are embedded in the culture. Management consistently treats staff as core assets, and these behaviours are supported by human resource management policies and practices. This section provides brief overviews of three health care organizations in the US and one in Canada that have linked people and performance by building strong cultures that put patients first by valuing employees.

Baptist Health Care

Baptist Health Care in Pensacola, Florida, employs 5,500 employees in 5 acute care hospitals, nursing homes, mental health facilities, and outpatient centres.[73] Baptist Health Care launched its cultural transformation in 1996 with the goal of improving the quality of health services. Patient satisfaction was in the 18th percentile, positive employee morale was at 44%, and turnover was 27% annually. The five directions of transformation were: creating and maintaining a great culture; selecting and retaining great employees; committing to service excellence; continuously developing great leaders; and hardwiring success through systems of accountability. As a result of succeeding in all these areas, by 2003 Baptist Health Care was in the 99th percentile in patient satisfaction (Press-Ganey scores), turnover was 13.9%, and positive employee morale was 83%. Baptist defines the key characteristics of a healthy culture as open communication, no secrets, a sense of employee ownership, and no excuses.[74]

Baptist Health Care attributes its current high levels of service excellence to the transformation of its culture and work environment, guided by three principles: employee satisfaction; patient satisfaction; and leadership development. Responsibility for renewing the culture, and sustaining these changes, was handed over to employee-led committees. There were teams on culture, communication, customer loyalty, employee loyalty, and physician loyalty. Teams used a variety of measures to create transparency and accountability for key goals. Regular surveys of employees, physicians, and patients informed continuous communication and action planning. Baptist Health Care is on Fortune magazine's 2006 list of "100 Best Companies to Work for in America" and has won awards for the quality of its patient care.

Bronson Healthcare

Bronson Healthcare, a community-based health system in Michigan, has 4,000 employees. It used a four-step organizational transformation process to improve the work environment and the quality of patient care: make workforce engagement a strategic priority with executive commitment and champions; create a workforce development plan; focus on employee buy-in and feedback;

and record measurement. The goal was to be not just above average, but "best practice." Between 2001 and 2005, 32% of the questions on the employee opinion survey were "best practice." Overall turnover went from 19.4% in 2001 to 9.5% in 2003 (the Advisory Board considers best practice 15% and less). RN turnover fell to 5.1% in 2005, from more than triple that rate in 1998 (the American Nurses Credentialing Center considers 12.9% best practice).[75] Bronson does not track absenteeism, in part because of their paid time-off policy, which makes accurate identification of sickness-related absenteeism more difficult.

Northwest Community Hospital

Northwest Community Hospital, a non-profit facility in the Chicago area, recently achieved magnet status and made the Fortune 2006 list of "100 Best Companies to Work for in America." A goal in the hospital's strategic plan was to make the Fortune list in 2007. The hospital has created a high-trust, caring culture that enables employees and physicians to put patients first. Leadership decisions and accountability are based on four measures: employee satisfaction, quality, patient satisfaction, and financial results. Among the commitments it makes to employees is 50 hours of annual training, many opportunities to communicate with the leadership team, full budget disclosure, and active support of community involvement. The hospital is in the top 10% nationally for physician satisfaction. The vacancy rate is 3.5%. Since the late 1990s, the ratio of total salaries and benefits to revenues has declined from 55% to 50%, which for the executive team and board is a key measure of successful cultural transformation. More is actually being spent on salaries and benefits, but revenues are higher because employees are more productive.

These three US non-profit hospitals are on Fortune magazine's 2006 list of "100 Best Companies to Work for in America," a ranking based on an assessment of the levels of trust, employee pride, and camaraderie.[76] This is further validation of the positive cultures each has created. It is interesting that 9 of the 100 organizations on the 2006 Fortune list are hospitals, which attests to how health care employers can combine very high levels of workplace and performance excellence.

Trillium Health Centre

It is more difficult to identify similar examples in Canada, and furthermore, there are no magnet hospitals in this country. Nonetheless, one conclusion from magnet hospitals research and the Fortune list hospitals is that high-performing health care organizations do not focus on just reducing injury risks, absenteeism, or turnover. Indeed, the hallmark of a truly healthy health care environment is that a systemic, holistic approach yields a range of positive employee and organizational outcomes. Trillium Health Centre has been informally recognized by its peers as a leading example in Canada of this direction of change.[77] A brief overview of Trillium's successes shows that an integrated and strategic approach to healthy workplaces pays off.

Trillium operates two community hospitals in Mississauga, Ontario, with 4,000 employees and 900 volunteers. One of Trillium's strategic directions is to "engage people fully." The concept of an "organic organization" has been used by CEO Ken White to describe a non-bureaucratic environment

that encourages innovation and individual leadership by fully engaging all employees, physicians, and volunteers to make decisions and take ownership for them. For people to be fully engaged, they must be supported by a healthy environment. Trillium strives to achieve healthy outcomes for its people in a work environment that nurtures innovation and health service excellence. Trillium annually surveys (using the ©HHES, described previously) staff, physicians, and volunteers to assess health and work experiences. Managers are accountable for acting on the survey results and employees also are involved in this process. Healthy workplace changes also support other major human resource goals, including recruitment, flexible work options, talent management, and professional development.

Taking this approach, Trillium has achieved improvements in work satisfaction, training and professional development opportunities, perceived quality improvements, and overall satisfaction. Trillium's scores in these areas are consistently higher than provincial benchmarks provided by the Ontario Hospital Association. Trillium's annual sickness absenteeism rate has declined to well below the provincial average for hospitals. Retention, measured by the "labour stability rate" (the percentage of staff employed at Trillium at the beginning of a fiscal year who were there 12 months earlier), increased from 79% to 91% between 2002 and 2004. In 2006, human resource and healthy workplace indicators will be integrated into Trillium's Dashboard, which uses a balanced scorecard concept to provide all managers with easy access to its key performance indicators.

The four health care organizations described above have adopted what researchers in other industries identify as best-practices for people management and organizational performance. Leading-edge HR management places high value on treating employees as core business assets and "bundles" together practices such as teamwork, extensive training, employment security, reduced hierarchy, performance-based pay, employee involvement in decision making, and employee wellness into a comprehensive strategy directly tied to business goals.[78] This approach is slowly being adapted by Canadian health care organizations, yielding benefits such as improved client and staff satisfaction and operating efficiency.[79]

Most organizations don't have unifying cultures built around strong core values. Large multi-unit organizations – like health regions – are more likely to have weak and fragmented cultures, making it difficult for employees to see the connection between the stated values and vision and their job. The strength of positive workplace cultures will be found within health service sites – an emergency department, a residential care facility, a community hospital – not at the regional level. Any attempt to improve the work environment must leverage the strengths of these local cultures, address the barriers to change that a local culture may pose or, in the worst cases, recognize that a local culture is part of the problem, contributing to an unhealthy workplace.

8. Evidence on Healthy Workplaces in Other Industries

Now to expand our discussion beyond health care settings, most of the relationships between working conditions and health documented in health care also are found in other work settings. In short, the basic links between work and health transcend the specifics of industries and occupations. The broad contours of a healthy and supportive workplace has the same underlying ingredients in a hospital as it does in a bank, police service, or software manufacturer – regardless of how much health care professionals may see themselves as unique. Practically, this means that health care decision-makers can gain useful insights from looking at successful practices in other industries.

Lessons from healthy workplace intervention studies

Assessing cumulative evidence on how various job, workplace, management and organizational factors influence health and productivity, a clear picture emerges of what makes a positive difference – and poses the biggest risks – to human resources. This section offers a high-level synthesis of key research findings relevant to practitioners and policy-makers seeking a better understanding of the changes that contribute to healthy and productive workplaces.

Accepting the argument that we need to extract practical lessons from the voluminous etiological research, doing so will reinforce the broad direction of change suggested in the more limited research on workplace health interventions. Distilled down to essentials, here are four conclusions from evaluation research on healthy workplace interventions:

- Despite their popularity, stress management and other superficial interventions aimed at increasing an individual's coping skills are generally ineffective.[80]

- Worksite health promotion programs aimed at reducing an individual's health risks, such as modifications to diet, physical activity and other lifestyle factors, have limited to mixed results in terms of reducing health risk factors.[81]

- Clinical and cost outcomes for comprehensive worksite health promotion and disease management programs are generally positive, if modest, showing the best results for individualized risk reduction for employees with the highest risk of heart disease and other chronic conditions.[82] Comprehensive health promotion programs take an integrated, ongoing approach to health risk reduction, include an evaluation component, and are linked to corporate objectives.

- There is a growing consensus among researchers that further improvements in employee health and well-being and organizational performance will require changes in job design, organizational systems and structures, and work environments.[83]

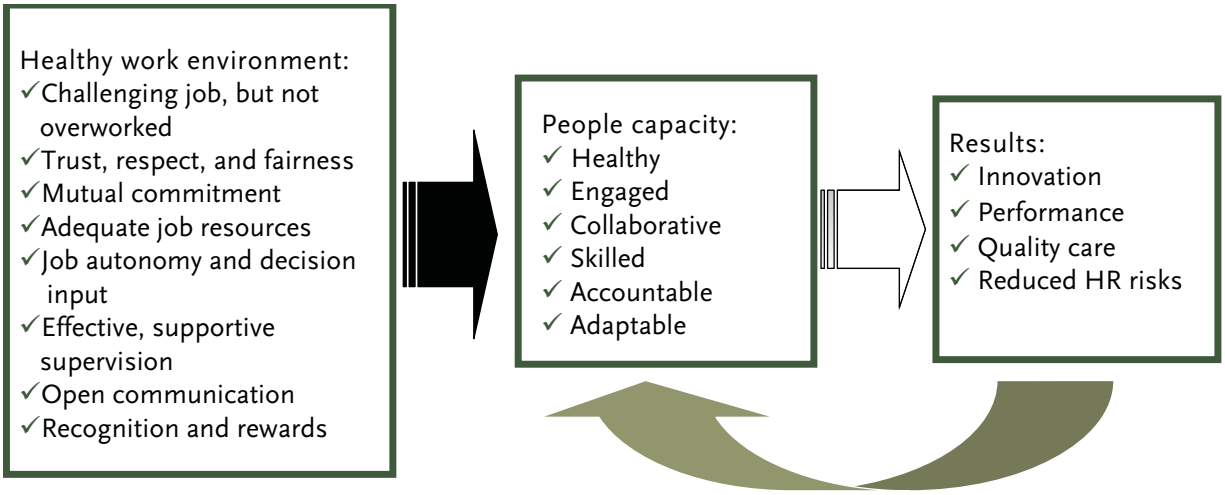
Logically, these points apply as much to health care as they do to any other work setting.

Current thinking on healthy workplaces

There is growing recognition among researchers of the need to develop a more comprehensive approach that moves beyond individual workers' health outcomes to examine the underlying workplace determinants. Many workplace health researchers and practitioners now use the term "health and productivity management" to integrate health promotion into all corporate functions, from human resources, benefits, employee assistance programs, occupational health and safety, workers' compensation, organizational development, and business operations.[84] Comprehensive approaches to improving workplace health can take two directions.[85] One focuses on the workplace conditions that support positive mental and physical health outcomes for employees. The other focuses on both individual and organizational outcomes, including decreased health care costs, absenteeism and performance. Both approaches use the World Health Organization's (WHO) definition of health as complete physical, mental and social well-being, not just absence of disease or ill health.

The logic of a healthy organization

Using population health thinking, leaders must strategically link a healthy work environment, people capacity, and organizational effectiveness:



Source: Graham Lowe Group Inc.

The emerging concept is of a healthy organization, defined as "...one whose culture, climate and practices create an environment that promotes both employee health and safety as well as organizational effectiveness."[86] The figure above outlines the logic of a healthy organization, showing how work-environment characteristics influence the development and utilization of an organization's people capacity, which is required to achieve the organization's goals. Healthy organizations are financially successful and have healthy workforces.

How working conditions affect health

This section briefly summarizes key research findings from several disciplines about how working conditions affect health. It is not intended to be comprehensive, but instead highlights key causal pathways that are well known and, moreover, are of most direct relevance to health care workplaces. In terms of the physical work environment, progress is being made in addressing musculoskeletal and other injuries in hospitals. The applied research and interventions being conducted by OHSAH in BC exemplify this direction of change. While more needs to be done to reduce the high costs of lost-time injuries, disability, and workers' compensation, there are greater risks – and organizational change challenges – in the area of psychosocial work environments. The focus is on work environment and organizational risks to health, wellness, and organizational effectiveness that have not been adequately addressed.

There is a well-established scientific research tradition for studying psychosocial work environments. This differs from biomedical occupational health research because, rather than using direct physical measurement or biological measures, work-environment stressors are identified, mainly through questionnaires, in the form of specific job characteristics. These environmental health risk indicators can be examined in any industry or occupation.[87]

Work stress research has been guided by two validated theoretical models.[88] The experience of chronic stressors (or "strain") is used in these models to predict increased risk of mental and physical health problems. Job stress has been linked causally to chronic degenerative disease processes, such as heart disease, as well as depression, diabetes, asthma, migraines, and ulcers.[89] This research relies on worker self-reports because an individual's perceptions of their objective work environment is what mediates how it may affect their health and well-being. As one expert explains, "in order for something in an organization to be a 'stressor,' it must be perceived and labeled as such by the employee."[90]

The first approach is the demand-control model. This documents how mental and physical health is influenced by a worker's opportunities for decision making, job autonomy, and skill development. High psychological demands and a low level of control over these demands increases a worker's exposure to "job strain," and through this, an elevated risk of morbidity ranging from depression to heart disease. Conversely, if a worker experienced high psychological demands and has the autonomy and learning opportunities to manage these demands, that individual will have positive mental health outcomes in the form of a greater sense of self-efficacy and mastery. This is an "active job" that not only enhances the quality of work life, but also contributes to organizational performance through increased initiative, learning, and collaboration.

The second approach to studying psychosocial work environments is the effort-reward imbalance model. Taking a distributive justice perspective, the model proposes that the level of mental and physical effort individuals expend at work must be symmetrical with job rewards, including pay, job security, career opportunities, self-esteem, and satisfaction. There is growing evidence that lack of reciprocity between work effort and rewards is associated with increased risks of cardiovascular

disease, depression, alcohol dependence, and poor self-rated overall health.[91] Increasingly, researchers are combining the demand-control model and the effort-reward model to better understand how work environments adversely affect individuals' health and well-being.

When it comes to the impacts of stressful working conditions (high demands with low decision control, and high effort with low rewards) on health and performance, we have strong evidence from panel studies that track the same people over many years.[92] Longitudinal panel studies are considered the gold standard research design in social science for understanding causal relationships in changing social contexts. Stressful working conditions are associated with mental and physical health problems, as well as reduced organizational performance. Onerous job demands can undermine effective work relations, increase sick time and job dissatisfaction, and increase workplace conflict and turnover. This research also documents that downsizing and restructuring undermines workers' health status, generating stress, insecurity, increased absenteeism, and demoralization, as well as an increased risk of morbidity.

None of these findings is specific to one sector or occupation. They reflect job and organizational conditions that can be present in any workplace. However, some stressors are more prevalent in specific industries. For example, work hours and schedules warrant close attention in health care, which must provide services around the clock, every day of the year. Long work hours alone can have a direct effect on individuals' health.[93] Working long hours contributes directly to unhealthy lifestyles, which are well-documented risk factors in heart disease and serious health conditions. Shift work creates health risks because of disruptions to the body's circadian rhythms. Health problems directly related to shift work include gastrointestinal disorders, cardiovascular diseases, cancer, and menstrual and pregnancy complications in women.[94] Lack of sleep is a common complaint among shift workers, which in addition to reduced quality of life also creates safety risks.[95]

Work-life balance is a widely recognized component of employee well-being. The extensive body of research on work-life conflict documents how the relationship between work and family affects an individual's health as well as their performance in work and family roles.[96] These studies corroborate one of the key findings from job stress research: work-role demands, and control over these demands, affect workers' health and well-being. Indeed, work–family conflict is regarded as a major stressor, contributing to reduced general mental health and well-being, dissatisfaction with life, psychosomatic symptoms, depression, general psychological distress, use of medication, alcohol consumption, substance abuse, clinical mood disorders, clinical anxiety disorders, and emotional exhaustion. There also are costs that employers can incur as a result of high levels of work–family conflict, including intention to quit, low morale and increased absenteeism.[97]

Evidence-based strategies for achieving work-life balance in organizations focus on providing work time and location flexibility and the development of 'supportive managers.'[98] A supportive manager is a good communicator, focuses on output rather than hours, shows respect for employees, and supports their career development.[99] The presence of formal work–family policies makes little difference unless their use is fully supported by management.

A prominent theme in workplace research is that workers' perceptions of the quality of their work environment are critical for outcomes such as job satisfaction, commitment, absenteeism and performance.[100] A study of Canadian workers' perceptions of healthy workplaces discovered that these are shaped by individuals' relationships with their co-workers, supervisors, and senior management.[101] Workers who experience their work environment as healthy are far more likely than those who do not to have good communication, friendly and helpful co-workers, a positive relationship with their supervisor, and to receive recognition. What seems to contribute most to perceptions of being in an unhealthy work environment is job demands: having a job that is very stressful, hectic, and has a heavy workload with conflicting demands.

Excessive workloads and job strain can quickly erode workers' sense of trust and commitment in their employer, with potentially negative implications for job satisfaction, morale, and turnover. The emerging field of occupational health psychology reflects the increasingly interdisciplinary perspective required to fully understand these dimensions of workplace wellness and design effective interventions.[102]

9. What We Know, and What We Need to Know

This section synthesizes the key concepts that have been examined in published research on worker health and healthy workplaces. The table below organizes the main concepts for which there is some evidence to show that they matter in worker and workplace health. Concepts are organized into four categories, reflecting their assumed logical ordering by researchers: determinants (or "causes"), moderators, individual outcomes, and organizational outcomes.

Several caveats must be kept in mind when reviewing this table. First, it is not based on a systemic literature review but, rather, attempts to illustrate general themes and patterns in the research reviewed for this report. Second, there is not consensus among researchers about where some of these concepts logically belong. For example, some researchers may study "moderators" as determinants. Other researchers may not distinguish between individual-level and organizational-level outcomes. Third, while there is an underlying logic to most of the research reviewed for this report, implying that specific workplace factors influence certain health and productivity outcomes, there is much work still to be done to unravel the often complex pathways of causation.

From the table, it is clear that in health care most of the research focus has been on nurses and hospital settings – often one and the same. A wide range of determinants and outcomes have been examined in this research. It also is evident that there is very little intervention research, especially ROI or cost-benefit analysis.

Synthesis of research on healthy workplace determinants and outcomes

KEY CONCEPTS AND CAUSAL POSITIONING	Major areas of research and evidence				
	HEALTH CARE			NON-HEALTH CARE	
	Nursing, hospitals	Other health care workers, settings	Return on investment / cost-benefit analysis	Diverse workers and work settings	Return on investment / cost-benefit analysis
DETERMINANTS					
Abuse and violence in the workplace	✓			✓	
Staffing levels	✓				
Bundled, high-involvement human resources				✓	
Chronic stressors, or strain	✓	✓		✓	
Communication	✓			✓	
Comprehensive workplace health promotion programs				✓	✓
Effort-reward imbalance				✓	
Employee empowerment	✓	✓		✓	

KEY CONCEPTS AND CAUSAL POSITIONING	Major areas of research and evidence				
	HEALTH CARE			NON-HEALTH CARE	
	Nursing, hospitals	Other health care workers, settings	Return on investment / cost-benefit analysis	Diverse workers and work settings	Return on investment / cost-benefit analysis
Employee involvement	✓			✓	
Ergonomic equipment	✓		✓	✓	✓
Facilitative management style	✓				
Feedback, recognition	✓			✓	
Goal clarity	✓	✓		✓	
Health behaviour modification targeting high-risk groups				✓	✓
High job demands – low decision-making autonomy	✓	✓		✓	
Injury prevention and early return-to-work programs	✓	✓	✓	✓	✓
Job control, job autonomy, participation in workplace decision making	✓	✓		✓	
Job insecurity	✓			✓	
Job resources	✓	✓		✓	
Job rewards	✓			✓	
Leadership commitment to healthy workplace goals	✓	✓		✓	
Learning and development opportunities	✓	✓		✓	
Nurse-patient ratios	✓				
Overtime hours	✓			✓	
Organizational change, restructuring, reengineering, downsizing	✓			✓	
Organizational culture and climate	✓			✓	
Organizational justice	✓	✓		✓	
Participatory management				✓	
Positive co-worker relationships	✓			✓	
Respect	✓	✓		✓	
Safety education and procedures	✓			✓	✓
Shift work	✓			✓	
Supportive supervisor	✓	✓		✓	
Time to plan work	✓				
Work hours	✓			✓	
Work-life balance	✓	✓		✓	
Workloads, job demands	✓	✓		✓	
Workplace disease management programs				✓	✓
MODERATORS					
Individual coping skills				✓	
Job resources	✓	✓		✓	

KEY CONCEPTS AND CAUSAL POSITIONING	Major areas of research and evidence				
	HEALTH CARE			NON-HEALTH CARE	
	Nursing, hospitals	Other health care workers, settings	Return on investment / cost-benefit analysis	Diverse workers and work settings	Return on investment / cost-benefit analysis
Nurse-physician relationships	✓				
Social support from co-workers	✓	✓		✓	
Supportive supervisor	✓			✓	
Team relationships	✓	✓		✓	
INDIVIDUAL OUTCOMES					
Anxiety	✓				
Asthma				✓	
Burnout, emotional exhaustion	✓	✓		✓	
Change readiness	✓			✓	
Depression	✓			✓	
Diabetes				✓	
Direct medical care costs				✓	✓
Gastrointestinal disorders				✓	
Heart disease				✓	
Injuries	✓	✓	✓	✓	✓
Job satisfaction	✓	✓		✓	
Long-term disability	✓	✓		✓	
Lost-time musculoskeletal injury	✓	✓		✓	
Migraines				✓	
Personal efficacy	✓			✓	
Physician visits				✓	
Psychological distress/well-being	✓	✓		✓	
Self-esteem				✓	
Self-rated health	✓			✓	
Substance abuse				✓	
Ulcers				✓	
Use of medication				✓	
ORGANIZATIONAL OUTCOMES					
Absenteeism	✓	✓		✓	✓
Commitment	✓			✓	
Early retirement				✓	
Health benefit utilization				✓	✓
Lost performance at work, or presenteeism				✓	✓
Medical error	✓	✓			
Morale	✓			✓	

KEY CONCEPTS AND CAUSAL POSITIONING	Major areas of research and evidence				
	HEALTH CARE			NON-HEALTH CARE	
	Nursing, hospitals	Other health care workers, settings	Return on investment / cost-benefit analysis	Diverse workers and work settings	Return on investment / cost-benefit analysis
Number of applicants per vacancy	✓				
Organizational learning	✓			✓	
Patient mortality	✓				
Patient satisfaction	✓				
Per-patient costs of care	✓				
Quality of job applicants	✓				
Quality of patient care	✓				
Retention, voluntary turnover	✓			✓	
Return to work after long-term disability	✓	✓		✓	
Sickness absenteeism	✓	✓		✓	✓
Skill development	✓			✓	
Skill utilization	✓	✓		✓	
Team effectiveness	✓	✓		✓	
Workers' compensation claims	✓	✓		✓	
Workplace conflict	✓			✓	

Indeed, the table shows that while there is a substantial body of evidence that can help us to understand how a wide range of workplace factors influence the health and well-being of workers in health care, and in some instances also affect organizational performance, many unanswered questions remain. For decision-makers, the most important areas for future research are, first to evaluate the impact of current working conditions, and planned interventions, on health and performance. Second, it is essential to better understand how work-environment and organizational factors known to affect employee health also impact the performance of the health system.

Here, then, is a summary of the biggest knowledge gaps on healthy health care workplaces.

What we need to learn more about within health care

- Total direct and indirect costs of absenteeism at the organizational level.
- Total direct and indirect costs of voluntary turnover for each major occupational group at the organizational level.
- Total direct and indirect costs of long-term disability at the organizational level.
- Total direct and indirect costs of lost-time injuries at the organizational level.

- Healthy workplace determinants and outcomes among non-nursing health care workers and in non-hospital settings.
- Which job, work-environment, and organizational factors "mediate" the effects of workload on employee health outcomes.
- Return on investment, or cost-benefit analysis, for specific interventions designed to improve employee health and wellness, with this evaluation component built into the project.
- The causal mechanisms by which work-environment factors known to influence employee health and well-being have direct and/or indirect effects on patient safety, the quality of health services, and operational efficiency and effectiveness.
- The causal mechanisms by which work-environment factors known to influence employee health and quality of work life have direct and/or indirect effects on individual job performance.
- The causal mechanisms by which work-environment factors known to influence employee health and quality of work life have direct and/or indirect effects on team performance.
- The implications for the delivery of high-quality health service, and for system sustainability, of chronic self-reported stress among health system workers.
- The impact of unhealthy work environments on the retirement decisions, and work-retirement transition patterns, of health system workers in BC.
- The influence of organizational culture on employee health, the influence of organizational culture on safety and quality, and how these two sets of outcomes are interrelated.

10. Reframing the Case for Healthy Workplaces

Healthy workplace actions potentially can contribute to the major strategic directions of health system renewal. Three major goals can be more fully and quickly achieved by giving higher priority to healthy workplaces as an enabler of these changes: collaborative patient-centred care, workforce renewal, and quality and safety.

Health care delivery

A strong case for investing in healthy and supportive work environments is to enable reforms in health services delivery. There is a growing consensus that the future health and wellness needs of Canadians can best be met by transforming the current health care delivery system. A pathway for health system renewal is collaborative, interprofessional, patient-centred care.[103] A prerequisite for interprofessional teams is a workplace culture of mutual understanding and respect, which are core components of a healthy psychological and social work environment. The health care division of labour is evolving in the direction of collaborative and interdisciplinary care. This makes it imperative that all health professionals are able to fully apply their knowledge and abilities at the point of care. This goal is supported by healthy work environments.

Health human resources

Healthy work environments also have the potential to contribute to long-range health human resource strategies. Nurses comprise about 40% of the health care workforce, so utilization of nurses already in the workforce has a major impact on system capacity. Looking at projected RN retirements in Canada, using a scenario projecting retirement at age 55, BC was projected to lose 32% of its 2001 nursing workforce by 2006, assuming an average retirement age of 55.[104] Retention incentives are ineffective if older nurses are cynical, fatigued, or burned out.[105] BC's Nursing Strategy focuses on recruitment, retention and education. For instance, the province has increased nursing spaces. However, the provincial strategy does not address work-environment drivers, such as turnover, early retirement and barriers to professional development.[106] New Canadian evidence shows that job strain (high job demands and low control) is a significant predictor of early retirement among baby-boom professionals and managers, regardless of industry.[107] In short, healthy workplaces are an incentive for older, experienced health providers to continue contributing to the system by delaying retirement.

Quality and safety

The quality of care and patient safety are major concerns in all health systems. Quality and safety frameworks could usefully be expanded to include work-environment factors, but this will require a commitment by health care organizations to systematically document these relationships. The 2004 Canadian Adverse Events (AE) Study concludes that: "...the greatest gains in improving patient safety will come from modifying the work environment of health care professionals, creating better

defenses for averting AEs and mitigating their effects."[108] This is reinforced by the US Agency for Healthcare Research and Quality, which concludes that working conditions affect patient outcomes, including safety.[109]

Calls for a 'safety culture' are an increasingly common theme in discussions of how to improve patient safety. Health care quality experts point out that the research on healthy work organizations identifies similar work organization factors that affect employee healthy, wellness and safety, and organizational outcomes such as care quality, safety and operational efficiency.[110] In Canada, health care leaders are being urged to act on the considerable evidence linking the working conditions of nurses, particularly staffing ratios and skill mix, to patient outcomes, including satisfaction, morbidity, and mortality.[111] By integrating a quality improvement approach within a healthy workplace framework, greater improvements should be realized in the health and well-being of health care providers and the people they serve. Evidence strongly supports this integrated approach.

Research and interventions to improve patient safety draw on the model for a culture of safety developed in high-hazard industries, such as commercial aviation and nuclear power. In a safety culture that has strong accountability for achieving safety goals, everyone is aware of the importance of safety, and this is communicated through organizational values and beliefs, and organizational learning is supported as a means for maintaining safety.[112] The key is to create a non-punitive learning environment where health practitioners are able to communicate mistakes without fear of reprisal and feel they can take action to fix unsafe conditions in their work.[113] Safety cultures move beyond a "blame and shame" mentality.

Safety, quality and organizational culture

"While a variety of levers – clinical training and guidelines, information technology, organizational structures and industry regulations – are being pushed in healthcare organizations to improve patient safety, the belief is growing that an institution's ability to avoid harm will be realized only when it is able to create a culture of safety among its staff. Safety culture is a performance shaping factor that guides the many discretionary behaviours of healthcare professionals toward viewing patient safety as one of their highest priorities."

Source: V.F. Nieva and J. Sorra. (2003). Safety culture assessment: A tool for improving patient safety in healthcare organizations. Quality and Safety in Health Care. 12:ii17.

The US Agency for Healthcare Research and Quality (AHRQ) conducted a systemic review of the research evidence from 115 studies on the impact of health care working conditions on patient safety.[114] Five categories of working conditions were examined: staffing, workflow design, personal and social factors, physical environment, and organizational factors. The review concluded that specific working conditions affect outcomes that are related to patient safety, and that some working conditions affect rates of medical error. This is consistent with research in other industries, which shows that working conditions affect all aspects of service quality.

Based on this systematic review, the AHRQ recommends that improved patient outcomes could be achieved by organizational changes, such as increasing staffing levels for nurses, reducing interruptions and distractions, and improving information exchange within and across hospital and non-hospital settings. This is echoed by the US Institute of Medicine of the National Academies, which recommends improvements in nurses' environments, adequate staffing levels, mandatory limits on nurses' work hours, and strong nurse leadership at all levels.[115] It also recommends the development of management structures and systems that foster trust and staff involvement in decision making. A more recent synthesis of research on nurse-sensitive patient outcomes concludes that adverse events decline as the level of RN staffing and skill mix increases.[116] The links to quality of work life – essentially, employee wellness – are through appropriate workloads and scope of practice.

Research on patient safety suggests that a culture of communication, openness, learning and collaboration is the foundation for patient safety and health care quality. Training, guidelines, information technology and regulation all contribute to meeting safety goals. More fundamentally, "safety culture is a performance shaping factor that guides the many discretionary behaviours of healthcare professionals toward viewing patient safety as one of their highest priorities."[117] A study of 15 California hospitals concluded that short-term interventions will be ineffective unless management structures and the culture of the organization give high priority to safety.[118] This requires breaking down organizational barriers and silos separating managers and front-line workers.

Six studies involving 80,000 workers in acute care, home care, long-term care and primary care settings were combined in order to test a new integrative model of climate derived from the patient safety studies.[119] Climate encompasses perceptions of leadership, decision making, and work norms. Culture is broader, referring to shared norms, values, beliefs, and assumptions. This research shows that the same factors contributing to healthy outcomes for employees also affect quality processes and outcomes. These factors include cultures and climates "that have supportive and empowering leadership and organizational arrangements, along with positive group environments."[120] Outcomes examined in this research include absenteeism, patient satisfaction, use of evidence-based clinical practices, and performance. However, more research is needed to understand how these outcomes are interrelated.

Patient safety research focuses mainly on health care workers who have direct contact with patients. While these front-line providers are vitally important to the quality and efficiency of services provided, it is important not to overlook the contributions of other professional and non-professional groups. Needed, then, is an inclusive approach that recognizes that the performance of the system depends on each staff member being supported to do their best work. For the individual worker, the likely benefit will be a healthier work environment.

11. Making Health Systems Healthier

There are a number of regional and national initiatives underway to address health human resource challenges by creating healthier, higher quality work environments. Momentum is building for such change at the front-lines of health care organizations, and more slowly, at the governance level of the system. Actions at all levels of the health system are required for substantial progress to occur. As BC health employers and health care providers stakeholders seek innovative ways to improve the health of workers and workplaces within the system, it is instructive to understand change strategies outside the province.

Canadian initiatives

The Canadian Council on Health Service Accreditation (CCHSA) recently revised its accreditation standards to include quality of work-life measures. Influential in this regard was work by the Canadian Nurses Association and its provincial affiliates to improve nurses' professional practice environments and their quality of work life, drawing on evidence that a quality practice environment for nurses is a healthy and safe environment. The CCHSA uses the following definition: "Work life provides a work atmosphere conducive to performance excellence, full participation, personal/professional and organizational growth, health, well-being and satisfaction."[121] The CCHSA and the Ontario Hospital Association recently developed and piloted a 20-item, web-based survey to assess improvements in the quality of work life on the front-lines of health care.

At the policy level, several provinces are creating long-term health human resource strategies with explicit goals for healthy, or "high-quality," workplaces. For example, in Alberta, a provincial health policy initiative by the regional health boards created a provincial human resources action framework, the "Strengthening People Strategy." Its intent is to guide unified action to build higher quality workplaces across the system. Its basic assumption is: "A high quality workplace benefits all stakeholders." The strategy has been endorsed by regional health boards and the provincial CEO council.

Health Quality Councils (HQC) in Alberta, Saskatchewan, Ontario, and New Brunswick have mandates to monitor and publicly report on health system performance.[122] A broad interpretation of the mandate of HQC would include key determinants and outcomes of quality care from the providers' perspective. HQC have the potential to create a more robust monitoring, reporting, and accountability framework that includes key indicators for health care providers. A logical next step is to incorporate the settings in which providers work as determinants of system outcomes.

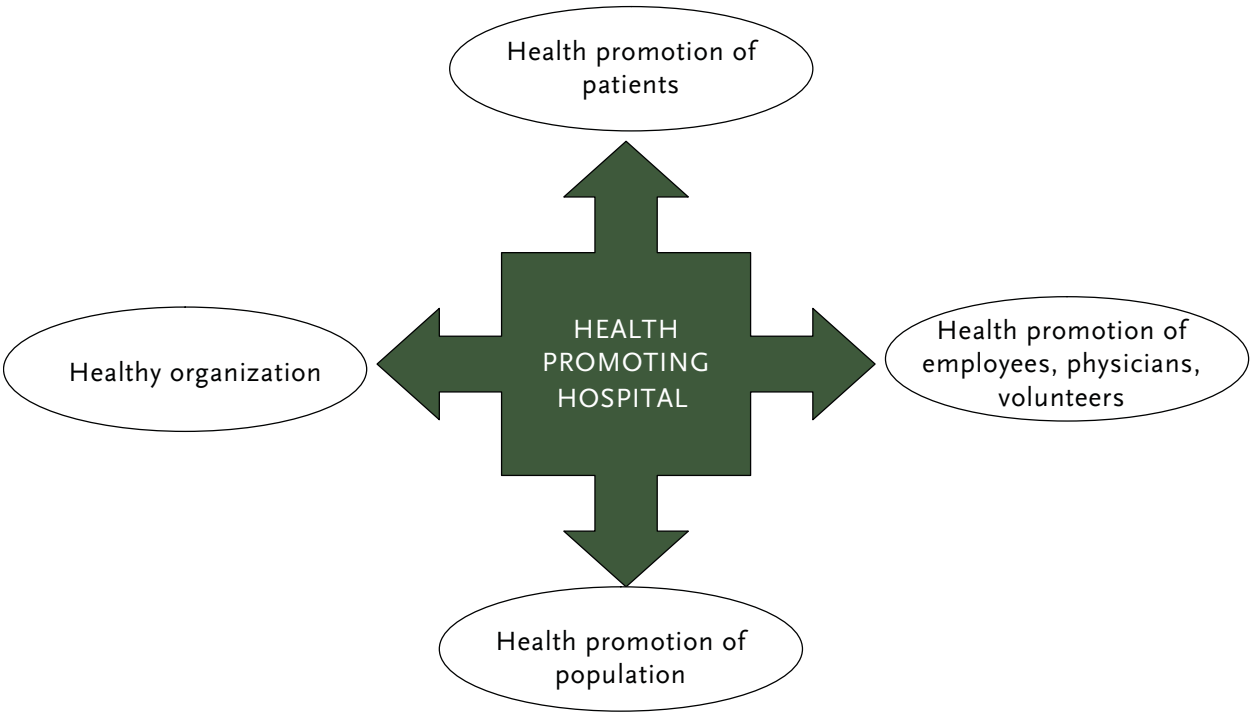
The Quality Worklife – Quality Healthcare Collaborative is a multi-disciplinary coalition of health care leaders and national organizations who are working together to develop an integrated action strategy to transform the quality of work life for Canada's health care providers.[123] The Coalition defines a healthy health care workplace as: "a work setting that takes a strategic and comprehensive approach to providing the physical, cultural, psychosocial and work/job design conditions that maximizes health and well-being of health care providers, quality of patient outcomes and

organizational and system performance." One of the initiatives is to develop standardized definitions, models, indicators, measurement processes and tools, and targets for improving health care work environments.

Health promoting hospitals

Creating healthy workplaces is based on population health and health promotion thinking, which inform health policy within BC and across Canada. BC's population health and public health model recognize the need to foster a "healthy and sustainable environment for all."[124] The challenge is to apply this thinking within workplaces, starting with health care workplaces.

The health promoting hospital



Source: Association of Health Promoting Hospitals in Finland (www.hph.tutka.net/english/home.htm)

The WHO Europe has taken the lead by developing a model of Health Promoting Hospitals (see figure above).[125] The WHO defines health promotion as "the process of enabling people to increase control over, and to improve, their health." Developing healthy environments in hospitals makes health promotion a quality management goal, ensuring the quality of services provided. Furthermore, the providers of health services must be actively involved in creating positive working conditions for themselves as an enabler of their own health and well-being, and supportive of their health promotion activities with patients, their families, and the community.

The WHO model is a high-level framework to guide change. It does not, however, provide evaluation tools for assessing the impact of moving in this direction. The WHO advocates benchmarking, identification of best practices, learning resources, and incentives for continuous improvement. Hospitals are encouraged to set and meet targets for key worker and workplace health outcomes. One of the WHO standards requires hospitals to have written policies for health promotion that explicitly apply to patients, their relatives, and hospital staff. Another requires management to establish conditions for the development of the hospital as a healthy workplace. All of this is within a quality improvement framework. There is no reason that this standards approach could not be extended to all types of health care facilities.

While the application of health promotion thinking within health care work settings makes good sense, implementation has been sporadic. A study of the European health promoting hospitals movement concludes that in 15 years, diffusion and positive impacts have been limited to "pockets" of success, with many more sites running into difficulties once moving beyond an initial "project" phase.[126] This raises the issue of organizational change. Research on a major hospital in Australia suggests that internal health-promoting activities require new organizational systems.[127] This study proposes a change continuum, from "doing a health promotion project" to "being a health promotion setting and improving the health of the community." Moving along the continuum requires leadership commitment, support at all levels of the organization, and changes in a range of policies and practices to align them with this comprehensive approach to health promotion. One major barrier we might anticipate is that while health regions in Canada espouse population health and health promotion policies, few actively use research from these areas for decision making.[128]

Management standards approach

The WHO recognizes the need for standards to achieve high quality in health promotion in hospitals. One of five core standards for health-promoting hospitals focuses on management's responsibility to establish conditions for the development of hospitals as healthy workplaces. The leading example of using a management standards approach to create healthier workplaces is in the United Kingdom, where the Health and Safety Executive (the national body responsible for occupational health and safety) developed evidence-based good management practices to reduce the risks of work stress.[129]

Based on statistics from the UK's Health and Safety Executive, 36% of sickness absenteeism due to work-related illness or workplace injuries is caused by stress, depression and anxiety – which means that between 30% and 40% of the direct costs of sickness absenteeism can be attributed to these causes. The Confederation of British Industry estimates that the average direct and indirect (including reduced customer satisfaction, lower productivity, higher staff turnover) costs of work stress to be approximately $3,000 (Canadian) per worker per year.

Source: Henderson Global Investors. Less stress, More value. Henderson's 2005 survey of leading UK employers. December 2005. www.henderson.com

The Health and Safety Executive's (HSE) preventative approach aims to promote healthier outcomes for employees and organizations. Its six evidence-based standards address work demands, employee control over their work, support, relationships at work, role clarity, organizational change, and culture. A bottom-up approach to changes required to reduce stress risks is advocated by the HSE. Standards define the future state the organization should strive to achieve; risk assessment identifies the hazards that need to be reduced.

The standards are not legally enforceable but are principles designed to help employers meet their legal obligation to provide their employees with a hazard-free workplace. This is a continuous improvement process, with baseline measures and progress measured with an employee survey tool that asks a series of questions derived from each of the standards. The standard is set for 85% for each indicator. (e.g., 85% saying they are able to deal with the demands of their jobs). Standards are considered an effective, practical way to reduce work stress. The HSE approach resembles the UK's successful human resource management standard, the Investors in People program. However, experience with the Investors in People standard shows the limits of a voluntaristic model. One study of its impact in a National Health Service hospital suggests that some organizations that attain a standard for people practices may already have these in place, and by linking training to business needs rather than employees' requirements, less developmental training actually may occur.[130]

An evidence-based framework of key influences on staff performance was developed for the UK health care system, drawing on research in management and psychology.[131] An extensive review of international literature identified predictors and mediators of outcomes. This review concluded that good evidence supporting an association between organizational culture and performance in health care is limited. There are strong links between human resource management (people) practices and individual, team, and organizational performance.

Standards for professional practice have been advocated for health care in Canada. For example, evidence-based standards for nurse staffing and performance set a nursing unit productivity/utilization level at 85% (plus or minus 5%).[132] Higher levels can result in higher costs, reduced patient-care quality, and poorer outcomes for nurses. Productivity and utilization targets can be better achieved by giving nurses greater autonomy, reducing emotional exhaustion. One result can be the retention of experienced nurses, which contributes to reduced operating costs.

The more fundamental goal is to raise the standards of people management practices. In this regard, it is important to monitor the application of HR practices to all employees, rather than to monitor policies that essentially are statements of intent. Research reviewed elsewhere in this paper suggest that leaders who focus on good people management contribute to employee well-being, skill development, conflict management, trust, teamwork, and alignment to the organization's goals.

12. Leading the Way to Healthy Change

Successful healthy workplace change requires strong commitment from top management.[133] This commitment must be continuously communicated and, most important, consistently reinforced in all management decisions and actions. More broadly, the same applies to any quality improvement initiative to enhance organizational effectiveness in health care.

For example, research on 464 National Health Service Trusts in the UK identified "best practices" for organizational effectiveness.[134] The leading practice was the style of management, based on leadership attributes that included rebuilding trust, and able to address stress and help others during organizational change. Two management practices most aligned with organizational effectiveness were "total staff involvement with open communication" – the underpinnings of a healthy psychosocial work environment.

Strong leadership on a healthy workplace agenda is essential to get the buy-in of managers and supervisors at all levels. Mid-level and front-line managers often lack the time, incentives or skills to champion healthy workplace goals. As such, they can be one of the biggest barriers to achieving higher quality work environments. Historically, these groups have been most resistant to organizational change, in part because they lack the resources to respond positively to change.

Moreover, it is well documented that supportive supervision – defined by good communication skills and support for employee learning and development – is a defining feature of a healthy workplace.[135] A successful healthy workplace strategy therefore must ensure that all managers and supervisors have the time, encouragement, and training needed to be effective people eaders.

Accountability measures

The following selective menu of measures illustrates what could be used to evaluate actions, report outcomes and track progress within health care organizations, and to compare across organizations:

- ***Employee health and well-being outcomes:*** Sickness absenteeism, work-life balance, lost-time injuries, workers' compensation claims, disability leave, stress and burnout, job satisfaction, and employee engagement.
- ***Organizational performance outcomes:*** Adverse events, patient satisfaction, health providers' assessment of quality of care they provide, and other assessments of internal and external service quality, effectiveness and efficiency.
- ***Workforce retention and development outcomes:*** Turnover, staff learning and development opportunities and investments, assessment of training and development benefits, exit interview findings, and assessment of new employee orientation and mentoring.
- ***Work environment determinants:*** Workload and work schedules, staffing levels, supportive supervision, job autonomy, participation in decision-making, and communication.
- ***Organizational culture determinants:*** Leadership commitment, resource allocation to creating a healthy and productive work environment, trust, and respect.
- ***Moderators:*** Individual readiness to change, employee demographics, occupation or function.

Source: Graham Lowe Group Inc.

It is essential to create accountability for following through on healthy workplace commitments. There is inadequate accountability within health care organizations for human resource outcomes. As one health care human resource expert put it, "if one of your managers unwittingly destroyed a piece of equipment valued at $30,000, you would certainly take the matter seriously and at the very least hold the manager accountable for ensuring that the problem did not recur."[136] Yet managers are rarely held accountable for preventable turnover in their unit. The same is true for medical staff members, whose behaviour toward nurses can directly contribute to turnover.

Performance measures can help to create management accountability and beyond this, a shared responsibility among health care providers to continuously improve the quality of work environments. Currently, there are no "best practices" for measuring progress in organizations trying to achieve healthy workplace goals. However, the Institute for Work and Health has developed an evidence-based healthy workplace performance measurement framework that can apply to any work setting.[137] Indicators and the change process it supports were validated through consultations with stakeholders. While this is innovative in the area of workplace health, it is modelled on performance measurement tools considered best practice and overseen by the organization's senior human resources manager. Indicators are intended for use in reporting, action planning and accountability through targets that individual managers and organizational units must meet within specified timelines.

The framework comprises four categories of indicators: healthy workplace drivers, working conditions, employee outcomes, and organizational benefits. Specifically,

- Healthy workplace drivers measure organizational factors with known potential to improve employee physical and mental health. These factors contribute to changes required to achieve healthier workplaces. Included would be employee survey measures of organizational values, learning and development opportunities, safety leadership, and occupational health and safety management audit scores.

- Workplace conditions include factors known to directly impact health and well-being, such as the workers' immediate physical and psychosocial work environment as measured by worker self-reports on questionnaires. Key indicators would include employee participation in decision making, workload, and violent incidents with clients.

- Health outcomes include indicators of physical and mental health, as obtained from administrative data (e.g., long-term disability, injury rates), or self-reports of a range of physical and mental health conditions (e.g., psychological distress, musculoskeletal conditions) through questionnaires.

- Organizational benefits include performance-related outcomes known to be related to employee health and wellness. These include retention, absenteeism, customer (or patient) satisfaction scores, and employee commitment or engagement.

The development and implementation of quality of work-life (QWL) indicators has become a significant trend within the Canadian health care sector. Even though the Canadian Council on Health Services Accreditation has revised its accreditation framework to include a quality of work-life quadrant, the vast majority of health care organizations are a long way from having an integrated "scorecard" or "dashboard" that shows leading and lagging QWL indicators. Human resource information systems are only beginning to incorporate health-related outcomes so that managers have on-demand human resource and occupational health and safety information to guide their decisions. Research on other industries that have made significant strides toward creating healthier workplaces define comprehensive monitoring and evaluation data as best practice.[138]

The health sector's uniqueness requires careful attention to the "fit" of HR practices, and measures of the impact of these practices on organizational performance also need to be sector-specific.[139] Health organizations must strive to document and report these relationships. This is the kind of evidence that will be useful in evaluating the cost-effectiveness of work-environment interventions. As one expert argues, health sector performance indicators that assess the impact of HR interventions, which would include initiatives to create healthier work environments, could include: clinical activity or workload (staff per occupied bed, patient acuity), output (number of patients treated), although outcomes mortality rates, post-surgery complications) are more difficult to measure and relate back to human resource management strategies.[140]

More generally, researchers are now emphasizing the importance of tailoring worksite health promotion interventions to an organization's context and immediate environment, such as the labour markets in which it recruits. As one researcher advises, "it is important that the intervention design process blend social science theory and evidence with local preferences, experiences, and needs."[141] In other words, expert knowledge alone is insufficient to guide change, and must be integrated with the perspectives of organizational stakeholders. The knowledge exchange process needs to be two-way.

13. Closing the "Knowing-Doing Gap"

Making use of the above evidence for decision making and action requires bridging what organizational experts call the "knowing-doing gap."[142] Two of the greatest barriers to moving from talking to action are a perceived shortage of time, and the dead weight of inertia created by entrenched systems, practices, and ways of thinking. So it takes strong collective will to move to implementation. It also takes collective effort. With restructuring behind them, BC health authorities are better positioned to promote healthy worksites across the provincial health system by collaborating on research, best practice dissemination, and coordinated change.

Increasingly, health care leaders are recognizing that health providers' work environments and health system performance are interwoven. For example, in June 2005 the Health Council of Canada's consultation with 120 health care leaders recommended the following actions to improve job satisfaction, workplace health, and quality of patient care: make professional development a regular part of budget planning and provide time for staff to enhance their training; provide time for people to take on new roles; invest in prevention; create flexible work options; remove financial disincentives to encourage the right mix of people and to recruit and retain workers; and translate innovations from one profession to others.[143]

Three major enablers will advance a healthy workplace agenda. The first is strong and consistent executive and board support for clear cultural change goals, with the necessary resources, measures, and accountability to make this happen. The second enabler is a supportive policy framework at the federal and provincial/territorial levels, which includes putting into place the infrastructure needed to share information, lessons, and tools. A third enabler is the active involvement of front-line providers, and their professional associations and unions, in reshaping their own work environments so they can better serve the needs of patients, residents, and clients.

A step on the path to healthier work environments is better coordination and integration at the provincial level, to speed up the diffusion of innovation and set higher goals across the health system. Enabling flexibility at the local level is important. But this must be balanced with the identification and dissemination of leading practices across the system. The public's interest will not be served if BC's health system employers compete with each other to be "magnets" or award-winning healthy workplaces. BC is unique in Canada in having two organizations, Healthcare Benefit Trust and OHSAH, with mandates to address healthy workplace issues. Potentially, the Provincial Health Services Authority also could play a role in facilitating province-wide healthy workplace actions. This calls for a coordinated agenda in order to raise the floor for healthy workplace practices across the province. Ideally, BC's efforts at health care workforce renewal should be guided by a provincial health human resource strategy that speaks to the needs of all stakeholders, and an expansion of performance agreements to include key workplace health progress markers.

Accountability also is essential for achieving healthy workplace goals. Despite the steps taken by governments and their partners to create accountability for major health system outcomes, especially related to patient care, far less has been done to create accountability for the quality of health system

work environments. This is a serious gap, especially given mounting pressures for workforce renewal, reform of primary care, and the costs of unhealthy work environments.

As noted above, a growing number of knowledge-based organizations in many industries are applying the same rigour to their human resource performance as they do to their measures of financial and market performance. In BC, for example, the Ministry of Health Services requires all divisions to have integrated business and HR plans to achieve goals such as collaboration, learning, innovation, and a flexible, motivating, and respectful work environment. Accountability for progress is achieved by key indicators obtained from an employee survey. If a similar approach were used by health authorities, this could give real substance to a 7th priority – employee and workplace health – for performance agreements.[144]

Like so many other large and inherently complex organizations, health employers understand the pathways to improved workplace well-being and employee performance. However, successful implementation requires identifying and overcoming barriers embedded within its systems and culture to using its own HR information in strategic decision making. Health employers can start by making better use of the data they have. They need to be mindful, however, of two major barriers to evidence-based management, which are, paradoxically, too much evidence, yet not enough good evidence relevant for a specific organization.[145]

Another significant challenge for health policy-makers is how to build into decision making considerations about the unintended human resource consequences of structural change in health systems and organizations. We know from the past decade of restructuring that this kind of change causes disruptions that can be unhealthy for people working in the system. Now is the time to translate these lessons into positive actions for the future – and to avoid history repeating itself.

The way forward is a comprehensive and coordinated approach to creating and maintaining healthy work environments in all health care work settings. Employees, physicians, students, and volunteers represent the human resource capacity of the system to deliver the timely and high-quality health care that Canadians need and expect. Evidence reviewed in this report has linked healthy work environments, broadly defined, to organizational performance, including reduced absenteeism and health benefits costs, increased skill utilization, employee effectiveness, patient care quality, and medical error.

Treating employees as core assets begins by supporting each and every one of them in a healthy and safe environment. The health system's sustainability will depend on creating healthier work environments that forge a strong link between worker well-being and organizational performance.

Endnotes

1 These are approximate estimates. The Labour Force Survey estimates that 132,200 health care employees worked in ambulatory care, hospitals, and nursing and residential care in BC during 2005. Cost estimates are based for illustrative purposes on an average annual wage of $40,000 and an 1,800-hour work year.

2 Evidence in this paragraph comes from: British Columbia, Office of the Auditor General. (2004). In Sickness and in Health: Healthy Workplaces for British Columbia's Health Care Workers. Provincial Health Authorities of Alberta. Statistics Canada, Labour Force Survey. WarrenShepell Research Group. (2004). Sector Review: Organizational Health & Wellness Trends in the Hospital Sector. Williams, C. (2003). Sources of workplace stress. Perspectives on Labour and Income. 15(3):23–30. Lowe, G.S. & Schellenberg, G. (2001). What's a Good Job? The Importance of Employment Relationships. CPRN Study W-05, Ottawa, ON: Canadian Policy Research Networks. Duncan, S.M., Hyndman, K., Estabrooks, C.A., Hesketh, K., Humphrey, C.K., Wong, J.S., Acorn, S. & Giovannetti, P. (2001). Nurses' experience of violence in Alberta and British Columbia hospitals. Canadian Journal of Nursing Research. 32(4):57–78. Lowe, G.S. (2002). High-quality healthcare workplaces: A vision and action plan. Hospital Quarterly (Summer): 49-56.

3 Bourbonnais, R. & Mondor, M. (2001). Job strain and sickness absence among nurses in the province of Quebec. American Journal of Industrial Medicine. 39:194–202. Fox, M., Dwyer, D.J. & Ganster, D.C. (1993). Effects of stressful job demands and control on physiological and attitudinal outcomes in a hospital setting. Academy of Management Journal. 36:289–318. Theorell, T., Ahlberg-Hulten, G., Jodko, M., et al. (1993). Influence of job strain and emotion on blood pressure in female hospital personnel during work hours. Scandinavian Journal of Work, Environment & Health. 19:313–18.

4 Gleason, S.J., Sochalski, J. & Aiken, L. (1999). Review of magnet hospital research: Findings and implications for professional nursing practice. Journal of Nursing Administration. 29:9–19.

5 Rogers, A.E., Hwang, W.T., Scott, L.D., Aiken, L.H. & Dinges, D.F. (2004). The working hours of hospital staff nurses and patient safety. Health Affairs. 23(4):202–12. O'Brien-Pallas, L., et al. (September 2004). Evidence-Based Standards for Measuring Nurse Staffing and Performance. Ottawa: Canadian Health Services Research Foundation.

6 Baumann, A., et al. (2001). Commitment and Care: The Benefits of a Healthy Workplace for Nurses, Their Patients and the System. Ottawa: Canadian Health Services Research Foundation and The Change Foundation.

7 Landeweerd, J.A. & Baumans, N.P.G. (1994). The effect of work dimensions and need for autonomy of nurses' work satisfaction and health. Journal of Occupational and Organizational Psychology. 67:207–17. Bru E., Reidar, .J. & Mykletun, S. (1996). Work-related stress and musculoskeletal pain among female hospital staff. Work & Stress. 10:309–21.

8 Aiken, L.H., Clarke, S.P., Sloane, D.M., Sochalski, J.A., Busse, R., Clarke, H., Giovannetti, P., Hunt, J., Rafferty, A.M. & Shamian, J. (2001). Nurses' reports on hospital care in five countries. Nurses' Reports. 20(3):43–53.

9 See, for example: Arnetz, B.B. (1997). Physicians' view of their work environment and organisation. Advances in Contraception. 13(1):155–62. Shanafelt, T.D., Bradley, K.A., Wipf, J.E. & Back, A.L. (2002). Burnout and self-reported patient care in an internal medicine residency program. Annals of Internal Medicine. (136)5:358–67. Cathebras, P., Begon, A., Laporte, S., Bois, C. & Truchot, D. (2004). Burn out among French general practitioners. La Presse Medicale. 33(22):1569–74. Freeborn, D.K. (2001). Satisfaction, commitment, and psychological well-being among HMO physicians. The Western Journal of Medicine. 174(1):13–18. Renzi, C., Tabolli, S., Ianni, A., Di Pietro, C. & Puddu, P. (2005). Burnout and job satisfaction comparing healthcare staff of a dermatological hospital and a general hospital. Journal of the European Academy of Dermatology & Venereology. 19(2):153–57.

10 Canadian Medical Association. CMA Study on Physician Burnout. CMA Centre for Physician Health and Well-Being, November 2003. (www.cma.ca). National Physician Survey, October 2004 (www.nps-snm.ca).

11 Williams, E.S., Konrad, T.R., Scheckler, W.E., Pathman, D.E., Linzer, M., McMurray, J.E., Gerrity, M., & Schwartz, M. (2001). Understanding physicians' intentions to withdraw from practice: The role of job satisfaction, job stress, mental and physical health. Health Care Management Review, 26(1):7–19. Rondeau, K.V. & Francescutti, L.H. (2005). Emergency department overcrowding: The impact of resource scarcity on physician job satisfaction. Journal of Healthcare Management. 50(5):327–40. Thomsen, S., Dallender, J., Soares, J., Nolan, P. & Arnetz, B. (1998). Predictors of a healthy workplace for Swedish and English psychiatrists. British Journal of Psychiatry. 173:80–84.

12 Cummings, G. & Estabrooks, C.A. (2003). The effects of hospital restructuring that included layoffs on individual nurses who remained employed: a systematic review of impact. International Journal of Sociology and Social Policy. 23:8–53. Woodward, C.A., Shannon, H.S., Cunningham, C., et al. (1999). The impact of re-engineering and other cost reduction strategies on the staff of a large teaching hospital. Medical Care. 37(6):556–69. Shannon, S., Robson, L.S. & Sale, J.E. (2001). Creating safer and healthier workplaces: Role of organizational factors and job characteristics. American Journal of Industrial Medicine. 3(3):319–34. Bourbonnais, R., Chantal, B., Vézina, M., Masse, B. & Blanchette, C. (2005). Psychosocial work environment and certified sick leave among nurses during organizational changes and downsizing. Relations Industrielles/Industrial Relations. 60(3):483–509.

13 Greenglass, E.R. & Burke, R.J. (2002). Hospital restructuring and burnout. Journal of Health & Human Services Administration. 25:89–114. Lam, H. & Yonatan, R. (1999). Are quality improvement and downsizing compatible? A human resources perspective. Relations Industrielles/Industrial Relations. 54(4):727–47.

14 Canadian Nursing Advisory Committee. (2002). Our Health, Our Future: Creating Quality Workplaces for Canadian Nurses. Health Canada.

15 Sullivan, S. (2004). Making the business case for health and productivity management. Journal of Occupational & Environmental Medicine. 46(6 Supplement):S56-S61.

16 Anderson, D.R., Serxner, S.A. & Gold, D.B. (2001). Conceptual framework, critical questions, and practical challenges in conducting research on the financial impact of worksite health promotion. American Journal of Health Promotion. 15(5):281.

17 Chapman, L. (2003). Meta-evaluation of worksite health promotion economic return studies. Art of Health Promotion Newsletter. 6(6):1–10.

18 Aldana, S.G. (2001). Financial impact of health promotion programs: a comprehensive review of the literature. American Journal of Health Promotion. 15(5):296–320.

19 Goetzel, R.Z., Juday, T.R., Ozminkowski, R.J. (2005). Estimating the return-on-investment from changes in employee health risks on the Dow chemical company's health care costs. Journal of Occupational & Environmental Medicine. 47(8):759–68.

20 Riedel, J.E., Baase, C., Hymel, P., Lynch, W., McCabe, M., Mercer, W.R. & Peterson, K. (2001). The effect of disease prevention and health promotion on workplace productivity: A literature review. American Journal of Health Promotion. 15(3):167–90.

21 Goetzel, R.J., Hawkins, K., Ozminkowski, R.J., et al. (2003). The health and productivity cost burden of the 'top-10' physical and mental health conditions affecting six large US employers in 1999. Journal of Occupational & Environmental Medicine. 45:5–14.

22 Goetzel, R.Z., Long, S.R., Ozminkowski, R.J., Hawkins, K., Wang, S. & Lynch, W. (2004). Health, absence, disability, and presenteeism cost estimates of certain physical and mental health conditions affecting U.S. employers. Journal of Occupational & Environmental Medicine. 46(4):398–412.

23 Anderson, Serxner, & Gold, American Journal of Health Promotion, 2001. p. 28.

24 Sullivan, S. (2004). Making the business case for health and productivity management. Journal of Occupational & Environmental Medicine. 46(6 Supplement):S56-S61.

25 Kilpatrick, K.E., Lohr, K.N., Leatherman, S., et al. (2005). The insufficiency of evidence to establish the business case for quality. International Journal for Quality in Health Care. 17(4):347–55.

26 Lowe, G. (2003). Healthy Workplaces and Productivity. Health Canada. p. 24 (www.grahamlowe.ca).

27 Duxbury, L., Higgins, C. & Johnson, K. (June 1999). An Examination of the Implications and Costs of Work-Life Conflict in Canada. Research report prepared for Health Canada.

28 Hemp, P. (2004). Presenteeism: At work, but out of it. Harvard Business Review. (October):49–58.

29 Kilpatrick, Lohr, Leatherman, et al. International Journal for Quality in Health Care, 2005.

30 The search methodology used to review health care research literature is described below.

DATABASES SEARCHED: CINAHL (Cumulative Index to Nursing and Allied Health Literature); Medline; Health Sources; HealthSTAR; ABI Inform Global; PsychInfo; Business Source Primer; Sociological Abstracts; Google Scholar; University of Alberta book collection.

Search parameters: English publications in the international literature; 1990–2005.

SEARCH TERMS: The following terms were used to identify research directly on, or relevant to, health care workers or organizations: absenteeism, burnout, cost-benefit analysis, decision-making, employee engagement, empowerment, ergonomics, health-promoting workplaces, healthy organizations, healthy workplace, human resource management, injury, job satisfaction, job stress, magnet hospitals, occupational safety and health, occupational stress, organizational burnout, organizational change, patient safety, patient satisfaction, predictors of healthy workplaces, productivity, professional practice environment, psychosocial work environment, quality improvement, quality of health care, quality of working life, recruitment, retention, return on investment, safety, teamwork, total quality management, work environment, worker health, worker participation, and working conditions.

31 Kristensen, T.S. (2005). Intervention studies in occupational epidemiology. Occupational & Environmental Medicine. 62(3):205–10.

32 Engbers, L.H., van Poppel, M.N., Paw Chin, A. & van Mechelen, W. (2005). Worksite health promotion programs with environmental changes: A systematic review. American Journal of Preventative Medicine. 29(1):61–70.

33 Pelletier, K.R. (2005). A review and analysis of the clinical and cost-effectiveness studies of comprehensive health promotion and disease management programs at the worksite: Update VI 2000-2004. Journal of Occupational & Environmental Medicine. 47(10):1051–58.

34 Canadian Health Services Research Foundation. (2005). Links. (Fall): 7.

35 Pfeffer, J. & Sutton, R.I. (2006). Evidence-based management. Harvard Business Review. (January): 63–74.

36 See: www.OHSAH.bc.ca.

37 Davis, P.M., Badii, M. & Yassi, A. (2004). Preventing disability from occupational musculoskeletal injuries in an urban, acute and tertiary care hospital: Results from a prevention and early active return-to-work safely program. Journal of Occupational & Environmental Medicine. 46(12):1253–62.

38 Chhokar, R., Engst, C., Miller, A., Robinson, D., Tate, R.B. & Yassi, A. (2005). The three-year economic benefits to ceiling lift intervention aimed to reduce healthcare worker injuries. Applied Ergonomics. 36(2):223–29.

39 Yardley, J. High level overview of 2003 healthy hospital employee survey pilot study results. OHA Healthy Hospital Innovative Practices Symposium, 22 September 2003, Toronto. For details on the ©HHES, see: www.oha.com.

40 Perlin, J.B., Kolodner, R.M. & Roswell, R.H. (2005). The Veterans Health Administration: Quality, value, accountability, and information as transforming strategies for patient-centered care. Healthcare Papers. 5:10–24.

41 US Department of Veterans Affairs, Office of Inspector General. (August 2004). Evaluation of Nurse Staffing in Veterans Health Administration Facilities. Report No. 03-00079-183. p. 7.

42 Bauman, A., O'Brien-Pallas, L., Armstrong-Stassen, M., et al. (2001). Commitment and Care: The Benefits of a Healthy Workplace for Nurses, Their Patients and the System. Ottawa: Canadian Health Services Research Foundation. Also see: Shamian, J., O'Brien-Pallas, L., Thomson, D., Alksnis, C., Kerr, M.S. (2003). Nurse absenteeism, stress and workplace injury: What are the contributing factors and what can/should be done about it? International Journal of Sociology and Social Policy. 23(8/9):81–103.

43 McGillis-Hall, L., et al. (2003). Indicators of Nurse Staffing and Quality Nursing Work Environments: A Critical Synthesis of the Literature. Toronto: Faculty of Nursing, University of Toronto.

44 Kivimäki, M., Sutinen, R. & Elovainio, M. (2001). Sickness absence in hospital physicians: 2 year follow study on determinants. Occupational and Environmental Medicine. 58:361–66.

45 Auditor General for Wales. (30 January 2004). The Management of Sickness Absence by NHS Trusts in Wales. Report to the National Assembly.

46 Shamian, O'Brien-Pallas, Thomson, Alksnis & Kerr, International Journal of Sociology and Social Policy, 2003.

47 O'Brien-Pallas, L., Duffield, C. & Hayes, L. (2006). Do we really understand how to retain nurses? Journal of Nursing Management. 14:262–70.

48 Flynn, L. (2005). The importance of work environment: Evidence-based strategies for enhancing nurse retention. Home Healthcare Nurse. 23(6):366–71.

49 Aiken, L.H. (2002). Superior outcomes for magnet hospitals: The evidence base. In: McClure, M.L. & Hinshaw, A.S. (Eds.). Magnet Hospitals Revisited: Attraction and Retention of Professional Nurses. Washington: American Academy of Nursing. p. 77. Also, see: Capuano, T., Bokovoy, J., Hitchings, K. & Houser, J. (2005). Use of a validated model to evaluate the impact of the work environment on outcomes at a magnet hospital. Health Care Management Review. 30:229–36. Goode, C.J., Krugman, M.E., Smith, K., Diaz, J., Edmonds, S. & Mulder, J. (2005). The pull of magnetism: A look at the standards and the experience of a western academic medical center hospital in achieving and sustaining Magnet status. Nursing Administration Quarterly. 29:202–13. Kramer, M. & Schmalenberg, C.E. (2003). Magnet hospital nurses describe control over nursing practice. Western Journal of Nursing Research. 25:434–52. Parsons, M.L. (2004). Capacity building for magnetism at multiple levels: A healthy workplace intervention, Part I. Topics in Emergency Medicine. Focus on Creating the Future. 26:287–95.

50 McClure, M.L. & Hinshaw, A.S. (Eds.) (2002). Magnet Hospitals Revisited: Attraction and Retention of Professional Nurses. Washington: American Academy of Nursing.

51 Coile Jr, R.C. (2001). Magnet hospitals use culture, not wages, to solve nursing shortage. Journal of Healthcare Management. 46:224–27. Stolzenberger, K.M. (2003). Beyond the Magnet award: The ANCC Magnet program as the framework for culture change. Journal of Nursing Administration. 33:522–31.

52 Burke, R.L. (2005). When bad things happen to good organizations: A focused approach to recovery using the essentials of magnetism. Nursing Administration Quarterly. 29:228–40.

53 US Department of Veterans Affairs, Office of Inspector General, Evaluation of Nurse Staffing in Veterans Health Administration Facilities, 2004.

54 Nursing Executive Center. (2000). The Nurse Perspective: Drivers of Nurse Job Satisfaction and Turnover. Washington, DC: The Advisory Board Company.

55 Vezina, M., Bourbonnais, R., Brisson, C. & Trudel, L. (2004). Workplace prevention and promotion strategies. Healthcare Papers. 5(2):40

56 Michie, S., Wren, B. & Williams, S. (2004). Reducing absenteeism in hospital cleaning staff: Pilot of a theory based intervention. Occupational and Environmental Medicine. 6:345–49.

57 Koehoorn, M. (1999). Work organization factors and musculoskeletal outcomes among a cohort of health care workers. PhD thesis, Department of Health Care & Epidemiology. Vancouver: University of British Columbia. See, for example: Cotton, J.L. (1993). Does employee involvement work? Yes, sometimes. Journal of Nursing Care Quality. 12(2):33–45.

58 O'Brien-Pallas, L. & Bauman, A. (1992). Quality of nursing worklife issues – A unifying framework. Canadian Journal of Nursing Administration. 5(2):12–16. Porter-O'Grady, T. (1994). Whole systems shared governance: Creating the seamless organization. Nursing Economics. 12:187–95.

59 Laschinger, H.K.S., Finegan, J., Shamian, J. & Wilk, P. (2003). Workplace empowerment as a predictor of nurse burnout in restructured healthcare settings. Hospital Quarterly. 1(3):2–11. Bourbonnais, Chantal, Vézina, Masse & Blanchette, Relations Industrielles/Industrial Relations, 2005.

60 Kangas, S., Kee, C.C., McKee-Waddle, R. (1999). Organizational factors, nurses' job satisfaction and patient satisfaction with nursing care. Journal of Nursing Administration. 29:32–42. Blegan, M.A. (1993). Nurses' job satisfaction: A meta-analysis of related variables. Nursing Research. 42:36–41.

61 Aiken, L.H., Clarke, S.P., Sloane, D.M., Sochalski, J.A., Busse, R., Clarke, H., et al. (2001). Nurses' reports on hospital care in five countries. Nurses' Reports. 20:43–53.

62 Gillies, D.A., Franklin, M. & Child, D. (1990). Relationship between organizational climate and job satisfaction of nursing personnel. Nursing Administration Quarterly. 14:15–22. Bauman, A., O'Brien-Pallas, L., Armstrong-Stassen, M., et al. (2001). Commitment and Care: The Benefits of a Healthy Workplace for Nurses, Their Patients and the System. Ottawa: Canadian Health Services Research Foundation.

63 Kutzscher, L.I., Sabiston, J.A., Laschinger, H.K. & Nish, M. (1997). The effects of teamwork on staff perception of empowerment and job satisfaction. Healthcare Management Forum. 10:12–24. Patrick, A. & Laschinger, H.K.S. (2006). The effect of structural empowerment and perceived organizational support on middle level nurse managers' role satisfaction. Journal of Nursing Management. 14(1):13–22.

64 Rondeau, K.V. & Wagar, T. (2006). Nurse and resident satisfaction in magnet long-term care organizations: Do high involvement approaches matter? Journal of Nursing Management. 14:244–50.

65 Laschinger, H.K.S. (2004). Hospital nurses' perceptions of respect and organizational justice. Journal of Nursing Administration. 34 (7/8):354–64.

66 Elovainio, M., Vahtera, J. & Kivimäki, M. (2002). Organizational justice: Evidence of a new psychosocial predictor of health. American Journal of Public Health. 92:105–8.

67 Kivimäki, M., Elovainio, M., Vahtera, J. & Ferrie, J.E. (2002). Organizational justice and health of employees: Prospective cohort study. Occupational and Environmental Medicine. 60:27–34.

68 Conant, G. & Kleiner, B.H. (1998). Human resource management in the health-care industry. Health Manpower Management. 24(2-3):114–18.

69 Burke, R.J. (2004). Implementation of hospital restructuring and nursing staff perceptions of hospital functioning. Journal of Health, Organisation and Management. 18(4-5):279–89. Kreitzer, M.J., Wright, D., Hamlin, C., Towey, S., Marko, M. & Disch, J. (1997). Creating a healthy work environment in the midst of organizational change and transition. Journal of Nursing Administration. 27(6):35–41. Laschinger, H. K. S. & Finegan, J. (2005). Empowering nurses for work engagement and health in hospital settings. Journal of Nursing Administration. (35)10:439–49.

70 Petterson, I.L. & Arnetz, B.B. (1998). Psychosocial stressors and well-being in health care workers: The impact of an intervention program. Social Science & Medicine. 47(11):1763–72.

71 Weir, R., Stewart, L., Browne, G., Roberts, J., Gafni, A., Easton, S. & Seymour, L. (1997). The efficacy and effectiveness of process consultation in improving staff morale and absenteeism. Medical Care. 35(4):334–53.

72 Woodward, C.A., Shannon, H.S., Cunningham, C., et al. (1999). The impact of re-engineering and other cost reduction strategies on the staff of a large teaching hospital. Medical Care. 37(6):556–69. Cunningham, C.E., Woodward, C.A., Shannon, H.S., MacIntosh, J., Lendrum, B., Rosenbloom, D. & Brown, J. (2002). Readiness for organizational change: A longitudinal study of workplace, psychological and behavioural correlates. Journal of Occupational & Organizational Psychology. 75(4):377–92.

73 Stubblefield, A. (2005). The Baptist Health Care Journey to Excellence, Hoboken, NJ: John Wiley & Sons.

74 Stubblefield, A., CEO, Baptist Health Care, "The Baptist Health Care Journey to Excellence: Creating a Culture that WOWs!" Presentation at the Great Place to Work® Conference, Boston, April 7, 2006.

75 Ulshafer, S., Senior VP, Human Resources and Organizational Development, Bronson Healthcare Group, "It's All About Leadership: A Four-Step Journey to Workplace Excellence." Presentation at the Great Place to Work® Conference, Boston, April 7, 2006.

76 For information on the Fortune list and the methodology used to compile it, see: www.greatplacetowork.ca/best/list-bestusa.htm

77 This paragraph is based on a case study conducted by the author, using internal material provided by Trillium (www.trilliumhealthcentre.org).

78 Becker, B.E., Huselid, M.A. & Ulrich, D. (2001). The HR Scorecard. Linking People, Strategy, and Performance. Boston, MA: Harvard Business School Press. Pfeffer, J. (1998). The Human Equation: Building Profits by Putting People First. Boston: Harvard Business School Press. Huselid, M.A. (1995). The impact of human resource management practices on turnover, productivity, and corporate financial performance. Academy of Management Journal. 38:635–72.

79 Rondeau, K. & Wagar, T. (2001). Impact of human resource management practices on nursing home performance. Health Services Management Research. 14(3):192–202.

80 Briner, R.B. (1997). Improving stress assessment: Toward an evidence-based approach to organizational stress interventions. Journal of Psychosomatic Research. 43:61–71. Barling, J., Kelloway, E.K. & Frone, M.R. (Eds.) (2005). Handbook of Work Stress. Thousand Oaks, CA: Sage.

81 Engbers, L.H., van Poppel, M.N., Chin, A.P. & van Mechelen, W. (2005). Worksite health promotion programs with environmental changes: A systematic review. American Journal of Preventive Medicine. 29:61–70. Pelletier, K.R. (2001). A review and analysis of the clinical- and cost-effectiveness studies of comprehensive health promotion and disease management programs at the worksite: 1998-2000 update. American Journal of Health Promotion. 16:107–16. Pelletier, Journal of Occupational & Environmental Medicine, 2005.

82 Pelletier, American Journal of Health Promotion, 2001. Pelletier, Journal of Occupational & Environmental Medicine, 2005. Ozminkowski, R.J., Goetzel, R.Z., Santoro, J., Saenz, B., Eley, C. & Gorsky, B. (2004). Estimating risk reduction required to break even in a health promotion program. American Journal of Health Promotion. 18:316–25.

83 Karasek, R., Theorell, T. (1990). Healthy Work: Stress, Productivity, and the Reconstruction of Working Life. New York: Basic Books. Lowe, G.S., Shannon, H.S. & Schellenberg, G. (2003). Correlates of employees' perceptions of a healthy work environment. American Journal of Health Promotion. 17(6):390–99. Shain, M. & Kramer, D.M. (2004). Health promotion in the workplace: Framing the concept; reviewing the evidence. Occupational & Environmental Medicine. 61:643–48. Belkic, K., Schnall, P., Landsbergis, P., Baker, D. (2000). The workplace and cardiovascular health: Conclusions and thoughts for a future agenda. Occupational Medicine: State of the Art Reviews. 15(1):307–21.

84 Goetzel, R.Z. & Ozminkowski, R.J. (2000). Health and productivity management: Emerging opportunities for health promotion professionals for the 21st century. American Journal of Health Promotion. 14(4):211–14.

85 Robson, L., Cole, D., Shannon, H.S. & the Healthy Workplace Group. (2005). Healthy Workplace Performance Measurement. Working Paper #256. Toronto: Institute for Work and Health.

86 Lim, S.-Y. & Murphy, L.R. (1999). The relationship of organizational factors to employee health and overall effectiveness. American Journal of Industrial Medicine, Supplement. (May):64.

87 Siegrist, J. & Marmot, M. (2004). Health inequalities and the psychosocial environment – two scientific challenges. Social Science & Medicine. 58:1463–73.

88 Karasek & Theorell, Healthy Work: Stress, Productivity, and the Reconstruction of Working Life, 1990. Siegrist, J. (1996). Adverse health effects of high-effort/low-reward conditions. Journal of Occupational Health Psychology. 1(1):27–41.

89 Mustard, C.A., Lavis, J. & Ostry, A. (2006). New evidence and enhanced understandings: Labour market experiences and health. In: Creating Healthier Societies: From Analysis to Action. Heymann, J., Hertzman, C., Barer, M. & Evans, R. (Eds.). NY: Oxford University Press. pp. 421–95. Barling, Kelloway & Frone (Eds.), Handbook of Work Stress, 2005. Shields, M. (2004). Stress, health and the benefits of social support. Health Reports. 15(1):9–38.

90 Jex, S.M. (1998). Stress and Job Performance: Theory, Research, and Implications for Managerial Practice. Thousand Oaks, CA: Sage Publications. p. 8.

91 Siegrist & Marmot, Social Science & Medicine, 2004.

92 See, for example: Bourbonnais, Chantal, Vézina, Masse & Blanchette, Relations Industrielles/Industrial Relations, 2005. Kivimäki, M., Vahtera, J., Pentti, J. & Ferrie, J.E. (2000). Factors underlying the effect of organisational downsizing on health of employees: Longitudinal cohort study. British Medical Journal. 320:971–75. Vahtera, J., Kivimaki, M., Pentti, J. & Theorell, T. (2000). Effect of change in the psychosocial work environment on sickness absence: A seven year follow up of initially healthy employees. Journal of Epidemiology and Community Health. 54(7):484–93. Vahtera, J., Kivimäki, M., Pentti, J., Linna, A., Virtanen, M., Virtanen, P. & Ferrie, J.E. (2004). Organisational downsizing, sickness absence, and mortality: 10-town prospective cohort study. British Medical Journal. 328(7439):555. North, F.M., Syme, S.L., Feeney, A., Shipley, M. & Marmot, M. (1996). Psychosocial work environment and sickness absence among British civil servants: The Whitehall II Study. American Journal of Public Health. 86(3):332–40. Ferrie, J.E., et al. (2004). Work, Stress and Health: The Whitehall II Study. London: Civil Service Unions & UK Cabinet Office.

93 Sparks, K., Cooper, C., Fried, Y. & Shirom, A. (1997). The effects of hours of work on health: A meta-analytic review. Journal of Occupational & Organizational Psychology. 70:391–408.

94 Totterdell, P. (2005). Work schedules. In: Handbook of Work Stress. Barling, Kelloway & Frone (Eds.). pp. 35–62. Jansen, N.W.H., van Amelsvoort, L.G.P.M., Kristensen, T.S., et al. (2003). Work schedules and fatigue: A prospective cohort study. Occupational and Environmental Medicine. 60:47–53. Josten, E.J.C., Tham Ng, A. & Thierry, H. (2003). The effects of extended workdays on fatigue, health, performance and satisfaction in nursing. Journal of Advanced Nursing. 44(6):643–52. Ohayon, M.M., Lemoine, P., Arnaud-Briant, V. & Dreyfus, M. (2002). Prevalence and consequences of sleep disorders in a shift worker population. Journal of Psychosomatic Research. 53(1):577–83. Pitsopoulos, C.N. & Greenwood, K.M. (2004). Shift-dependent differences in self-reporting of health symptoms among shift workers. International Journal of Industrial Ergonomics. 34(3):187–93.

95 Strazdins, L., Korda, R.J., Lim, L.L.Y., et al. (2004). Around-the-clock: Parent work schedules and children's well-being in a 24-h economy. Social Science & Medicine. 59(7):1517–27. Maldonado, C.C., D. Mitchell, Taylor, S.R. & Driver, H.S. (2002). Sleep, work schedules and accident risk in South African long-haul truck drivers. South African Journal of Science. 98(7-8):319–24.

96 Eby, L.T., Casper, W.J., Lockwood, A., et al. (2005). Work and family research in IO/OB: Content analysis and review of the literature (1980–2002). Journal of Vocational Behavior. 66(1):124–97. Bellavia & Frone. Work-family conflict. In: Handbook of Work Stress, 2005. Duxbury, L. & Higgins, C. (2003). Work–life Conflict in Canada in the New Millennium: A Status Report. Ottawa: Health Canada.

97 Appelbaum, E., Bailey, T., Berg, P. & Kalleberg, A. (2005). Organizations and the intersection of work and family: A comparative perspective. In: The Oxford Handbook of Work & Organization. Ackroyd, S., Batt, R., Thompson, P. & Tolbert, P.S. (Eds.). NY: Oxford University Press. Baughman, R., DiNardi, D. & Holtz-Eakin, D. (2003). Productivity and wage effects of 'family-friendly' fringe benefits. International Journal of Manpower. 24(3):247–59. Bellavia & Frone. (2005). Work-family conflict. In: Handbook of Work Stress. Hughes, Lowe & Schellenberg. (2003). Men's and Women's Quality of Work in the New Canadian Economy.

98 Duxbury, L. & Higgins, C. (2001), Work–life Balance in the New Millennium: Where Are We? Where Do We Need To Go? Canadian Policy Research Networks, Discussion Paper No. W-12 (www.cprn.org).

99 Duxbury & Higgins, Work–life Conflict in Canada in the New Millennium, 2003, p. 55. Also see: Duxbury, L. & Higgins, C. (1997). Supportive managers: What are they? Why do they matter? HRM Research Quarterly. 1 (Winter):1–4.

100 Lowe, G.S. (2000). The Quality of Work: A People Centered Agenda. Toronto: Oxford University Press. Lowe & Schellenberg, What's a Good Job? The Importance of Employment Relationships, 2001.

101 Lowe, Shannon, & Schellenberg, American Journal of Health Promotion, 2003.

102 Sauter, S, Hurrel Jr, J.J., Fox, H.R., Tetrick, L.E. & Barling, J. (1999). Occupational health psychology: An emerging discipline. Industrial Health. 37:199–211.

103 Health Council of Canada. (2006). Health Care Renewal in Canada: Clearing the Road to Quality. Annual Report. (www.healthcouncilcanada.ca)

104 O'Brien-Pallas, L., Alksnis, C. & Wang, S. (2003). Bringing the Future into Focus. Projecting RN Retirements in Canada. Ottawa: Canadian Institute for Health Information.

105 Health Council of Canada. (2005). Modernizing the Management of Health Human Resources: Identifying Areas for Accelerated Change. Report from a National Summit, Toronto: Health Council of Canada. p. 21.

106 See: www.healthservices.gov.bc.ca/ndirect/NursingStrategies/current/ns_summary_0506.html

107 Turcott, M. & Schellenberg, G. (2005). Job strain and retirement. Perspectives on Labour and Income. (July):13–17.

108 Baker, G.R., Norton, P.G., et al. (2004). The Canadian Adverse Events Study: The incidence of adverse events among hospital patients in Canada. Canadian Medical Association Journal. 170(11):1685.

109 Agency for Healthcare Research and Quality. (2003). The Effect of Health Care Working Conditions on Patient Safety. Summary, evidence report/technology assessment: No. 74. Rockville, MD.

110 Sainfort, F., Karsh, B.T., Booske, B.C. & Smith, M.J. (2001). Applying quality improvement principles to achieve healthy work organizations. Joint Commission Journal on Quality Improvement. Sep;27(9):469–83.

111 Nicklin, W. & Graves, E. (2005). Nursing and patient outcomes: It's time for healthcare leadership to respond. Healthcare Management Forum. 18(1):9.

112 Leape, L.L. (2005). Preventing medical error. In: Policy Challenges in Modern Health Care. Mechanic, D., Rogut, L.B., Colby, D.C. & Knickman, J.R. (Eds.). Rutgers University Press.

113 Ibid, p. 170.

114 Agency for Healthcare Research and Quality, The Effect of Health Care Working Conditions on Patient Safety, 2003.

115 Institute of Medicine of the National Academies. (2003). Keeping Patients Safe: Transforming the Work Environment of Nurses. Washington, DC: IOM.

116 Haberfelde, M., Bedecarré, D. & Buffum, M. (2005). Nurse-sensitive patient outcomes: An annotated bibliography. Journal of Nursing Administration. 35(6):293–299.

117 Nieva, V.F. & Sorra, J. (2003). Safety culture assessment: A tool for improving patient safety in healthcare organizations. Quality and Safety in Health Care. 12:ii17.

118 Singer, S.J., Gaba, D.M., Geppert, J.J., Sinaiko, A.D., Howard, S.K. & Park, K.C. (2003). The culture of safety: Results of an organization-wide survey in 15 California hospitals. Quality and Safety in Health Care. 12(2):117.

119 Stone, P.W., Harrison, I.M., Feldman, P., et al. (February 2005). Organizational climate of staff working conditions and safety – an integrative model. Advances in Patient Safety: From Research to Implementation. Vol. 2. Agency for Healthcare Research and Quality, Rockville, MD (www.ahrq.gov/qual/advances/).

120 Ibid., p. 468.

121 See: www.cchsa.ca

122 See: www.hqc.sk.ca/; www.hqca.ca/ www.health.gov.on.ca/english/public/updates/archives/hu_05/hu_ohqc.html; www.gnb.ca/0089/documents/e-phqc.pdf

123 Partner organizations include: Canadian Council on Health Services Accreditation (Coordinating Secretariat); Canadian College of Health Service Executives; Canadian Nurses Association; Canadian Healthcare Association: Canadian Federation of Nurses Unions; Canadian Medical Association; Canadian Health Services Research Foundation; Association of Canadian Academic Healthcare Organizations; Academy of Canadian Executive Nurses; National Quality Institute; and Health Canada – Office of Nursing Policy.

124 See: www.hlth.gov.bc.ca/pho/hlthgoals.html

125 World Health Organization. (2004). Standards for health promotion in hospitals. Barcelona, Spain: WHO European Office for Integrated Health Care Services (www.hph-hc.cc).

126 Whitehead, D. (June 2004). The European Health Promoting Hospitals (HPH) Project: How far on? Health Promotion International. 19(2):259–67.

127 Johnson, A. & Baum, F. (2001). Health promoting hospitals: A typology of different organizational approaches to health promotion. Health Promotion International. 16(3):281–7.

128 Paluck, E.C. (2001). Use of population health and health promotion research by health regions in Canada. Canadian Journal of Public Health. 92(1):19–23.

129 Mackay, C.J., Cousins, R., Kelly, P.J., Lee, S. & McCaig, R.H. (2004). 'Management Standards' and work-related stress in the UK: Policy background and science. Work & Stress. 18(2):91–112.

130 Grugulis, I. & Bevitt, S. (2002). The impact of investors in people: A case study of a hospital trust. Human Resource Management. 12(3):44–60.

131 Michie, S. & West, M.A. (2004). Managing people and performance: an evidence based framework applied to health service organizations. International Journal of Management Reviews. 5-6(2):91–111.

132 O'Brien-Pallas, et al., Evidence-based Standards for Measuring Nurse Staffing and Performance, 2004.

133 British Columbia, Office of the Auditor General. (June 2004). In Sickness and in Health: Healthy Workplaces for British Columbia's Health Care Workers. Lowe, G.S. (2004). Healthy Workplace Strategies: Creating Change and Achieving Results. Ottawa, ON: Health Canada.

134 Zairi, M. & Jarrar, Y.F. (2001). Measuring organizational effectiveness in the NHS: Management style and structure best practices. Total Quality Management. 13(7&8):882–9.

135 Lowe & Schellenberg, What's a Good Job? The Importance of Employment Relationships, 2001. Duxbury & Higgins, Work-Life Balance in the New Millennium, 2001.

136 Barney, S.M. (2002). Retaining our workforce, regaining our potential. Journal of Healthcare Management. 47(5):292.

137 Robson, L., Cole, D., Shannon, H.S. & the Healthy Workplace Group. (2005). Healthy Workplace Performance Measurement. Working Paper #256. Toronto: Institute for Work and Health.

138 Cole, D.C., Robson, L.S., Lemieux-Charles, L., McGuire, W., Sicotte, C. & Champagne, F. (2005). Quality of working life indicators in Canadian health care organizations: A tool for healthy, health care workplaces? Occupational Medicine. 55(1):54–9. Goetzel, R.Z., Guindon, A.M., Turshen, I.J. & Ozminkowski, R.J. (2001). Health and productivity management: Establishing key performance measures, benchmarks, and best practices. Journal of Occupational & Environmental Medicine. 43(1):10–17.

139 Buchan, J. (2004). What difference does ("good") HRM make? Human Resources for Health. 2:6 (www.human-resources-health.com/content/2/1/6).

140 Ibid. Also see: O'Brien-Pallas, et al., Evidence-based Standards for Measuring Nurse Staffing and Performance, 2004.

141 Heaney, C.A. (2003). Worksite health interventions: Targets for change and strategies for attaining them. In: Handbook of Occupational Health Psychology. Campbell Quick, J. & Tetrick, L.E. (Eds.). Washington, DC: American Psychological Association. p. 319.

142 Pfeffer, J. & Sutton, R.I. (2000). The Knowing-Doing Gap. How Smart Companies Turn Knowledge into Action, Boston, MA: Harvard Business School Press.

143 Health Council of Canada. Modernizing the Management of Health Human Resources: Identifying Areas for Accelerated Change, 2005, pp. 45–7.

144 Myette, L. (2004). Great Expectations: Investing in Workplace Health. Vancouver, BC: Healthcare Benefit Trust.

145 Pfeffer & Sutton, Harvard Business Review. 2006, p. 70.