

Institute for Work & Health Accomplishments Report 2007



About this report:

Authors: Institute for Work & Health

If you have questions about this or any other of our reports, please contact us at:

Institute for Work & Health
481 University Avenue, Suite 800
Toronto, Ontario M5G 2E9

E-mail: info@iwh.on.ca

Or you can visit our web site at www.iwh.on.ca

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2007 Accomplishments Report

Research
Knowledge Transfer & Exchange
Publications, Presentations & Awards

Institute for Work & Health
481 University Avenue, Suite 800
Toronto, ON Canada
M5G 2E9

Telephone: 416-927-2027
Fax: 416-927-4167
Website: www.iwh.on.ca

2007 ACCOMPLISHMENTS REPORT

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Introduction

The mission of the Institute for Work & Health is to conduct research to protect, promote and improve the health of working people and to share this research with workers, labour, employers, clinicians and policy-makers including our primary funder the Workplace Safety and Insurance Board. The Institute is dedicated both to conducting high quality research and making this research evidence available, understandable and usable for decision-makers to assist in creating safer and healthier workplaces.

Our transdisciplinary research is focused in two key areas: preventing work related injuries and illnesses before they occur (primary prevention); and preventing and managing work disability should injuries or illness occur (work disability prevention and management). Prevention of work related injury and illness, evidence-based health care and return to work practices to manage disability are critical elements in an effective health and safety system. They are prominent in the Fundamentals of the WSIB's Five Year Strategic Plan: the Road to Zero.

The Institute has a special interest in work-related musculoskeletal conditions (which constitute approximately 70 per cent of disability compensation claims involving time lost from injury) and has acquired considerable expertise in this field. We also investigate broader matters such as labour market experiences and their population health consequences, and conduct research on the design of disability compensation systems and their behavioural consequences.

The goal of our knowledge transfer and exchange (KTE) activities is to build relationships with stakeholders to enable an ongoing exchange of information, ideas and experience. This exchange allows research knowledge to flow to our stakeholder audiences so it can be used in day-to-day decision-making and, in turn, allows practice-based knowledge to flow to researchers to inform and improve the work we do. We use a range of strategies to accomplish this goal and are committed to collaborations with partners in the Ontario prevention system, and with a wide range of other health and safety stakeholders.

Since 1990 we have provided research and other evidence-based products to inform and assist clinicians, employers, labour and other researchers. We also provide evidence to support the policy development processes of federal and provincial institutions, including workers' compensation boards and other organizations in Canada. We provide training and mentorship for the next generation of work and health researchers by sponsoring Masters and PhD students and Post-doctoral fellows as well as, through our seminar and workshop programs. Over the past 15 years the Institute has hosted over 60 in-residence trainees and sabbaticants.

Research at the Institute

A summary of our 2007 progress and accomplishments in *Primary Prevention of Work Related Injury & Illness* research; and in *Work Disability Prevention & Management* research and in the two Foundation Programs: *Data and Information Services*; and the *Systematic Reviews* which support this research portfolio are described below.

Knowledge Transfer & Exchange at the Institute

The overall strategic direction of Knowledge Transfer & Exchange (KTE) is to engage the Institute's stakeholders in research and knowledge transfer to ensure that the research evidence that is generated is available, understandable and usable for decision-making, program planning and practice. Enhancing the visibility of the Institute through communications and marketing is also part of this goal so stakeholders know that the Institute is a dependable resource for research evidence. The KTE accomplishments in 2007 are presented in two ways. A summary of the relevant KTE initiatives in primary prevention and in work disability prevention and management completes each of these sections, providing an integrated picture of how KTE is linked to the research. In addition, there is a separate KTE section that more fully describes accomplishments in our stakeholder relationship and exchange activities, as well as our communications activities.

Presentations, Publications, Awards and Collaborators & Staff

The third and fourth sections report on 2007 publications, presentations, grants and awards, and provide details on professional collaborations and staff appointments as well as information on our academic and service contributions. It is important to note that many of our scientific staff are cross-appointed to other organizations which may require a substantial time commitment. The information reported here, is therefore a reflection of IWH-related activity only.

The final pages of the report also list all IWH staff in 2007, as well as IWH adjunct scientists who have contributed to our activities in the past year.

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Primary Prevention of Work Related Injury and Illness

The goals in the WSIB Five Year Strategic planning document *The Road to Zero* includes identifying and prioritizing prevention activities and developing initiatives that assist employers and workers in saving lives and eliminating workplace injuries and illness to promote healthy workplaces. The strategic plan sets as a target a 35% reduction in lost time injury claims over this period and it anticipates the use of evidence-based best practices and research to achieve and demonstrate this kind of significant improvement in outcomes and performance.

Almost half of the Institute's core budget in 2007 was devoted to research and KTE activities that focus on evidence based strategies for the primary prevention of workplace injury and illness. This work spans a wide range of methodologies and issues. In synthesizing the evidence on workplace based prevention strategies we are concluding four years of pilot program funding from the WSIB. These results will be of benefit to the prevention system partners including the HSAs as they work with employers to reach annual targets for injury reduction. Our analyses of workers' compensation administrative data including no-lost-time and lost-time workers compensation claims provide a comprehensive picture of the trends in claim rates across industries and labour force sub-groups. This information is fundamental to planning effective prevention strategies targeting those sub-groups at highest risk. We already know that some groups of workers are at higher risk than others. Workplace policies and practices have significant effect on health and safety within a company. Our research explores how OHS policies and practices in different work environments influence injury and illness. We have made significant progress this past year in several evaluation projects that are examining specific interventions and preventative strategies in the work place including testing safety climate measurement tools and evaluating participatory ergonomic interventions. These evaluations should be of value to the prevention system partners and to individual employers interested in improving their safety record. Our research also leads to the development of tools that can be used by stakeholders, such as the ongoing development of a workbook for use by workplace parties interested in evaluating the cost effectiveness of prevention strategies in their workplace.

2007 Quick Statistics

Completed projects (7)
Ongoing projects (24)
New projects (3)
Papers published or in press (32)
Peer review papers submitted (14)
Reports to WSIB or other Prevention System Partners (8)
Presentations of results & stakeholder consultations (64)
External grants awarded (11)

Synthesizing the Evidence

In 2004, the Institute for Work & Health launched a prevention systematic review initiative. Funded by the WSIB, this four year pilot produced systematic reviews of the effectiveness of interventions to prevent workplace injury, illness and disability. The prevention review initiative was undertaken in response to a concern raised by non-research partners in the prevention system that there was limited accessible evidence about the effectiveness of interventions for protecting workers' health. To ensure that our reviews are relevant to our stakeholders, IWH researchers routinely meet with prevention system partners including WSIB staff to refine the literature search and to clarify the interpretation of findings from the reviews. The final report and a general audience summary for each completed review are available on our website and over 500 partners are alerted at the completion of each new review.

In March of 2007, the external Five Year Review Panel evaluating the work of IWH since 2003 assessed this systematic program as very effective. In particular, the Panel noted the achievements of the program in involving research users in the development of review topics and disseminating the central findings of the reviews. With the submission in 2008 of the final three reviews, we will have completed 13 systematic reviews, eight scoping reviews, one narrative review, and one methodological paper. We have reviewed over 85,000 articles and engaged 61 reviewers in four countries in addition to the 27 stakeholder consultations that were held. In partnership with WSIB's Prevention Branch and the Research Advisory Council, we have also conducted a series of rounds and workshops with WSIB staff to highlight the results of completed reviews. A legacy of this pilot initiative is a monthly Research Discussion Forum with IWH researchers and staff from the Occupational Disease Policy and Research, Professional Practice Department and others at the WSIB. This forum considers the use and interpretation of systematic reviews and other research papers on topics relevant to policy and program development at the WSIB.

2007 Quick Statistics

Completed projects (1)
Ongoing projects (5)
New projects (2)
Papers published or in press (1)
Peer review papers submitted (4)
Reports to WSIB or other Prevention System Partners (4)
Presentations of results & stakeholder consultations (29)
External grants awarded (1)

Findings of Note (See projects: 985, p.9; 957, p.16; 980, p.17; 960, p.19)

What Works Best in Preventing Work Related MSDs?

Through the work of the prevention reviews, we have been able to identify a number of evidence-based factors about what works best when implementing strategies in the workplace to prevent MSDs or work related disability related to MSDs.

1. Encourage a participatory process
2. Manage the implementation
3. Think multi-level and multi-component
4. There are no quick fixes

Workplaces should know that there are credible and useful research studies conducted in workplaces and that cost effective programs do exist.

SR: Effectiveness and Cost-Effectiveness of Social Marketing Campaigns in Occupational Injury Prevention (424)

Project Status: Completed

Introduction: Many workers' compensation boards in Canada have funded social marketing campaigns that focus on safe workplace practices. Currently, typical levels of provincial expenditures on workplace social marketing campaigns are in the range of \$100 per 100 workers. Efforts to refine the focus and efficiency of these programs lead to important questions concerning the appropriate levels of expenditures on social marketing campaigns and on the appropriate durations of such campaigns.

Objectives:

- ▶ **Primary:** To conduct a review of high-quality evidence of the effectiveness of social marketing interventions in occupational injury prevention.
- ▶ **Secondary:** To examine the quality of economic evaluations conducted in this field and to complete, if feasible, an assessment of the cost-effectiveness of social marketing interventions in occupational injury prevention.

Methods: The research method for this protocol followed the standardized methodology for conducting a systematic review. This involved four discrete phases: 1) a systematic search of relevant electronic databases (and supplemental sources) to comprehensively identify all potential research or evaluation reports relevant to the objective of the protocol, 2) to review the titles and published abstracts identified in the first step, and select those research or evaluation reports that are deemed relevant to the objective of the protocol, 3) to critically assess the quality of the research methods in the research or evaluation reports retained in the second step, and select those reports meeting an explicit quality criteria and 4) to consistently abstract the empirical results from the studies retained in step 3. This synthesis of the literature followed the methods applied in a number of recent reviews completed by the Institute examining the effectiveness of prevention interventions in occupational health and safety, and a recently conducted systematic review on effectiveness of exercise therapy for treatment of low back pain.

Results: A total of 30 of the 56 campaigns described in this review were judged to be reported to a high quality standard. Of these 30 campaigns reported to a high quality standard, a majority reported measures of injury, disease or disability outcomes. Of the 30 campaigns reported to a high quality standard, one targeted infection control, 14 targeted injury prevention, three targeted disease prevention, four targeted sun protection behaviors and seven targeted the prevention of disability following the onset of a work-related injury or disease. Social marketing intervention in occupational health and safety apply a wide range of strategies. A minority of campaigns reported to a high quality standard relied exclusively on public communications. The reported effects of these campaigns were weak. A majority of campaigns reported to a high quality standard integrated public communications with educational programs, consulting services or targeted inspection and enforcement. The reported effects of these campaigns were stronger. Only a small minority of social marketing campaigns reported information on campaign expenditures and provided estimates of the economic value of campaign outcomes. It is not possible, as a result, to estimate the cost-effectiveness of social marketing campaigns targeting occupational health.

The implication of these findings for prevention policy include the following observations. Social marketing approaches have demonstrated effectiveness in many domains of public health. There is emerging evidence that these methods can be effective in improving and protecting the health of workers. The quality of information available on the effectiveness and cost-effectiveness of social marketing is very weak. This weakness can be addressed if investments in social marketing campaigns incorporate resources to support high quality evaluations.

Researchers: Cameron Mustard (Principal Investigator), Amber Bielecky, Caroline Dickie

Stakeholder Involvement: Funding was received from WorkSafe BC under a competitive grant program focused on supporting research into effective methods of increasing awareness and changing beliefs concerning the importance of preventing work-related injury, illness and death. Prevention Division staff of the Ontario WSIB have indicated an interest in the results.

Potential Audiences and Significance: This work will be of interest to provincial workers' compensation agencies and provincial Ministries of Labour who are active in social marketing communication programs to influence societal attitudes and values in the area of occupational injury prevention.

Link to WSIB Policy & Program Priorities: Health & Safety: Effective Preventions of Injury & Illness

Publication:

Mustard CA, Bielecky A. A review of evaluations of social marketing campaigns in occupational injury, disease or disability prevention. Report prepared for WorkSafe BC. (Project 424: Systematic Review – Social Marketing in Occupational Injury Prevention)

Presentations:

Mustard CA, Bielecky A. A review of the effectiveness of social marketing campaigns in the prevention of occupational injury, disease or disability. 19 Apr 2007; Toronto, ON: International Association of Labour Inspection (IALI) 2007 Conference.

Mustard CA, Bielecky A. Effectiveness of social marketing campaigns in the prevention of occupational injury, disease and disability. 27 Nov 2007; AWCBC Communication Directors Meeting.

Systematic Review: Participatory Ergonomic Interventions: Implementation and Process Evaluation (985)

Project Status: Ongoing; peer review papers in development.

Introduction: Workplace participatory ergonomics (PE) interventions are a method of reducing musculoskeletal disorders (MSDs). The prerequisites and benefits of PE programs have been extensively described in the literature. A recent review of PE intervention effectiveness indicated that the scientific literature examining PE approaches has increased substantially in recent years. However, there is not yet strong evidence on the effectiveness of PE in improving health outcomes. A synthesis of evidence on the process and implementation of PE interventions has not been carried out to date. Feedback from stakeholders suggested that a summary of evidence on PE process and implementation would be welcome.

Objectives:

- ▶ This review will summarize evidence for the process and implementation of participatory ergonomics interventions.

Methods: Systematically search and review relevant literature on the process and implementation of participatory ergonomics interventions in workplaces. Synthesize the evidence in a transparent and meaningful way. Provide recommendations about participatory ergonomic intervention process and implementation as warranted by the present literature.

Results: Preliminary results. The searches were broad and inclusive and were carried out in a diverse set of electronic databases. The total yield to date with duplicates removed was 1469 references. The preliminary search yields are considerably greater than that of a previous review of PE effectiveness (n= 442, with duplicates removed; Cole et al., 2005; Rivilis et al., submitted). This greater yield is in part due to a more concerted effort to capture the grey literature. The final yield will be greater as there are additional grey-literature searches ongoing. An important list of facilitators and barriers was generated. Stakeholders appreciated the results and wanted as much detail on better implementation approaches as feasible.

Initially, 1137 references were excluded as not relevant to our research question. At the second stage 121 articles were excluded, with 143 passing on to the inclusion/exclusion level.

Inclusion/Exclusion Appraisal

Preliminary results. There were 143 articles reviewed at the inclusion/exclusion step. There were both peer-reviewed and grey articles proceeding to this step. The amount of peer-reviewed progressing to DE is higher than grey, in part because the team has focused on peer-review while the remainder of the grey literature searches are progressing.

At present, there are 43 articles that have met the inclusion/exclusion content and quality criteria and 48 that have been excluded at this step. There are 17 grey literature articles still to be reviewed for inclusion/exclusion. The data presented for this step of the review must be considered preliminary and interpreted as an example of the type of analysis and results that will follow with the completion of the review.

The majority of articles excluded at this review step (38 of 48) were excluded because they lacked information about context, facilitators or barriers to the PE process. The remaining 10 articles were excluded because of their low quality scores.

The articles often report proposed changes to tools/equipment than the other type of changes. However more of the articles with sufficient information about PE process propose to make changes to both to tools/equipment and work processes than do those articles with insufficient information about PE process. A higher percentage of articles with insufficient information about PE process propose or describe changes to tools/equipment only compared to articles with sufficient information about PE process. The remaining categories of changes are considered by fewer of the articles.

Quality scores were only recorded for those articles with sufficient information about PE process. The total quality scores range from 6 to 16, with the majority between 10 and 16. Scores for quality questions 1 to 5 were generally high for the articles proceeding to PE, indicating that these articles presented information about:

- the purpose of the article,
- the rationale for choosing the PE process,
- the intervention steps,
- the intervention duration,
- follow-up time of outcome measurement.

The scores were generally low for quality questions 6 and 7, indicating that the articles were not consistent in presenting information about the impact of the intervention or the potential co-intervention/confounders that could have affected the intervention outcomes.

The final report will be submitted to the WSIB early in 2008.

Researchers: Donald Cole, Dwayne Van Eerd (Institute Coordinator), Emma Irvin, Kiera Keown, Quenby Mahood, Judy Village, Nancy Theberge, Marie St. Vincent, Kim Cullen, Heather Widdrington

Stakeholder Involvement: A stakeholder group consisting of ergonomic and prevention branch representatives from a variety of health and safety associations, the WSIB, the Ministry of Labour, the Ontario Federation of Labour and individual workplaces were invited to provide feedback on various aspects of this review. In an initial meeting the stakeholders assisted in clarification of the research question, provided additional search terms and suggested the inclusion of specific grey literature sources. In a follow up meeting this same stakeholder group was presented with the review team's current approach to data extraction and synthesis. The stakeholders were supportive of the suggested approaches and feel that these approaches will ultimately provide them with practical findings that can be implemented within their work settings. Overall the stakeholders have been very supportive of this review and have expressed an interest in its outcome. In November 2007, we held a final stakeholder meeting with this group, to discuss findings, extract key messages, and develop an appropriate KT dissemination plan.

Responding to concerns voiced by both this stakeholder group and by practitioners and fellow researchers around our earlier effectiveness review, we have also taken additional steps to obtain further funding to include both the grey and the French language literature. The grey literature search is a parallel process with a focus on BC and Manitoba particularly (WorkSafe BC & Manitoba WCB funded), which has been integrated into the findings from the peer-review English language literature. Our additional funding allowed us the opportunity to host stakeholder meetings in both BC and Manitoba to discuss the review findings with the equivalent local stakeholders in those provinces. Further, several IWH researchers are engaged in a different review process of the French language literature with other Quebec colleagues (IRSST funded) which may provide additional insights in answering our research question. Hence, overall the review process has become more comprehensive, reflecting both the nature of our question and the fulsomeness of relevant literature.

Potential Audiences and Significance: Ergonomic and prevention representatives from a variety of health and safety associations, the WSIB, the Ministry of Labour, the Ontario Federation of Labour and individual work places as well as other workers compensation boards across the country.

Link to WSIB Policy & Program Priorities: Health & Safety: Effective Preventions of Injury & Illness

2007 Publications:

Van Eerd D, Keown K, Irvin E, Cole D. Systematic review of process and implementation of participatory ergonomic interventions: Stakeholder engagement. Toronto: IWH 2007.

Van Eerd D, Cole DC, Irvin E. Six month Progress Report for RS2006-DG01 WorkSafe BC. Systematic review of process and implementation of participatory ergonomics interventions: Stakeholder engagement. Toronto: IWH 2007.

2007 Presentations:

Amick B, Van Eerd D, Wells R. Interventions to reduce musculoskeletal disorders: What does the research tell us? Apr 2007; Toronto, ON: Panel presentation and discussion at Health and Safety Canada 2007 IAPA Conference and Trade Show.

Van Eerd D. Effectiveness of participatory ergonomics interventions: Details from a systematic review. 6 Mar 2007; Toronto, ON: Electrical & Utilities Safety Association – Ergonomic Change Team meeting.

Van Eerd D. Interventions to reduce musculoskeletal disorders: Findings from systematic reviews. 1 May 2007; Mississauga, ON: Building Bridges – Researchers Discuss the Needs and Opportunities for Better Linking Research to Workplace Practices: OSSA sponsored workshop.

Van Eerd D, Keown K. Stakeholder meetings in BC and Manitoba for process and implementation of participatory ergonomics. 28 May-1 Jun 2007; BC.

Van Eerd D, Keown K, Village J. Stakeholder Workshop: A systematic review on process and implementation of participatory ergonomics. 28 May-1 Jun 2007; Vancouver, BC & Winnipeg, Manitoba.

Van Eerd D, Cole DC, Village J, Theberge N, St. Vincent M, Irvin E, Clarke J, Keown K, Mahood Q, Widdrington H. Process and implementation of participatory ergonomics: Reviewing the literature. 27-30 Aug 2007; Boston, MA; 6th International Scientific Conference on Prevention of Musculoskeletal Disorders.

Van Eerd D, Village J, Mahood Q, Irvin E, Keown K, Clarke J, Cole DC, Theberge N, St. Vincent M, Cullen K, Widdrington H. Reviewing the grey literature on process and implementation of participatory ergonomics: Benefits and challenges. 14-17 Oct 2007; Toronto, ON: 2007 Association of Canadian Ergonomists 38th Annual Conference.

Van Eerd D, Cole DC, Village J, Theberge N, St. Vincent M, Clarke J, Keown K, Mahood Q, Irvin E, Cullen K, Widdrington H. Process and implementation of participatory ergonomics: A review of the peer-reviewed literature. 14-17 Oct 2007; Toronto, ON: 2007 Association of Canadian Ergonomists 38th Annual Conference.

Van Eerd D, Cole DC, Village J, Theberge N, St. Vincent M, Clarke J, Keown K, Mahood Q, Irvin E, Cullen K. Participatory ergonomics process and implementation: a review of the literature. 19-21 Oct 2007; Waterloo, ON: OKA 2007 Milestones: Ontario Kinesiology Association 25th Annual Conference.

Van Eerd D, Keown K. HSA Research Exchange Series for Participatory Ergonomics Part 2 SR, November 27, 2007.

Funding:

Van Eerd D, Cole, DC, Irvin E. Systematic review of process & implementation of participatory ergonomic interventions: Stakeholder engagement. [WorkSafe BC \$21,500; Manitoba WCB \$10,700] 2006-2007 (\$32,200)

Systematic Review: Effectiveness of Education and Training Strategies for the Protection of Workers (975)

Project Status: Ongoing; Literature search and screening updated fall 2007 because of significant lapse of time since first search.

Introduction: There is considerable interest in the effectiveness of training (and certification) as a generic prevention strategy for workers of all ages. The factors affecting training effectiveness are of particular interest, including those related to the individual, training, workplace and external environment. After identifying broad stakeholder interest in the review topic, IWH conducted a preliminary survey of the number and quality of published reviews of research evidence on the effectiveness of education and training strategies for worker protection. The survey identified a review conducted by NIOSH in 1998, covering more than 80 studies. As a result, the IWH and NIOSH are working together to update the review and answer the following questions:

Primary Questions:

1. What quantitative effect does OHS training/education have on workers, firms and society.
2. What is the magnitude of effect of various factors (i.e., those related to the individual, the training/education intervention, the workplace, and the external environment) upon the effectiveness of OHS training/education interventions?

Secondary Questions:

1. What is known about OHS training/education interventions from cost-effectiveness or cost-benefit analyses?
2. What is the methodological quality of the research literature concerned with the effectiveness of OHS training/education?

Objectives:

- ▶ To provide a comprehensive summary of the effectiveness of education and training strategies for the protection of workers by systematically reviewing the quantitative literature.
- ▶ To assess the methodological strengths and weakness of the existing quantitative studies, and to provide recommendations to guide future research initiatives.

Methods: Literature review and consultation with OH&S stakeholders.

Results: Twenty-two eligible randomized controlled trial studies identified. Studies reported on the effects of OHS training/education on knowledge, attitudes, behaviours, and health. Two types of study group comparisons were focused upon in the review: training vs control; and different levels of engagement in training.

Researchers: Ben Amick, Lynda Robson (Principal Investigator's), Amber Bielecky, Jane Brenneman Gibson, Stella Chan, Judy Clarke, Kim Cullen, Emma Irvin, Kiera Keown, Quenby Mahood, Anna Wang, L. Boldt, E. Cullen, D. Eggerth, P. Grubb, T. Heidotting, R. Peters, C. Rotunda, P. Schulte, C. Stephenson (NIOSH)

Stakeholder Involvement: NIOSH is a research partner. Ontario Prevention System Partners provided feedback on draft report.

Potential Audiences and Significance: WSIB; MOL; HSAs; and anyone interested in worker training.

Link to WSIB Policy & Program Priorities: Health & Safety: Effective Preventions of Injury & Illness

2007 Presentation:

Robson L, Irvin E, Keown K. Consultation and discussion regarding the SR: A Systematic Review of the Effectiveness of Training & Education Programs for the Protection of Workers. 7 Mar 2007 with WSIB, CCOHS, OFL, OSHA, MOL, WHSC, IAPA EUSA

Systematic Review: Prevention of Upper Extremity Musculoskeletal Disorders (971)

Project Status: New; Project initiated summer 2007.

Introduction: Inappropriate design of workplaces and work processes contributes significantly to the development of common work-related musculoskeletal disorders. The Institute has contributed significantly to the literature on low back musculoskeletal disorders. This review will compliment this body of literature by focusing on the upper extremity musculoskeletal disorders, including the shoulder and neck.

Objectives:

- ▶ To conduct a systematic review to address the question: How effective are workplace (based) interventions on the prevention of upper extremity disorders?

Methods: Comprehensive literature search and systematic review of identified studies.

Results: Pending

Researchers: Ben Amick (Principal Investigator), S. Brewer (Chemplan, Inc., Sarasota, Florida), S. Catli (WSIB), Rachel Couban, J. Dennerlein (Harvard University), B. Evanoff (Washington University at St. Louis), A. Franzblau (University of Michigan), F. Gerr (University of Iowa), Emma Irvin, Carol Kennedy, Kiera Keown, Quenby Mahood, David Rempel (University of California - San Francisco), C. Serra (Pompeu Fabra University, Spain), Dwayne Van Eerd, Renee Williams (McMaster University)

Stakeholder Involvement: As is the usual practice for our prevention reviews stakeholder meetings, they will be held twice during the review: once to gather feedback from the relevant business community about the detailed nature of the questions and to assist IWH in refining the search strategy for the literature review; and toward the completion of the review to gather feedback from the business community on the relevance and interpretation of the findings from the literature.

Potential Audiences and Significance: The results of this review will be of interest to researchers and prevention partners. In particular the results of this review will be relevant for the OHSCO Strategic Initiative 2006-2008: Prevention of Work-related Musculoskeletal Disorders.

Link to WSIB Policy & Program Priorities: Health & Safety: Effective Preventions of Injury & Illness

2007 Presentations:

Amick B. Interventions in health care settings to improve musculoskeletal health: A Systematic Review. 27-30 Aug 2007; Boston, USA: PREMUS 2007 6th International Scientific Conference on Prevention of Musculoskeletal Disorders. Disorders)

Amick B, Van Eerd D, Keown K, Irvin E, Kennedy C. Stakeholder meeting for SR: Prevention of upper extremity musculoskeletal disorders. 25 May 2007; Toronto, ON: WSIB, MOL, OSSA, UNITE, PPHSA and OHCOW; clinical EI: PT&/or OT, Global Office Equipment et al at IWH.

Systematic Review: Injury Prevention and Control Programs (957)

Project Status: Ongoing; additional papers in development.

Introduction: There are a number of injury prevention and loss control programs currently employed by workplaces to reduce injury occurrence and effectively manage workers compensation claims. These programs may aim to change culture, climate and/or behaviour through some combination of targeted policies or practices. This is a broad literature that is worthy of synthesis. This review will be useful to policy makers as it will describe the current tools available for injury prevention and loss control and highlight the differences between these and management systems.

Objectives:

- ▶ It aims to answer the following questions: "Are injury/illness prevention and loss control programs effective in reducing workplace injury/illnesses and/or workers' compensation claims?" The secondary questions that will be considered are: "Which injury/illness prevention and loss control tools are effective in assessing the risk of workplace injuries/illnesses?" and "Which injury/illness and loss control tools are effective at assessing the frequency and/or duration of workers' compensation claims?"

Methods: Systematic review methods and consultation with stakeholders.

Results: Strong evidence for a positive effect of reducing or controlling injuries/illnesses was found for only one IPC, Return to Work/Disability Management (RTW/DM) Programs. A moderate level of evidence was found for five IPCs: supervisor practices, "workstation adjustment and training", exercise, workstation adjustment and ergonomics training. The categories of "workstation adjustment" and "ergonomics training" had no effect while supervisor practices, "workstation adjustment and training" and exercise had a positive effect. Three products were developed: a full Systematic review, a Scoping review and a methods piece. A plan was put in place to create five products to be submitted for peer review in 2008.

Researchers: Ben Amick (Principal Investigator), Emma Irvin (Institute Coordinator), Kiera Keown, Quenby Mahood, Dwayne Van Eerd, S. Brewer (Chemplan Inc., Sarasota, FL), E. King, L. Tetric (George Mason University), R. Williams (McMaster University)

Stakeholder Involvement: Stakeholder were invited in the fourth quarter to hear the results of the review and engage in a message extraction exercise.

Potential Audiences and Significance: The results of this systematic review will be of interest to workplace parties, HSAs, and others involved in the prevention of work place injuries.

Link to WSIB Policy & Program Priorities: Health & Safety: Effective Preventions of Injury & Illness

2007 Presentations:

Brewer S, Amick B, Keown K, Irvin E. Part 1: Stakeholder consultation and discussion regarding the systematic review on injury prevention and control. 2 Nov 2007 (IAPA, OSSA, CSAO, MOL, CAW, WSIB)

Van Eerd D, Keown K, Irvin E. Part 2: Stakeholder consultation and discussion regarding the systematic review on participatory ergonomics. 16 Nov 2007 (IAPA, OSSA, CSAO, MOL, CAW, WSIB)

Systematic Review: The Effectiveness of Workplace Interventions to Reduce Musculoskeletal Injuries in Long Term Care Facilities (980)

Project Status: Ongoing

Introduction: Work-related musculoskeletal disorders (WMSDs) result in a significant economic and social burden, causing pain, suffering, and the loss of wages for workers. They negatively impact the economy and give rise to considerable pressures on the health-care system. The institutional health-care environment as a workplace setting has a high risk of musculoskeletal injury relative to many other work environments. While there is a widespread perception that reducing the frequency and severity of these disorders by focusing on workers alone is not successful without paying attention to the work environment, there has been no systematic review of the effectiveness of such workplace intervention. The systematic review report was submitted to WSIB in December 2006.

Objectives:

- ▶□ This review will summarize evidence for the effectiveness of workplace interventions to prevent musculoskeletal disorders among health care workers in institutional health care settings, including long-term care institutions and nursing homes.

Methods: Systematic review methods were followed.

Results: There is moderate evidence that prevention programs in health-care settings have a positive effect on protecting workers' musculoskeletal (MSK) health. There is also moderate evidence that patient handling programs with three components (a worksite policy change, new patient handling equipment and training on equipment and patient handling) and exercise programs consisting of aerobic or strength training (or both) have a positive effect on MSK health.

Researchers: Ben Amick (Principal Investigator), Emma Irvin (Institute Coordinator), S. Brewer (Chemplan, Inc., Sarasota, Florida), J. Tullar, Dwayne Van Eerd, Quenby Mahood, Lisa Pompeii, Anna Wang, David Gimeno, Brad Evanoff, Kiera Keown

Stakeholder Involvement: OSACH, OHA, ONA, RPNAO, HSALC

Potential Audiences and Significance: WSIB, Health and Safety Associations e.g., OSACH, Workplace parties concerned with improving workers' health.

Link to WSIB Policy & Program Priorities: Health & Safety: Effective Preventions of Injury & Illness

2007 Publication:

Sharing Best Evidence: Prevention programs for health-care workers; IWH. Jessica Tullar, Shelley Brewer (Chemplan Inc., Sarasota, FL), Ben Amick, Emma Irvin, Quenby Mahood, Lisa Pompeii, Anna Wang, Dwayne Van Eerd, David Gimeno, Bradley Evanoff. Interventions in health care settings to protect musculoskeletal health: A systematic review. Accepted: Safety Science

2007 Presentations:

Van Eerd D, Amick B. Interventions in health care settings to improve musculoskeletal health: A systematic review. 25 Apr 2007; Mississauga, ON: Ministry of Labour Ergonomics Workshop.

Van Eerd D, Irvin E, Keown K. Interventions in health care settings to improve musculoskeletal health: A systematic review. 5-6 Mar 2007; Toronto, ON: Healthcare Safety Forum 2007.

Systematic Review: Prevention of Injuries in Small Businesses (961)

Project Status: Ongoing; project commenced in Q3, 2007.

Introduction: Small and businesses typically have higher injury and disability rates than large businesses and thus have unique prevention needs and challenges. A recent feasibility and assessment review by IWH summarized the existing literature on work and health in small businesses. That review found that the bulk of literature focused on the inadequacy of OHS-related educational materials, interventions and policy for small businesses. The review also found that the literature was focused on the particular organizational features of small businesses that distinguish them from large organizations. Based on this review of the literature, we initiated a full systematic review in 2007. This review combines both qualitative and quantitative features.

Objectives:

- ▶ Conduct a systematic review to address the questions:
 1. How does the small size of workplaces (including micro enterprises) affect OHS practice and outcomes?
 2. What interventions (broadly defined, including legislative) improve OHS in small business and prevent injuries?

Methods: Comprehensive literature search and systematic review of identified studies.

Results: Pending

Researchers: Ellen MacEachen, Curtis Breslin (Principal Investigators), Ben Amick, Emma Irvin, Natasha Kyle, Quenby Mahood, Phil Bigelow, H. Shannon (McMaster University), Agnieszka (Iggy) Kosny, M. Facey (University of Toronto), Sara Morassaei, Lori Chambers, Krista Scott-Dixon, Rachel Couban, Kim Cullen, L. Brosseau (consultant)

Stakeholder Involvement: Members of the following stakeholder groups, IAPA, OSSA, CSAO, CFIB, MoL, WSIB, and an injured workers representative were invited to two meetings, once to gather feedback from the relevant business community about the detailed nature of the questions and to assist IWH in refining the search strategy for the literature review; and toward the completion of the review to gather feedback from the business community on the relevance and interpretation of the findings from the literature.

Potential Audiences and Significance: This topic will be of interest to researchers and IWH prevention partners. In particular it aligns with the OHSCO Strategic Initiative 2006-2008: Small business.

Link to WSIB Policy & Program Priorities: Health & Safety: Effective Preventions of Injury & Illness

2007 Presentation:

MacEachen E, Breslin FC, Amick B, Cullen K, Keown K, Irvin E. Stakeholder meeting for SR: Prevention of injuries in small businesses. 23 May 2007; Toronto, ON: Invitation to: IAPA, OSSA, CSAO, CFIB, MOL, WSIB, Injured Workers representative et. al.

Systematic Review: Studies that Undertake Economic Evaluation of Workplace Interventions Directed at Primary and Secondary Prevention (960)

Project Status: Ongoing; papers in submission.

Introduction: In this project, we undertook a systematic review of studies in which an economic evaluation had been completed of a workplace-based intervention directed at primary or secondary prevention of injury, illness, and disability. Primary prevention studies considered were those that were directed at reducing the probability of work-related injuries and illness. Secondary prevention studies considered were those that were directed at reducing the impact of injury and illness (not exclusively work-related) on work disability through various work-place based return-to-work policies, programs and practices. Not included were workplace-based interventions directed at improving the general health of workers, e.g., some health promotion programs. Some interventions (e.g., ergonomic interventions) were focused on improving productivity, quality, or other firm objectives. These were included only if there was a primary or secondary prevention outcome included in the quantification of consequences.

The study was undertaken in three phases in order to assess the feasibility and merits of completing a full scale systematic review. In Phase 1 we evaluated the feasibility of identifying workplace-based OHS studies that complete an economic evaluation. The key consideration was the development of a keyword search strategy that identified studies that met the principal inclusion criteria, and we assessed the number of studies that are likely to be identified. In Phase 2 we completed a pilot study that consists of a subset of subject matter within the broad topic of workplace-based OHS intervention for primary and secondary prevention. Specifically, we focused on interventions for the prevention of musculoskeletal and upper extremity injuries in office settings. In Phase 3 we undertook a full scale review, broadening the topic to include all workplace-based OHS interventions.

Objectives:

- ▶ Complete a systematic review of workplace-based OHS interventions.

Methods: Systematic review to unfold in stages: 1) feasibility, 2) pilot, 3) full systematic review.

Results: Key findings are strong evidence supporting the financial merits of ergonomic interventions in the manufacturing and warehousing sector, and strong evidence supporting the financial merits of multi-sector disability management interventions.

Researchers: Emile Tompa (Principal Investigator), Sudipa Bhattacharyya, Jane Brenneman Gibson, Claire de Oliveira, Roman Dolinschi, Emma Irvin, Kiera Keown, Quenby Mahood

Stakeholder Involvement: A stakeholder meeting was held in 2006 to fine tune the scope and focus of the systematic review. A second stakeholder meeting was also held in Q4 2006 to help fine tune the messages for workplace parties and policy makers.

Potential Audiences and Significance: This study will be of interest to workplace parties (employers, workers and their representatives), policymaker (WCBs and MOLs), consultants and other practitioners that provide services/advice to employers on OHS matters, and researchers who evaluate the effectiveness of OHS interventions.

Links to WSIB Policy & Program Priorities: Health & Safety: Effective Preventions of Injury & Illness; Return to Work: Prevention & Management of Work Disability

2007 Publications:

Tompa E, de Oliveira C, Dolinschi R, Irvin E. A systematic review of disability management interventions with economic evaluations. Revise and resubmit: Occup Rehab

Tompa E, Dolinschi R, de Oliveira C. Practice and potential of economic evaluation of workplace-based interventions for occupational health and safety. Special issue of AJIM. [IWH WP #311]

Tompa E, Dolinschi R, de Oliveira C, Irvin E. A systematic review of occupational health and safety interventions with economic analyses. Submitted: Occup Environ Med

Tompa E, Dolinschi R, de Oliveira C, Irvin E. Prevention Reviews Initiative: Final Report – A systematic review of OHS interventions with economic evaluations Vol. 1 and Appendices Vol. 2.

Tompa E, Dolinschi R, Liang A. An economic evaluation of a participatory ergonomics in an auto parts manufacturer. Submitted: J Safety Res

2007 Presentations:

Tompa E, Dolinschi R, de Oliveira C, Irvin E. Economic evaluation of workplace interventions for health and safety. Nov 2007; Vancouver, BC: 4th Provincial PEARS meeting.

Tompa E, Dolinschi R, de Oliveira C, Irvin E, Keown K. Economic evaluation of workplace interventions for health and safety. Nov 2007; Toronto: WSIB Plenary Series.

Tompa E, Dolinschi R, de Oliveira C, Irvin E. Economic evaluation of workplace interventions for health and safety. Oct 2007; Vancouver, BC: Occupational Health and Safety Association for Healthcare.

Tompa E, Dolinschi R, de Oliveira C, Irvin E, Keown K. Economic evaluation of workplace interventions for health and safety. Oct 2007; Mississauga: Centre for Health & Safety Innovation.

Tompa E, Dolinschi R, Irvin E, de Oliveira C, Keown K. 7 Mar 2007 Consultation and discussion regarding the Systematic Review on Economic Evaluation with WSIB, WHSC, MOL CRE-MSD, OFL.

Tompa E, Keown K. HSA research exchange series for economic evaluation systematic review. 23 Oct 2007.

Learning from Compensation & Population Data

Over the past 15 years, Institute researchers have gained considerable expertise in the analyses of large and complex data sets. These include population-based information, such as the Survey of Income & Labour Dynamics (SLID), National Population Health Survey (NPHS), the Canadian Community Health Survey (CCHS), and other Statistics Canada holdings. Through our special research agreements with the WSIB, IWH researchers have also developed an understanding and become adept in the analyses of Ontario (and other provinces') workers' compensation administrative data.

Our work has focused on gaining a better understanding of working conditions and the employment relationships in the labour market, through the analyses of these population level databases and through lost time and no lost time compensation claims data, on claims trends and risk factors for injury and disability.

2007 Quick Statistics

Completed projects (1)
Ongoing projects (5)
New projects (0)
Papers published or in press (4)
Peer review papers submitted (3)
Reports to WSIB or other Prevention System Partners (2)
Presentations of results and stakeholder consultations (4)
External grants awarded (2)

Findings of Note (See project: 417, p. 22)

Workplace safety training is taking a back seat.

From our analysis of occupational health and safety training experiences among Canadian workers we have documented that only one in five Canadian workers reported receiving safety training in their first year of a new job. This despite the legislative requirement under provincial occupational health and safety acts to provide training to new employees. In addition, young workers and those in jobs with higher physical demands – which are both associated with higher injury rates – were no more likely to receive training than other workers. Employees of workplaces that provided family support programs or non-wage benefits were one of the only groups more likely to receive safety training.

The Measurement and Surveillance of Working Conditions and Lost-time Claims in Ontario (417)

Project Status: Ongoing

Introduction: In 1997 the legislative mandate of the Ontario Workplace Safety and Insurance Board (WSIB) expanded to include an increased focus on the prevention of work-related injuries. IWH has responded to this broadened mandate through an added emphasis on research which seeks to understand the nature and patterns of workplace injuries. This secondary surveillance of workplace injuries is an integral part of a comprehensive prevention strategy. Effective surveillance involves both comprehensive point estimates of the number of injuries within particular labour force sub-groups and the monitoring of trends in injury rates across different injury types and within these sub-groups.

To estimate claim rates across different sub-groups of the labour force, IWH has used Statistics Canada's Labour Force Survey to define the segment of the Ontario labour force for which reporting work-related injuries to the WSIB is mandatory. This work took place between 2002 and 2004. Over the past two years the research agenda has continued to expand. Recently we completed work which examined the rates of injuries between men and women by occupational type over a 10-year period and compared trends in injury rates across different groupings of job-tenure by age group and injury type. Ongoing work includes an examination of trends in injury claims by age group between 1990 and 2000. In one current project injury claim rates for all workers between Ontario and Quebec are being compared, while a second project compares lost-time injury rates among young workers between Ontario and British Columbia.

Objectives:

- ▶ To conduct injury surveillance research of policy relevance to the MoL and WSIB.
- ▶ To define the percentage of work-related injuries and illnesses in Ontario represented by lost-time claims. (Although what is, and is not, classified as a lost-time claim is defined, it is not known what percentage of work-related injuries or limitations in activities result in a lost-time claim being successfully made, and if this differs by labour force sub-groups.)
- ▶ To expand the surveillance of trends in lost-time injury claim rates across different population sub-groups in Ontario.
- ▶ To examine inter-provincial differences in work-injury claim rates among Canadian jurisdictions.

Methods: Analyses of WSIB claims data and Canadian community health survey.

Results: In 2007 a paper examining occupational health and safety training among Canadian workers was published in the journal *Injury Prevention*. This paper documented that only one in five Canadian workers reported receiving safety training in their first year of a new job, although the provision of this information to new employees is a legislative requirement under provincial occupational health and safety acts. In addition, young workers and those in jobs with higher physical demands – which are both associated with higher injury rates – were no more likely to receive training than other workers. Employees working at workplaces that provided family support programs or non-wage benefits were one of the only groups more likely to receive safety training. The results of this paper were also picked up in the *Metro Newspaper* (free newspaper provided to public transit users, published 10 Sept 2007). *“Workplace safety is taking a back seat”*.

Researchers: Peter Smith (Principal Investigator), Sheilah Hogg-Johnson, Cameron Mustard

Stakeholder Involvement: Stakeholders at the Ontario Ministry of Labour and the Ontario Workplace Safety and Insurance Board, as well as possible stakeholders in similar positions in other provinces, will be identified.

Potential Audiences and Significance: The results of this project will be directly relevant to policy makers at the Ministry of Labour and the WSIB.

Link to WSIB Policy & Program Priorities: Health & Safety: Effective Preventions of Injury & Illness

2007 Publication:

Smith P, Mustard CA. How many employees receive safety training during their first year of a new job? Inj Prev 2007; 13:37-41.

Work Related Motor Vehicle Collisions in Ontario (464)

Project Status: Completed

Introduction: Motor Vehicle Collisions (MVCs) are the leading cause of work-related traumatic fatalities. Between 2000 and 2004, it is estimated that MVCs were responsible for 208 work related deaths in Ontario, accounting for 43% of all workplace traumatic fatalities. Between 2000 and 2004, MVCs accounted for 15,124 lost time injury (LTI) claims. The objective of this study is to describe characteristics of work-related MVCs in Ontario. The project will be based on a linkage of administrative records maintained by the Workplace Safety and Insurance Board (WSIB) and the Ontario Ministry of Transportation (MTO). The project is supported by the WSIB. The WSIB has consulted with MTO and concluded that there is a potential policy benefit in pursuing a data linkage research study to analyze the trends, patterns and causal factors of work-related MVC claims.

Objectives:

- ▶ Demonstrate the feasibility of administrative record linkage between workers' compensation claims administered by the WSIB and accident investigation records administered by the Ontario Ministry of Transportation over the period 2000-2005.
- ▶ Describe characteristics of work-related motor vehicle collisions in Ontario over the period 2000-2005.

Methods: This study was a cross-sectional description of the characteristics of MVCs resulting in a work-related injury to drivers in Ontario over the four year period 2001-2005. The target population of interest was persons operating motor vehicles on public roadways in the course of their work or employment and whose employer is insured with the Ontario WSIB. The study sample was selected from WSIB administrative records of compensation claimants over the four year period 2001-2004 in the province of Ontario. The study sample was restricted to time-loss compensation claims or fatality claims where the injury or death arose from a transportation-related cause. The study sample was linked to the Ontario Ministry of Transportation Accident Database System (ADS). The ADS contains a record for every collision for which police completed a Motor Vehicle Accident Report (MVAR), which is required in the case of injury or significant property damage.

Results: The highest number of work-related motor vehicle collisions occurred to men and women aged 30-45 years of age. A total of 13% of work-related motor vehicle injuries experienced by men resulted in a permanent impairment award and a total of 9% of work-related motor vehicle injuries experienced by women resulted in a permanent impairment award. Workers in five occupational groups experience 54% of the lost time claims resulting in a temporary disability award and 59% of lost time claims resulting in a permanent impairment award. The occupations with the highest frequency of lost-time compensation claims are: 1) commercial truck drivers, 2) police officers, 3) operators of buses and transit vehicles, 4) delivery and courier service drivers and 5) home care workers. Workers in five Rate Groups experienced 60% of the lost time claims resulting in a temporary disability award and 56% of lost time claims resulting in a permanent impairment award. The Rate Groups with the highest frequency of lost-time compensation claims are: 1) Schedule 2 employers, 2) General Trucking, 3) Nursing Services, 4) Non-food specialty stores and 5) school bus operators. The most frequent driver actions noted by police in collisions involving male working drivers were: 1) loss of control (12%), 2) driving at speeds exceeding road conditions (9%), 3) fail to yield (4%), and 4) disobeying traffic controls (4%).

Researchers: Cameron Mustard (Principal Investigator), Jacob Etches

Stakeholder Involvement: WSIB Prevention Division staff, representatives of the Transportation Health & Safety Association of Ontario and representatives of the Ministry of Transportation participated in the specification of the objectives of the pilot study.

Potential Audiences and Significance: This work will be of interest to workers' compensation agencies and policy-makers responsible for policies and programs addressing road safety.

Link to WSIB Policy & Program Priorities: Health & Safety: Effective Preventions of Injury & Illness

Presentation:

Mustard CA, Etches J. Work-related motor vehicle collisions in Ontario. 9-12 Oct 2007; Banff, AB: EPICOH Conference.

Reports:

Mustard CA, Etches J. (Sept 2007) Work-related motor vehicle collisions in Ontario. (Unpublished report to WSIB)

Funding:

Mustard CA, Etches J. Work-related motor vehicle collisions in Ontario. WSIB: 2006-2007 (\$70,000)

The Impact of Experience Rating and Occupational Health and Safety on Claims Experiences in Ontario (416)

Project Status: Ongoing

Introduction: A system of experience-rated workers' compensation premiums (NEER and CAD-7) was phased in during the 1980s in Ontario. Subsequently, the injury claim rates for both lost-time and no-lost-time claims decreased suggesting that the programs might have had an impact on employer behaviour. Theoretically, a link between a company's claims history and the premiums paid for coverage provides an incentive to increase safety efforts, but to what degree the observed trend in claim rates is attributable to the introduction of experience rating is unclear and controversial. A decrease in claim rates also has been observed over this time period in other jurisdictions, suggesting that the phenomenon might, at least partially, be driven by cross-jurisdictional forces and not strictly by within-jurisdiction policy changes. The phasing-in of experience rating provides an interesting natural experiment to test the relationship between experience rating and claim rates. Data for this project come from three sources: WSIB administrative records on firms and their claims' activity, Ministry of Labour's administrative records on occupational health and safety regulation enforcement activity and the Workplace and Employee Survey (WES). The latter will be the source of information on the characteristics of firms that is not available from the two administrative data sources.

Objectives:

- ▶ To assess whether the degree of experience rating is correlated with injury experiences at the industry level, after controlling for other characteristics of relevance.
- ▶ To assess whether the degree of experience rating is correlated with specific aspects of injury experiences such as the frequency, duration and nature of injuries.
- ▶ To investigate the impact of OHS regulation enforcement on injury experiences.

Methods: Regression modelling techniques based on aggregate data at industry level from WES and WSIB administrative data sources.

Results: A higher degree of experience rating was associated with a lower total and lost-time claim rate, but a higher no-lost-time claim rate. Growth, having an intermittent workforce, and being a newly opened firm were significantly associated with higher rates in all three categories, whereas downsizing was associated with only a higher rate of no-lost-time claims. Experience rating of workers' compensation insurance appears to be effective in reducing lost-time claims, with some of the reduction due to shifting of claims to the no-lost-time category.

Researchers: Emile Tompa (Principal Investigator), Roman Dolinschi, Miao Fang, Marjan Vidmar

Stakeholder Involvement: Doug Potter and Ron Lovelock of the WSIB have been actively involved in this project from the early stages. Ian Welton has provided information and data about the Experience Rating programmes at the WSIB. Bob Kusiak, now retired from the Ministry of Labour, has been instrumental in the access to the data on OHS regulation enforcement; WSIB and officials from the Ministry of Labour will be key stakeholders with whom we will discuss our findings.

Potential Audiences and Significance: This project is relevant to employers, the WSIB and workers' compensation boards in other jurisdictions, and policy-makers in provincial ministries of labour.

Link to WSIB Policy & Program Priorities: Health & Safety: Effective Preventions of Injury & Illness

2007 Publication:

Tompa E, Fang M. The impact of experience rating and firm size dynamics on occupational health and safety performance. Submitted: Safety Science

2007 Presentation:

Tompa E. Insurance and regulatory incentives for firm-level injury and illness prevention. Dec 2007; Bilbao, Spain: Workshop on Economic Incentives to Improve Occupational Safety and Health.

Health and Labour Market Trajectories (448)

Project Status: Ongoing; papers submitted and published, additional analysis continues.

Introduction: Over the past five years, the Institute has established capacity to conduct research using Statistics Canada master files of longitudinal, repeated measure, health and labour market interview surveys (the National Population Health Survey (NPHS), the Survey of Labour Income Dynamics (SLID) and the National Longitudinal Survey of Children and Youth (NLSCY)). The longitudinal cohort in the NPHS now extends to eight years, with another survey cycle to be added in 2007. The SLID will contain information across three different panels from 1993 to 2004. Each survey contains detailed information on health status, disability status, labour market entry, labour market exit and labour market trajectories.

Objectives:

- ▶ Estimate the longitudinal patterns of employment tenure in the Canadian labour force.
- ▶ Apply methods to measure changes in working conditions. Estimate the extent to which changes in health status and health behaviours are associated with subsequent changes in employment tenure and working conditions.
- ▶ Test the consistency of reporting across gender and different measures of socioeconomic status (education, household income etc.)

Methods: To date the work under this project has been primarily directed in two areas. The first has been on how best to measure occupational position, and discrepancies between occupational attainment and personal educational potential. These methods have been used in one paper (Int J Epi, 2005). The second area of investigation has been the measurement of change over time. There has been some work to date on how to measure change in working conditions (e.g., job control) between the 1994 and 2000 cycles of the NPHS. This work was incorporated into a forthcoming paper (Smith and Beaton, OEM forthcoming).

Results: Three papers examining labour market conditions and longitudinal health outcomes have been accepted for publication in 2007.

Researchers: Cameron Mustard (Institute Coordinator), Peter Smith

Potential Audiences and Significance: The results will interest policy-makers, workers' compensation bodies and government departments involved in settings policies related to the provision of health benefits for labour market participants and policies aimed at worker protection through employment regulations.

Link to WSIB Policy & Program Priorities: Health & Safety: Effective Preventions of Injury & Illness

2007 Publications:

Smith P, Frank JW, Mustard CA, Bondy S. The monitoring and surveillance of the psychosocial work environment in Canada: A forgotten determinant of health. In review: Can J Public Health

Smith P, Frank JW, Mustard CA, Bondy S. Do changes in job control predict differences in health status? Results from a longitudinal national survey of Canadians. In press: Psychosom Med

Smith P, Frank JW, Mustard CA, Bondy S. Comparing three explanations for the association between job control and health status: A path analysis approach. In press: J Epi Comm Health

Smith P, Beaton D. Measuring change in psychosocial working conditions: methodological issues to consider when data are collected at baseline and one follow-up time-point. OEM 2007; 65(4):288-296.

Ten-year Mortality Follow-up for Occupations in the 1991 Canadian Census (461)

Project Status: Ongoing

Introduction: The relationship between life expectancy and occupation has been described poorly in Canada relative to surveillance and monitoring efforts in other OECD countries. Evidence is accumulating that the cumulative impact of labour market experiences influences the initiation and progression of chronic disease processes. This research uses a new population-based longitudinal person-oriented database formed by Statistics Canada from the linkage of two existing databases: 1) respondents to the long-form of the 1991 census and 2) the Canadian Mortality Data Base. Over the ten year follow-up period of 1991 census respondents, approximately 300,000 deaths are expected to occur in this sample. The resulting database will consist of records for approximately 4.5 million persons, with approximately 45 million years of follow-up. The linkage undertaken by this project will complement the limited Canadian occupational mortality surveillance data currently available. In addition, through the integration of job exposure matrix information from health interview surveys in Canada, mortality risk in relation to position in the occupational hierarchy and in relation to adverse occupational psychosocial and physical work exposures will be estimated.

Objectives:

- ▶ Provide current estimates of socioeconomic mortality differences for the Canadian population. An important emphasis will be to estimate mortality rates - by cause of death - for Canadian occupations. These estimates are currently unavailable.

Methods: There are two phases to this project. The first phase, to be conducted by Statistics Canada, involves the linkage of a 15% sample of the census records to the Canada Mortality Data Base. Following this linkage, the analysis phase of the project will commence. Analytic work will be conducted both by Statistics Canada and by a working group at the Institute for Work & Health.

Results: The first phase of this project, involving the linkage of a 15% sample of the census records to the Canada Mortality Data Base, was completed in June 2007. Subsequent to the completion of the record linkage phase, the Institute research team completed preliminary planning for initial phase of analysis work. A meeting of research team members based at Statistics Canada and the Institute for Work & Health was held in August 2007. Outstanding technical issues were resolved following this project meeting. Research access for Institute research staff was established at the Statistics Canada Toronto Regional Office in the fall of 2007 and preliminary analysis of the linked dataset commenced.

Researchers: Cameron Mustard (Institute Coordinator), Amber Bielecky, Jacob Etches, K. Aronson (Queens University), R. Wilkins (Statistics Canada)

Stakeholder Involvement: R. Lessard (Director of Public Health, Montreal Centre Regional Health Authority); S. Paradis (Director, Policy and Major Projects, Health Canada); J. Reading (Scientific Director, Institute of Aboriginal Peoples' Health, Canadian Institutes of Health Research)

Potential Audiences and Significance: There will be many audiences for this information, ranging from Health Canada and provincial ministries of health to regional health authorities and municipalities. The results will be broadly influential in policy settings concerned with the allocation of public expenditures to protect and improve the health of the population. The Institute's contribution to better understand differential occupational mortality will be important to workplace parties and to government regulatory and insurance agencies.

Link to WSIB Policy & Program Priorities: Health & Safety: Effective Preventions of Injury & Illness

2007 Publication:

Etches J, Mustard CA. Education and mortality in Canada: Mediation by behavioural and material factors.
Submitted: JECH

Funding:

Mustard CA, Aronson K, Amick B. Mortality by occupation in Canada: A ten year follow-up of a 15% sample of the 1991 census. WSIB RAC: 2007-2009 (\$224,300)

Work Stressors and Mental Health (309)

Project Status: Ongoing, analysis completed and peer review publication in development.

Introduction: Social inequalities in morbidity and mortality have been well documented. Work characteristics may play an important role in determining the social gradient in mental health. While adverse work characteristics may lead to mental health problems, the reverse is also likely. Little research has specifically modeled reciprocal relationships between mental health and work. In addition, few longitudinal studies have examined whether this relationship differs across social class. We used a cross-lagged multi-group structural equation model to test the reciprocal relationship between work stressors and mental health, and if this relationship differed across social class, we controlled for socio-demographic variables and employment status.

Objectives:

- ▶ To investigate social class difference in health and its predictors.
- ▶ To determine if the impact of health on work stressors is stronger than the impact of work stressors on health.

Methods: We used longitudinal data from the National Population Health Survey (NPHS). The NPHS began in 1994/95 and collects data on selected respondents every two years. Work stress variables were measured in the 1994/95 (cycle 1, time 1), 2000/01 (cycle 4, time 2) and 2002/03 (cycle 5, time 3) surveys. Analyses were limited to approximately 3000 respondents aged 18-56 at time 1 who answered a modified and abbreviated version of Karasek's Job Content Questionnaire (40) in each cycle it was asked, and who remained in the same social class for all the three time points. We used a 3 wave cross-lagged multi-group analyses using Structural Equation Modeling (SEM) to examine the reciprocal relationships between work stressors and health outcomes, and if these relationships differ by social class. Models were estimated using Mplus version 3.2.

Results: There was a decline in job strain ratio and job insecurity between 1994 and 2000, but remained the same between 2000 and 2002. There was a decrease in part-time work and those reporting their health as excellent declined and those reporting their health as poor/fair increased during the study period. Percentage of those reporting as depressed increased slightly between 1994 and 2000. There was a difference in mean job strain and mean job insecurity between the social classes at all three time points, with those in the lower class reporting high job strain and high job insecurity. There was also a difference in self-rated health; depression and distress with those in the lower class showing a disadvantage. In general, the prevalence of negative health outcomes and stressful work conditions were more prevalent in the lower class.

The study found partial support for the impact of health variables on perceptions of work stressors. For the universal model out of nine reciprocal relationships, support was found for two between time 1 and time 2, and three reciprocal relationships were supported between time 2 and time 3. There was also support for three reverse paths from health to work, but not vice-versa.

We also found some support for class differences in cross-lagged relationships between work and health. Using occupation class measure, between time 1 and time 2, out of nine only one reciprocal relationship was supported for both classes, whereas between time 2 and time 3 there were four significant reciprocal paths for the lower class and only two for the higher class. In most cases the reverse paths from work to health were slightly larger in magnitude than the normal paths.

Using educational class measure, for time 1-time 2 relationships, one reciprocal path was supported for the lower class only. A reverse path from distress to work social support but not vice-versa was supported

for both classes. For time 2- time 3, four reciprocal paths were supported for the lower class, and only two for the higher. There was a reverse path only from self-rated Health to work social support for the lower class and from job insecurity to self-rated health for the higher class. Also social class differences were observed in strength of relationships with mixed results. The difference in strength of relationships between the classes depended on the predictor and the outcomes. Some relationships were stronger for the lower classes while other for the higher class.

Researchers: Selahadin Ibrahim (Principal Investigator), Peter Smith, C. Muntaner (Centre for Addiction and Mental Health)

Stakeholder Involvement: None

Potential Audiences and Significance: Policy-makers, Employers, Unions, Employee Advocates

Link to WSIB Policy & Program Priorities: Health & Safety: Effective Preventions of Injury & Illness

2007 Presentation:

Ibrahim S, Breslin FC, Hogg-Johnson S. The influence of work stressors and educational attainment on trajectories of activity limitations and depression: A longitudinal analysis of Canadian workers. 27-31 Aug 2007; Boston, USA: PREMUS 2007, 6th International Scientific Conference on Prevention of Work-Related Musculoskeletal Disorders.

Protecting Vulnerable Workers

Young workers were the target population for the most recent WSIB social marketing prevention campaign. For the past several years, new and young workers have been one of the key populations of interest to IWH researchers. These workers are most at risk of injury during the first month on a job. IWH staff contributed to regular OHSCO Young Workers Health and Safety Sub-committee meetings in 2007.

Another population who may be considered particularly vulnerable to workplace injury or illness is the immigrant work force who makes up an increasing segment of the Canadian labour force. IWH researchers initiated a WSIB RAC funded study with focus on the labour market experiences of immigrant workers in Ontario and Canada using a number of secondary data sources collected by Statistics Canada in 2007. The results of this project will identify if immigrant workers are at higher (or lower) risk of workplace injury. Further, IWH researchers will investigate the nature of these risks or protective factors including factors related to workers themselves (e.g. ethnicity, gender), type of occupations immigrants work in (physical demand), and organizational factors (workplace size, industry).

2007 Quick Statistics

Completed projects (0)
Ongoing projects (5)
New projects (0)
Papers published or in press (11)
Peer review papers submitted (5)
Reports to WSIB or other Prevention System Partners (0)
Presentations of results and stakeholder consultation (2)
External grants awarded (2)

Findings of Note (See project: 451, p.34)

More education....less risk of injury for young workers.

Our research on young workers has found that young people 15 to 24 years old who are out of school (with or without a diploma) have an elevated risk for work injury, compared to youth still in secondary or post secondary education. This elevated risk is partly, but not completely explained by demographic factors, type of job, and work hours.

Work Injuries and Young People: A Prospective Survey (451)

Project Status: Ongoing

Introduction: Many young Canadians are engaged in paid employment. Employment rates from the Labour Force Survey show that 42.1% of Canadian adolescents (15 to 19 years old) and 67.7% of young adults (20 to 24 years olds) were employed in any given month during 2001. The total economic costs of occupational injuries and illness approximate those of cancer or heart disease. Young workers show an increased risk of occupational injuries, with a national Canadian survey finding that adolescent (15 to 19 years old) and young adult (20 to 24 years old) workers had twice the occupational injury rate of older adults.

Education, Work, and Health: Our population health formulation of education, work and health holds that the educational status of a young person leads to particular social destinations, with these destinations affecting health. Even during the school-to work transition, the educational status of youth is diverse and influences job opportunities. Those young people who do not complete high school have the most difficulty in the labour market. The percentage of Canadian young adults who have not completed high school was 9.8% in 2004. Even though there is justified concern about unemployment among high school dropouts, the majority of drop outs are employed. However, young people who did not complete high school were more likely to hold low-skilled jobs than those with more education. Consequently, issues of job quality are important to this group. Another educational pathway of interest is that of work experience programs/vocational education in high schools. From a human capital perspective, such programs are thought to equip students with skills that increase their job opportunities. The labour market outcomes of recent graduates of vocational education have been evaluated in many countries with mixed results. Most relevant for Canada are the American studies which find small but significant and beneficial effects of these programs on employment rates and income. These programs appear to be more beneficial for women than men. Relevant to teenage occupational health, work experience programs can also function as a safety net, reducing the likelihood of working an unskilled job, jobs that are often hazardous.

Trends in Youth Work and Health: Many jurisdictions in North America have responded to the elevated work injury rates of young workers by implementing safety education programs that are disseminated in schools and communities. In Canada, there are currently at least 75 work safety education programs directed at young workers. Although there have been declines in compensation claims rates over the past decade, whether these declines continue and have an effect on the young worker subgroup needs to be examined.

Labour Market Entry and Health: Entering the workforce is an important developmental milestone that typically occurs during adolescence. Entry occurs gradually with informal employment (e.g., baby sitting, yard work) preceding more formal work arrangements. A recent study of work among high school students concluded that most youth who reported appear to derive long term social and economic benefit from work during high school and that the potential adverse psycho-social effects of work such as poor school performance and social deviance (e.g., alcohol and drug use) were exaggerated. However, this seminal study focused exclusively on psychosocial outcomes. Given the increased risk of work injury among youth, examining the health of working teens compared to those that do not work is needed. Also, understanding the individual and family predictors of early work involvement and predictors of working in a job where hazard exposure is common will help identify potential intervention targets to reduce any harm to physical health associated with teen employment. The long-term goal of this research is to facilitate Canada's ability to formulate evidence-based prevention strategies for work injuries among adolescents and young adults. Currently, we are analyzing secondary data from relevant population-based surveys to identify the risk and protective factors associated with youth work injuries and to develop a conceptual model of youth work injury risk.

Objectives:

Education, Work, and Health

- ▶ To examine the effect of work experience programs (e.g., work co-op programs and vocational education) on job quality for young workers.
- ▶ To determine if high school drop outs experience a disproportionate share of the work injury burden among young workers.
- ▶ To determine if low levels of education among youth are associated with poorer occupational health through educational impact on job quality.
- ▶ To determine if youth from schools with greater material and social resources are more likely to hold a good quality job and have better occupational health.

Trends in Youth Work and Health

- ▶ To assess changes in work stress experienced by youth over the last 6 to 8 years.
- ▶ To determine if the work injury rates for teens and young adult workers in each province have changed over the last 6 to 8 years.

Labour Market Entry and Health

- ▶ To determine what individual and family variables among pre-teens predict early work involvement.
- ▶ To determine what individual and family variables among pre-teens predict working hazardous jobs.
- ▶ To determine if young teens who work are more or less healthy than their counterparts who do not work.

Methods: Sample: For these analyses, the primary analytic samples in the surveys named below were respondents under 24 years old who reported working for pay. However, some questions about youth's risk of work injury needed to be compared to the rate for adults 25 and over.

Measures: The predictor and outcome domains used in our examination of these questions included: measures of health and mental health, sociodemographic and geographic variables, lifestyle patterns, and work-related information (e.g., type of job, measures of work stress).

Analyses: Descriptive statistics were computed to describe the sample of respondents and the rates of work injuries (for example). The type of regression analysis or structural equation model used to examine the association between individual, family, and work-related predictors to a health outcome such as chance of a work injury were determined by the conceptual model and the distribution of the dependent variable (e.g., binomial). In the case of assessing geographic variation in injury rates, multi-level models were employed.

Results: Our findings show that young workers have wage losses in the year after a work-related illness or disability. We have also found that young people 15 to 24 years old who are out of school (with or without a diploma) have an elevated risk for work injury, compared to youth still in secondary or post secondary education. This elevated risk is partly, but not completely explained to demographic factors, type of job, and work hours.

Researchers: Curtis Breslin (Institute Coordinator), Ben Amick, Sheilah Hogg-Johnson, Ellen MacEachen, Anjali Mazumder, Cameron Mustard, Peter Smith, Emile Tompa, Jason Pole

Stakeholder Involvement: C-M. Fortin (WSIB); Prof. Dr. Wolfgang Uter, University Erlangen, Nürnberg, Germany; Cathi Carr (WSIB); S. Boychuk, B. Kusiak (now retired, Ministry of Labour)

Potential Audiences and Significance: The results will interest the WSIB prevention division, health and safety organizations such as Ontario Service Safety Alliance (OSSA), and provincial ministries of labour across Canada. Employers and labour unions are also interested in young worker safety issues.

Link to WSIB Policy & Program Priorities: Health & Safety: Effective Preventions of Injury & Illness

2007 Publications:

Breslin FC, Karmakar S, Smith P, Etches J, Mustard CA. Time allocation between work and recreation and the associated injury risks among young people. *J Safety Res* 2007;38(3): 373-379.

Breslin FC, Pole JD, Tompa E, Amick BC, Smith P, Hogg-Johnson S. Antecedents of work disability absence among young people: A prospective study. *Ann Epidemiol.* 2007 Oct;17(10): 814-820.

Breslin FC, Polzer J, MacEachen E, Morrongiello B, Shannon HS. Workplace injury or part of the job? Towards a gendered understanding of injuries and complaints among young workers. *Soc Sci Med* 2007; 64(4): 782-793.

Breslin FC, Tompa E, Zhao R, Amick BC, Pole JD, Smith P, Hogg-Johnson S. Work disability absence among young workers with respect to earnings losses in the following year. *Scan J Work Environ Health* 2007; 33(3): 192-197.

Breslin FC. Educational status and work injury among young people: Refining the targeting of prevention resources. In press: *Can J Pub Health*

Breslin FC, Tompa E, Zhao R, Amick BC, Pole JD, Smith P, Hogg Johnson S. The relationship between job tenure and work disability absence among adults: A prospective study. Accepted: *Acc Analysis Prev*

Karmakar S, Breslin FC. The role of educational level and job characteristics on health outcomes of young adults. Accepted: *Soc Sci Med*

2007 Presentation:

Breslin FC. Ensuring healthy experienced employees tomorrow by focusing on preventing youth work injuries today. 12-13 Feb 2007: *Occupational Health & Safety in a Tight Labour Market*

Prevalence and Determinants of Work-related Injuries Among Young Workers in Ontario and British Columbia (408)

Project Status: Ongoing

Introduction: There is a growing body of evidence that young workers are at increased risk of work injuries. Preliminary evidence suggests that individual, work situation and community factors influence the risk of compensated work injuries among young workers. However, the role of workers' compensation policies and youth lost-time claims has not been well documented. This project addresses these issues by conducting secondary data analysis of Ontario and British Columbia workers' compensation databases, each of which contains over 100,000 lost-time claims by young workers.

Objectives:

- ▶ Describe and compare the trends in pattern of claim rates over the past 10 years for new workers in different age groups.

Methods: To compute annual claim rates broken down by age (i.e., 15 to 19, 20 to 24, and 25 to 64 years old), gender, industry, and occupation, denominators will be derived using customized tables from the Labour Force Survey. This method of calculating denominators will allow for rates based on full-time equivalents. To examine geographic variation in claim rates, we will use the 1996 Census to compute claim rates for census divisions in both provinces. The census will also provide area-level information on indicators of socioeconomic status such income and education.

Results: Pending

Researchers: Curtis Breslin (Institute Coordinator), Sheilah Hogg-Johnson, Hyunmi Lee, Cameron Mustard, Peter Smith, Emile Tompa, Marjan Vidmar, M. Koehoorn (University of British Columbia)

Stakeholder Involvement: S. Boychuk and B. Kusiak (now retired), Ministry of Labour

Potential Audiences and Significance: The results of this project will be of interest to policy-makers and administrative/managerial audiences. Employers are also interested in protecting youth at work and preventing work-related injury.

Link to WSIB Policy & Program Priorities: Health & Safety: Effective Preventions of Injury & Illness

2007 Publications:

Breslin FC, Smith P, Dunn JR. An ecological study of regional variation in work injuries among young workers. *BMC Pub Health* 2007; 7: 1-12. [IWH WP #333]

Breslin FC, Koehoorn M, Cole DC. Employment patterns and work injury experience among Canadian 12 to 14 year olds. Submitted: *Can J Public Health*

2007 Presentation:

Breslin FC, Smith P, Dunn J. Geographic variation in lost-time claim rates among young workers in Ontario. 9-12 Oct 2007: EPICOH, Banff, AB.

An Examination of the Working Conditions and Risk Factors for Work-related Injuries Among Immigrant Workers in Ontario (413)

Project Status: Ongoing

Introduction: Immigrants to Canada make up an increasing segment of the labour force. However, different cultural backgrounds, fewer social networks and lower proficiency in either of the two official Canadian languages, may lead immigrants, especially recent immigrants, to be exposed to more negative labour force experiences (both related to the availability of work and the nature of that work) than people born in Canada. These labour force experiences may place immigrant workers at higher risk of work-related injuries. In addition, because of lower language proficiency, some immigrant workers may have trouble accessing relevant prevention information and navigating the workers' compensation system.

Objectives:

- ▶ To describe the labour market experiences of immigrant workers in Ontario and Canada using a number of secondary data sources collected by Statistics Canada.
- ▶ To determine whether immigrant workers are exposed to workplace factors that may place them at higher risk for different types of work-related injuries.
- ▶ To examine barriers facing immigrants in securing safe and rewarding employment in Ontario and accessing adequate compensation in the event of workplace injury.

Methods: Analyses of Statistics Canada's *Survey of income and labour dynamics* (SLID) and *Canadian Community Health Survey* (CCHS).

Results: Preliminary results from this project suggest that recent immigrants are subject to many labour market disadvantages, outside of lower income which has been previously documented. These included new immigrants being more likely to be underemployed and overqualified and without supervisory responsibilities, unionization or non-wage benefits. With some labour market experiences (e.g., unionisation and non-wage benefits) this relative disadvantage still was present for immigrations who had been in Canada for up to 20-years. In the case of other outcomes (e.g., unskilled occupation, overqualification, supervisory responsibilities and underemployment) this disadvantage was increased for particular groups of immigrants; visible minorities, those whose mother tongue was not English, and those who obtained their highest degree from outside Canada.

A second paper has examined the probability of work-related injuries between immigrants and Canadian-born labour market participants. This paper found that Immigrant men in their first five years in Canada are at increased risk of work-related injuries that require medical attention. This paper also found a surprisingly large amount of work injuries among immigrants required medical attention. Suggesting that self-reported activity limiting injuries may be under-reported among recent immigrants.

Researchers: Peter Smith (Principal Investigator), Stella Chan, Cameron Mustard

Stakeholder Involvement: Marianne Levitsky (Director, Best Practices Branch, Prevention Division) wrote a letter of support for a previous unsupported funding application on this topic. We have informed Ms. Levitsky of our recent funding success, and hope to work with her on the dissemination of the study results over the next 18 months.

Potential Audiences and Significance: WSIB Prevention Division; immigrant worker placement groups

Link to WSIB Policy & Program Priorities: Health & Safety: Effective Preventions of Injury & Illness

2007 Publications:

Smith P, Chan S, Mustard CA. The labour market experiences of immigrants to Canada: 1993-2002. Submitted: Industrial Relations: Journal of Economy and Society.

Smith P, Mustard CA. Comparing the risk of work-related injuries between immigrants to Canada, and Canadian-born labour market participants. Revise and resubmit: Occupational and Environmental Medicine.

Funding: Smith P, Mustard CA. An examination of the working conditions and risk factors for work-related injuries among immigrant workers in Ontario. WSIB RAC: \$101,700 (2006-2008)

Under-employment and Contingent Work (486)

Project Status: Ongoing

Introduction: The key question to be addressed by this study is: what are the health consequences of precarious employment experiences? The project uses the Survey of Labour and Income Dynamics (SLID) from Statistics Canada. A number of conceptual and methodological issues are addressed in the analytical work. Development of theoretical and operational constructs measuring precarious employment was an important first step. Four health-outcome measures are used in the analyses: 1) self-reported health status; 2) chronic health conditions causing work disability; 3) any health conditions causing work injury, and 4) illness-related work absences. An important issue addressed in the analytical work is the control for selection effects, (i.e., the possibility that less healthy workers are more likely to be selected into precarious employment experiences).

Objectives:

- ▶ To determine whether individuals who experience precarious employment have lower levels of health or suffer greater decline in health status than those who are in secure employment positions. To determine whether the association between precarious employment and health, if present, is stronger for individuals who experience precarious employment more frequently or for longer periods of time.
- ▶ To determine whether the association between precarious employment and health, if present, is magnified or modified by the context of these experiences.
- ▶ To determine whether exposure to precarious employment experiences is more likely to result in adverse health outcomes for individuals with specific socio-demographic characteristics (e.g., women, older individuals, single parents, individuals with little formal education).

Methods: Our research proceeded in three stages, namely: 1) development of a conceptual framework for “work-related precarious experiences”, which highlights the key dimensions of work experiences that make these insecure or physically hazardous and elaborates the paths between these experiences and downstream health effects; 2) examination of the trends, patterns and prevalences of non-standard work forms and the dimensions of work-related precariousness across gender and age groups for the period 1976 to 2002; and, 3) statistical regression analyses to investigate the impact of exposures to precarious employment experiences on several health-related outcomes including level of general and functional health, and the probability of transitioning to worse health. For the modeling component, we use a statistical procedure that accommodates the special properties of panel data, including the need to adjust for the correlation of multiple individual observations taken across time. We also took several steps to control for the problem of reverse causality (i.e., where poor health precedes exposure to negative employment experiences), lending credibility to our findings.

Results: Individuals in temporary employment were not more likely to exit to a disability absence. Several precarious employment features found to be significant contributors to declines in self-reported health status.

Researchers: Heather Scott-Marshall (Principal Investigator), Emile Tompa (Principal Investigator), Miao Fang

Stakeholder Involvement: Discussion document prepared in 2005. Feedback provided from presentation at WSIB Rounds and SAC in 2005, as well as several academic presentations.

Potential Audiences and Significance: This knowledge will be valuable to policy-makers at workers' compensation boards, provincial ministries of labour, and HRDC in relation to: the provision of employment insurance benefits; the provision of health and pension related work benefits; work related disability policy; employment standards; and the relative mix between private and public disability insurance coverage.

Link to WSIB Policy & Program Priorities: Health & Safety: Effective Preventions of Injury & Illness

2007 Publications:

Scott-Marshall H, Tompa E, Trevithick S. The social patterning of under-employment and its health consequences. *Int J Contemp Soc* 2007; 44: 7-35.

Tompa E, Scott-Marshall H, Dolinschi R, Trevithick S, Bhattacharyya S. Precarious employment experiences and their health consequences: Towards a theoretical framework. *Work* 2007; 28(3):209-224.

Scott-Marshall H. Work-related insecurity in the new economy: Evaluating the consequences for health. In press: *Res Pol Soc*, 16. Politics and Neoliberalism

Tompa E, Scott-Marshall H, Fang M. The impact of temporary employment and job tenure on work-related sickness absences. Submitted: *Occup Environ Med*

Tompa E, Scott-Marshall H, Fang M. Work-related sickness absences: An investigation into the role of temporary employment, job tenure, union membership and firm size. Revised and resubmitted: *SJWEH*.

External Grant:

Personnel award to Dr. Heather Scott-Marshall; SSHRC

Work-related Insecurity in Post-standard Employment: Exploring the Links to Health (434)

Project Status: Ongoing; maternity leave in 2007.

Introduction: This post-doctoral research represents an extension of dissertation work on the health impact of work-related insecurity in the contemporary labour market. This work transcends standard socio-epidemiological models of job insecurity which focus on only a single aspect of the experience - i.e., the strain that arises from an individual's lack of control over the continuity of employment. A political economy perspective is used to examine how macro-level changes in the economy and labour market have constituted work-related insecurity as a multidimensional and chronic occupational stressor that is embedded in the new organization of work. The paragon of this development is the rise of "post-standard" employment, which denotes work arrangements that are nominally secure (i.e., full-time, full-year, non-contractually limited) though can give rise to several forms of career, income and work-life balance insecurity. A political economy perspective also shed light on how different axes of social stratification such as gender, race and education might intersect with class to produce structured differences in exposure and/or vulnerability to work related insecurity experiences. Hence, the empirical component of this research uses a longitudinal approach to investigate how exposure to different aspects of work related insecurity affect workers' health over time, and how these effects might be socially patterned according to key socio-demographic characteristics denoting social position.

Objectives:

- ▶ Develop a framework for understanding the social distribution of work-related insecurity experiences according to key socio-demographic/structural characteristics (namely gender, age and education).
- ▶ Conduct an empirical mapping of the social distribution of work-related insecurity in the Canadian labour market.
- ▶ Investigate the longer-term health effects of exposure to several emergent dimensions of work-related insecurity and how these effects are distributed according to social position.

Methods: A review and synthesis of the literature will provide a foundation for the development of a conceptual framework. The Survey of Labour and Income Dynamics will be the source of data for trends analysis. Regression modeling techniques, specifically multilevel modeling, will be undertaken to assess the impact of work-related insecurity on health. Key characteristics of interest in the analysis are age, gender, race/ethnicity, educational attainment.

Results: Pending

Researchers: Heather Scott-Marshall (Principal Investigator)

Potential Audiences and Significance: This research transcends standard micro-level explanations of the job insecurity-health linkage found in the OHS literature by focusing on the structural mechanisms that engender work-related insecurity experiences and their social patterning. Potential audiences include: OHS researchers and practitioners, worker advocacy groups, public policy analysts, and employers.

Link to WSIB Policy & Program Priorities: Health & Safety: Effective Preventions of Injury & Illness

External Grant: Personnel award to Dr. Heather Scott-Marshall; SSHRC

Workplace Policies and Practices

The projects described below represent the Institute's ongoing interest in understanding the influence of work organization factors on worker health and well-being. Understanding workplace policies and practices may influence both the implementation and effectiveness of health and safety strategies in the workplace.

2007 Quick Statistics

Completed projects (0)

Ongoing projects (3)

New projects (0)

Papers published or in press (1)

Peer review papers submitted (0)

Reports to WSIB or other Prevention System Partners (1)

Presentations of results and stakeholder consultations (4)

External grants awarded (0)

Findings of Note (See project: 222, p.44)

Occupational health policies out of step with flexible work arrangements?

Workplace 'flexibility' is valued among managers who invoked this notion when describing work and health conditions in their workplaces in an Institute study. Although managers cast flexibility as helping workers, it is also very helpful to the firm. A result of workplace flexibility is that essentially workers are always on call, the concept of overtime falls away, and illness attribution (to work or home) become very difficult. In the context of a pressured and competitive marketplace, it is important to understand this 'underbelly' of workplace flexibility. Occupational health policy at the regulatory level (MoL, WSIB) remains based on a model of a standard work organisation, suggesting a need to update to match modern realities.

Manager Commitment in New Economy Organizations (222)

Project Status: Ongoing; papers underway.

Introduction: This study explores how the inherent flexibility of current occupational health and safety policy functions in the context of 'new economy' work organizations, which are also very flexible. Such work organizations are increasingly fluid with downsizing, out-sourcing, joint ventures and alliances, and with tenuous, insecure labour relations. How do these organizations actually implement health-and-safety systems when their own organizational structures are precarious? How do current occupational health policy and laws function in this context? Through this qualitative research we will explore the meaning of managerial 'commitment' in workplaces, and examine how decision-makers in new economy workplaces form and implement health-and-safety systems.

Objectives:

- ▶ To gain a grounded understanding of manager 'commitment' to occupational health and safety when workplaces themselves are changing and unstable.
- ▶ To examine how managers in such changing environments make decisions about occupational health and safety.
- ▶ To examine how health and safety policy is implemented in new economy workplaces.
- ▶ To explore characteristics of new economy workplaces.

Methods: This qualitative, sociological study used an 'ethnography of governance' theoretical approach (MacEachen, 2003) to focus on the day-to-day realities of how decision-makers form ideas and put them into practice. Approximately 40 confidential, face-to-face interviews will be conducted with human resources managers (who usually implement health and safety systems) and with joint health and safety committee chairpersons (who are responsible for identifying workplace hazards) in key Canadian new economy organizations such as advertising, new technology, and software development.

Results: Results focus on several issues:

- 1) Workplace 'flexibility' is a valued notion among managers who invoked this notion when describing work and health conditions in their workplaces. We found that although managers cast flexibility as helping workers, it is also very helpful to the firm. A result of workplace flexibility is that essentially workers are always on call, the concept of overtime falls away, and illness attribution (to work or home) become very difficult. In the context of a pressured and competitive marketplace, it is important to understand this 'underbelly' of workplace flexibility. (this paper has been published)
- 2) Occupational health policy at the state level (MoL, WSIB) is based on a model of a standard work organisation. It is ill-equipped to monitor OHS in modern knowledge workplaces. This essentially leaves workers on their own with respect to health and job security. Policy needs to be updated to match modern realities. (this has been presented twice--needs to be written up)
- 3) This study focused on the notion of 'manager commitment'. We were not concerned with whether 'it' was present or not, but rather what it was to managers themselves. What is commitment? Commitment about what? To whom? How do they view their own accountabilities? (This analysis has to be completed and written up)

Researchers: Ellen MacEachen (Principal Investigator)

Stakeholder Involvement: None to date.

Potential Audiences and Significance: This research will interest the WSIB Policy Branch as it evaluates the effectiveness of current occupational health and safety policy in changing work

environments. It will also be relevant to university researchers interested in work organization, contingent workplaces, workplace health, and sociological theory and to health and safety organizations interested in improving health and safety systems.

Link to WSIB Policy & Program Priorities: Health & Safety: Effective Preventions of Injury & Illness

2007 Publications:

MacEachen E. Interview with Kristin Goff. Article: “Flex work hours often mean work first, family second.” Published in the Ottawa Citizen (front page of Business Section). 5 Jan 2007.

MacEachen E, Polzer J, Clarke J. You are free to set your own hours: Governing worker productivity and health through flexibility and resilience. *Soc Sci Med* 2008; 66(5): 1019-1033.

2007 Presentations:

MacEachen E, Polzer J, Clarke J. You are free to set your own time: Understanding work flexibility and health in the knowledge economy. 27 Mar 2007.

MacEachen E. Occupational health, non-regulation and the pace of change in Ontario’s high tech industry. 26 Sep 2007; Hamilton, ON: Occupational Health, Hygiene and Toxicology Rounds, McMaster University.

The Logic of Practice: An Ethnographic Study of WSIB Front-line Service Work with Small Businesses (227)

Project Status: Ongoing; papers in progress.

Introduction: Front-line WSIB staff play a critical role in the execution and outcomes of institutional policies, strategies and programs. Yet, there is remarkably little scientific understanding of this key junction of the occupational health and safety (OHS) system: the interface between the administrative apparatus and the users/clients. This junction is particularly significant in relation to small workplaces which engage directly with front-line service providers and have few other intermediaries between themselves and the WSIB.

Objectives:

- ▶ To generate an empirically-based understanding of how front-line WSIB staff working in the small business sector actually conceive and accomplish their work.
- ▶ To draw out the implication of their practices for the OHS system, workers and employers.
- ▶ To describe and explain, from a sociological perspective, the work of three groups of service workers: claims adjudicators, customer service representatives, and nurse case managers.

Methods: Design: The research design is qualitative, integrating elements of grounded theory and structural-interactionist approaches – a strategy suited to the exploration of phenomena that are social in nature, have changing emergent properties, and are highly meaning- and context-contingent. The combination of these methodological approaches allows an empirically grounded but theoretically informed account of ‘what is going on here’, and, importantly, provides a means to link knowledge, practice and interaction at the ‘front lines’ to broader social, administrative and policy structures and processes.

Method: We will gather three types of data: 1) in-depth qualitative interviews with front line staff and supervisors, 2) in vivo (on site, ‘live’) observation of daily work (including social and physical context, interactions with co-workers and clients, team meetings) and follow-up interviews; 3) documentary materials (e.g., training documents, performance/motivational tools, business plans). Interviews will be conducted using special ‘free-tethered’ techniques which permit exploration of domains of interest to the investigators without pre-conceptualization of the content. Respondents are given freedom to frame issues in their own way and to use their own linguistic and conceptual repertoire for expressing themselves. Observations of the physical/organizational environment, and of the in vivo conduct of work and interactions with clients and other service workers, offer invaluable insight into dimensions of front-line work than are not accessible through individual self-accounts. Such techniques, by being grounded in concrete, actual events, offer superior access to the staff’s logic of practice. Textual materials will constitute observable manifestation of the prevailing institutional and cultural expectations regarding the performance of front line staff. Data will be managed with the assistance of a computer software program (N Vivo), and analyzed using a variety of qualitative interpretive strategies, including comparative analysis, grounded theory building, and discourse analysis.

Results: Data analysis is coming to an end. Results point to challenges of front-line workers as they juggle competing responsibilities. Of interest is the relationship between rules and discretion, and their orientation to employers versus workers. Small business provide an excellent location for highlighting tensions between the ideal and the practical. We locate findings in broader socio-legal context.

Researchers: Joan Eakin (Principal Investigator), Ellen MacEachen (Institute Coordinator), Judy Clarke

Stakeholder Involvement: Judy Geary (General Manager, Specialized Claims Services) and Wayne Weatherbee (General Manager, Small Business Services) have been involved in the conceptualization and design of this study and have indicated support and assistance including general facilitation of the project. Small business directors Jodi Higgins (Toronto) and Mike Herrington (Sudbury) have been consulted on the design of the research and will assist with linking us with potential research participants, facilitating data collection, and giving advice as the project proceeds.

Potential Audiences and Significance: This research is relevant in a number of ways to the mission of WSIB and its employer and worker constituencies. The study will highlight the special challenges and opportunities associated with servicing the small business sector. It will focus on the critical tacit knowledge, experience and skills that underlie work, and which may be particularly under-recognized (and under-used) in human service work with small businesses.

Links to WSIB Policy & Program Priorities: Health & Safety: Effective Preventions of Injury & Illness; Return to Work: Prevention & Management of Work Disability.

The Local Culture of Health and Safety: Regulation through Individual Responsibility and the Near Miss Framework (259)

Project Status: Ongoing

Introduction: The primary purpose of this project is to provide an in-depth examination of health and safety at the local level of everyday workplace practice, as well as provide new theoretical insights and directions for future health and safety research. In the scholarly study of health and safety violations two over-arching themes have traditionally dominated discussion and debate: 1) the explanation (and causes) of health and safety violations, and 2) the regulation of workplace safety activity. In the first theme, there exists a vast literature outlining many different explanations of the causes of health and safety violations. In contrast, the debate and discussion is more polarized and heated in the second theme on regulation because there has developed a punishment versus compliance dichotomy over how to best regulate health and safety violations. In this project, I will provide an extension of the theoretical literature in both these two traditional areas by writing three publishable articles. In addition, the dissertation will include an introductory chapter and a conclusion chapter on the regulation of and explanations surrounding violations in workplace health and safety.

Objectives:

- ▶ The development of a near miss research framework outlining theoretical, methodological and policy implications of studying events that 'almost happened'.
- ▶ Development of a conceptual framework on legal regulation and health and safety rights (i.e., 'regulation through individual responsibility' and 'theoretical pathways of refusing unsafe work'). A socio-legal examination of the Ontario ticketing enforcement tool and High Risk Firm Initiative.
- ▶ Provide new research directions into the causes of health and safety violations (by studying near miss accidents) and the legal regulation of health and safety.

Methods: The data for two of the three articles in this dissertation stem from a five-month participant observation study, in 2000 (April to September), of a large industrial factory in Canada, as well as a follow up mail-in survey of the same workplace one year later (2001). In addition, analyses of legal schedules from the Ontario Court of Justice and information from the Ministry of Labour website and relevant media releases will be examined.

Results: Pending

Researchers: Garry Gray (Principal Investigator)

Stakeholder Involvement: Received input from workplace health and safety staff on survey content.

Potential Audiences and Significance: Labour lawyers, academic researchers, government, and university students. The project will contain new theoretical and conceptual directions into workplace health and safety policy and practice (i.e., regulation through individual responsibility, legal health and safety rights, and the creation of a near miss framework).

Link to WSIB Policy & Program Priorities: Health & Safety: Effective Preventions of Injury & Illness

2007 Presentation:

Gray GC, Easton MD. Health and safety legal consciousness: The influence of job hierarchy on workplace safety rights. Jul 2007; Berlin, Germany: Law and Society Conference.

Workplace Interventions & Evaluations

The research projects described below focus on the effectiveness of workplace-based interventions and strategies aimed at improving workplace conditions and workers' health. Workplaces and workers' compensations systems leaders want intervention research that demonstrates the effectiveness or is absence. Without scientifically rigorous evaluations, policy-makers and employers struggle in determining which interventions to support to prevent workplace injury and illness.

2007 Quick Statistics

Completed projects (5)

Ongoing projects (3)

New projects (1)

Papers published or in press (2)

Peer review papers submitted (2)

Reports to WSIB or other Prevention System Partners (0)

Presentations of results and stakeholder consultations (23)

External grants awarded (5)

Findings of Note (See project: 228, p. 50)

Participatory ergonomic intervention shows financial benefits

An economic evaluation of a Participatory Ergonomic (PE) intervention in foam production sites, showed reduced sick leave associated with the intervention. There was a significant reduction in the duration of disability insurance claims and denied workers' compensation claims. The cost-effectiveness ratio was \$10.25 per disability day averted. The net present value was \$248,239.26 for a 23-month period, suggesting that the intervention is worth undertaking (monetary units in 2001 Canadian dollars).

Evaluation and Sustainability of Ergonomic Interventions (228)

Project Status: Completed

Introduction: Ergonomic programs are being introduced and recommended as a prevention strategy for musculoskeletal disorders. The purpose of this project is to increase our understanding of the benefits of workplace participatory ergonomic intervention prevention programs for work-related musculoskeletal disorders. We have recruited four sets of matched lines/plants from our previous studies. In each intervention plant, we formed and facilitated a participatory ergonomic team over a period of 10-20 months. We have arranged to continue monitoring these locations. We have a wide range of measures including questionnaires and, in the intervention plants, observations, video analysis, interviews and field notes. Organizations need evaluation tools and ways of sustaining such ergonomic programs. Through our earlier work, we developed a framework and measures for assessing the process and outcomes of the intervention. The proposed next phase will continue monitoring the workplace after we withdraw from facilitating the team, thus assessing the sustainability of the ergonomic change team and its activities.

Objectives:

- ▶ To develop health and financial performance evaluation approaches for lagging indicators.
- ▶ To assess the sustainability of the participatory ergonomic programs.
- ▶ To complete an economic evaluation of the interventions (at least one and possibly two, depending on data availability).

Methods: For Objective #1 - We have well developed evaluation methods for evaluating participatory ergonomic programs using short term lagging indicators (effort, discomfort, work disability) and some leading indicators (work environment, mechanical exposure). It can take at least nine months for a reportable injury to be fully assessed after the end of the calendar year in which it occurred. This data requires collection. This typically requires working with the plant to extract appropriate data from their records. It should be noted that these data are not always in electronic format. The type of participative changes instigated may require time to have an impact on lagging variables. Workplaces are dynamic and many other simultaneous changes occur at the same time as the intervention. In order to determine the effect size of the intervention we plan to develop a regression approach to tease out the separate effect of the intervention on a range of leading and lagging measures.

For Objective #2 - To evaluate sustainability, we propose to continue monitoring the outcomes and process at the plants after we formally withdraw from the change teams. We recently withdrew from the fourth pair of plants and are completing the facilitated intervention period in our last plant. We plan to follow up for at least one year after we cease facilitation to determine the sustainability of changes and change processes. The follow up measures will involve a subset of measures previously taken including interviews and field notes.

Results: Economic evaluation of PE intervention at Whitby-Tilbury foam production sites showed reduced sick leave associated with the PE intervention. There was a significant reduction in the duration of disability insurance claims and denied workers' compensation claims. The cost-effectiveness ratio was \$10.25 per disability day averted. The net present value was \$248,239.26 for a 23-month period, suggesting that the intervention is worth undertaking (monetary units in 2001 Canadian dollars). Intensity analysis showed substantial variation in intensity associated with different ergonomic changes, with many having low intensity, perhaps explaining the small reductions or mitigation of increases in pain observed, if any, with PE interventions.

Researchers: R. Wells (Principal Investigator) (University of Waterloo), Donald Cole, Emile Tompa (Institute Coordinator's), Roman Dolinski, Selahadin Ibrahim, Irina Rivilis, S. Dixon, A. Laing, N. Theberge (University of Waterloo)

Stakeholder Involvement: Companies - TWG, COMPX, and Unions - CAW, USWA, UNITE: Participated in the ergonomic interventions, providing additional existing data and interviews.

Potential Audiences and Significance: The work involves extensive engagement with companies in Ontario, which will provide excellent opportunities for knowledge transfer and knowledge utilization, which we plan to exploit to their fullest. A further outcome is a set of rich case studies with extensive documentation of outcome measures and process to help Ontario organizations implement effective interventions to prevent musculoskeletal disorders. These will aid workplace parties, health and safety associations and policy-makers.

Link to WSIB Policy & Program Priorities: Health & Safety: Effective Preventions of Injury & Illness

2007 Publications:

Wells R, Laing A, Cole DC. Characterizing the intensity of interventions for the prevention of musculoskeletal disorders by mechanical exposure reductions. In press: Int J Ind Ergon

Tompa E, Dolinski R, Laing A. A cost-benefit analysis of participatory ergonomics in an auto parts manufacturer. Conditional acceptance: Journal of Safety Research.

2007 Presentations:

Dixon S, Theberge N, Wells R, Cole DC. Poster: We didn't have the right people involved: Securing support for the implementation of participatory ergonomic interventions. 16-18 Apr 2007; Toronto, ON: Industrial Accident Prevention Association Conference.

Tompa E, Dolinski R (presenter), Laing A. Economic evaluation of a participatory ergonomics intervention in an auto parts manufacturer. 16-18 Apr 2007: Toronto, ON: Industrial Accident Prevention Association Conference & Trade Show.

Tompa E, Dolinski R (presenter), Laing A. Economic evaluation of a participatory ergonomics intervention in an auto parts manufacturer. Jun 2007: Thunder Bay, ON: Ontario Injury Prevention Conference.

Tompa E, Dolinski R (presenter), Laing A. Poster: Economic evaluation of a participatory ergonomics intervention in an auto parts manufacturer. Jun 2007: Waterloo, ON: CRE-MSD Researcher Day Conference.

Identifying the Barriers and Facilitators to the Adoption of Ergonomic Innovation in the Construction Sector (239)

Project Status: Completed; peer review papers in preparation.

Introduction: Work-related MSDs are a major problem in construction. Despite the availability of many tools and procedures that are known to reduce the risk of MSDs, few have been adopted. We are interested in determining ways to improve the adoption of known solutions to ergonomic problems in construction. The project will involve providing 15 firms with ladder lifts that will reduce the usually high biomechanical loads that workers endure when putting on and removing ladders from their trucks. Qualitative and quantitative methods will be used to determine facilitators and barriers to the adoption and sustained use of the ladder lifts.

Objectives:

- ▶ To determine the facilitators and barriers to the adoption of, and sustained use of, the ladder-lift.
- ▶ To develop an understanding of the facilitators and barriers to the development and fostering of partnerships among partner organizations and construction firms in improving the speed of adoption of ergonomic innovations.
- ▶ To determine the characteristics of an ergonomic innovation that facilitates or retards its adoption in the construction sector.
- ▶ To determine the characteristics of firms that are early adopters of ergonomic innovation in construction.

Methods: 3-D biomechanical analysis of lifting ladders from trucks using the new rack. Telephone and in-person interviews with workers and managers.

Results: A health and safety association collaborated with two research centers to examine the dissemination of knowledge of an ergonomic intervention by opinion leaders in the construction sector. The intervention was a hydraulic ladder lift that aided with loading and unloading of ladders off van roofs. Twelve companies, with five to 900 employees, were involved. The van operators informed workmates not employed by their companies but who worked on the same site as them about the intervention. The opinion leaders informed decision makers within their companies which led to commitments to purchase similar units. They also gave presentations at prearranged health and safety meetings, where attendees indicated that they thought the intervention sounded like a good idea. In this way, knowledge of the innovation reached at least 32 more companies and potentially several thousand other employees. The study showed the potential for workplace change to be exponential.

Researchers: Philip Bigelow (Principal Investigator), E. Garritano (Construction Safety Association of Ontario), D. Kramer (University of Waterloo), P. Vi (Construction Safety Association of Ontario), R. Wells (University of Waterloo)

Stakeholder Involvement: Investigators from the Construction Safety Association of Ontario (CSAO), the IWH, CRE-MSD were very involved in the development of the proposal. The focus of the investigation as well as the study methods were informed through the findings of a CRE-MSD pilot project (MSDs in Construction). The innovation (ladder lifts) was selected as the innovation because of a growing concern over the manual handling of ladders brought up by the Refrigeration/Air Conditioning Trade-Labour-Management Health and Safety Committee.

Potential Audiences and Significance: The primary audiences for the research findings are firms in construction and other sectors who use and transport ladders. Additional audiences include OHS

professionals in field practice and researchers. The HSA (CSAO) is very interested in determining how best to impact their member firms in terms of MSD prevention. Similarly, other HSAs are a potential audience as they face similar issues in encouraging companies to adopt ergonomic innovations.

Link to WSIB Policy & Program Priorities: Health & Safety: Effective Preventions of Injury & Illness

2007 Publication:

Kramer D, Bigelow P, Vi P, Garritano E, Carlan N, Wells R. Spreading good ideas: A case study of the adoption of an innovation in the construction sector. Submitted: Applied Ergonomics.

2007 Presentations:

Carlan N, Bigelow P, Kramer D, Vi P, Garritano E, Wells R. Paper/poster: Applied research: A vehicle for knowledge dissemination. Association of Canadian Ergonomists for the ACE Conference 2007

Carlan N, Kramer D, Bigelow P, Vi P, Garritano E, Wells R. Poster: The impact of applied research on the diffusion of knowledge in the complex construction sector. 28 June 2007; Centre of Research Expertise for the Prevention of Musculoskeletal Disorders (CRE-MSD) Researcher Day.

Kramer D, Bigelow P, Vi P, Carlan N, Garritano E, Wells R. Poster: Spreading the news: Getting ergonomic solutions into the construction sector. 26 Apr 2007; Toronto, ON: IAPA, Health and Safety Conference.

Kramer D, Bigelow P, Vi P, Carlan N, Garritano E, Wells R. Poster: Spreading the news: Getting ergonomic solutions into the construction sector. 28 Jun 2007; Centre of Research Expertise for the Prevention of Musculoskeletal Disorders (CRE-MSD) Researcher Day.

Kramer D, Bigelow P, Vi P, Carlan N, Garritano E, Wells R, Paper/poster: Trying new things to reduce MSDs: A case study of the adoption of an innovation in the construction sector. Association of Canadian Ergonomists for the ACE Conference 2007.

Kramer D, Bigelow P, Wells R, Frazer M, Garritano E, Vi P, Diacur M. Poster: We need your help: The prevention of MSDs in construction and transportation. 26 Apr 2007; Toronto, ON: IAPA, Health and Safety Conference.

Vi P, Wells R, Bigelow P, Kramer D, Carlan N, Garritano E, Paper/poster: A pilot study investigating manual material handling of ladders from construction service vans. Association of Canadian Ergonomists for the ACE Conference 2007.

Funding:

Bigelow P, Kramer D, Garritano E, Wells R, Vi P. Bridging the Gap: Identifying the barriers and facilitators to the adoption of ergonomic innovations in the construction sector. WSIB-RAC: \$59,777; 2006-2007.

Evaluation of the Impact of a Participatory Ergonomics Intervention (238)

Project Status: Completed

Introduction: This project will monitor the effect of establishing a participative ergonomics (PE) change team within a Canadian Auto Workers (CAW) organized work site. A PE intervention will involve workplace parties jointly assessing and taking action on musculoskeletal hazards. The project will monitor the CAW and Occupational Health Clinics for Ontario Workers (OHCOW) ergonomists' activities, document the workplace's response, track implementation, assess effectiveness, and estimate any cost savings associated with participatory ergonomics.

In addition, within this project we will be completing write-up of the work organization and stress survey with CAW and McMaster colleagues.

Objectives:

- ▶ To determine the nature of the relationships among ergonomists, union leadership, company management, and the research team engaged in a 'participatory ergonomics' intervention evaluation.
- ▶ To determine what data can feasibly be gathered by each of the participating parties to: 1) contrast pre- and post- measures of attitudes, hazards, and health status among those involved in the intervention; 2) document the activities of each of the parties; 3) track existing or new indicators that represent important measures of MSK burden, quality, and productivity; and 4) characterize the workplace as a setting.
- ▶ To assess new work organization indices and examine their relationships with point and ambulatory blood pressure.

Methods: This project will monitor the effect of establishing a participative ergonomics (PE) change team within a medium size auto parts manufacturing facility – TI Automotive, Bramalea, Ontario. TI Automotive is a Canadian Autoworkers (CAW) organized work site. This PE intervention will involve the various worksite stakeholders (i.e., research team, management, CAW, employees, engineering, maintenance) jointly assessing and taking action on musculoskeletal hazards. The intervention will be carried out by the principal investigator (OHCOW Ergonomist). Together, the research team will monitor activities, document the workplace's response, track implementation and assess effectiveness. The University of Waterloo's ethics approval process will be followed for the various methods that information will be gathered from this worksite (i.e., surveys, questionnaires, interviews). Information gathered through the intervention process will be used to help convert the relevant background research on PE into a practical guide, in the form of a handbook, on the establishment of PE change teams in the auto parts sector in general. There are over 36,000 CAW members within this sector alone. Information gathered will also be used by the Occupational Health Clinics for Ontario Workers (OHCOW) Inc. to update their own generic material on establishing Ergonomics Committees.

Results: A number of changes made, although in a fashion that was hard to document. Very positive feedback from both company and union representatives in this small plant. A PE Handbook for the Automotive Industry was developed. The handbook includes cost information in terms of material and labour for changes made.

Researchers: D. Mijatovic (Principal Investigator) (Occupational Health Clinics for Ontario Workers), Donald Cole (Institute Coordinator), Peter Subrata, Michael Swift, S. Naqvi (Occupational Health Clinics for Ontario Workers), R. Wells (University of Waterloo)

Stakeholder Involvement: Canadian Auto Workers & TI Automotive: OHCOW and CAW involved in project design, on-site work, and intervention formulation and implementation.

Potential Audiences and Significance: Workplace parties, OHCOW, CAW; to aid decision-makers looking for ways to best implement PE interventions by providing evidence on what aspects of the interventions work or don't work.

Link to WSIB Policy & Program Priorities: Health & Safety: Effective Preventions of Injury & Illness

Evaluation of a HSA-initiated Collaborative Partnership to Implement Participatory Ergonomic Programs (233)

Project Status: Ongoing; some analyses underway. Key informant interviews as well as the collection of administrative data are not yet completed.

Introduction: MSDs and musculoskeletal pain are major problems for the electrical and utilities sector and traditional prevention techniques have not led to long-term solutions. Participatory approaches have been shown to be more effective but have not been widely adopted. The Electrical & Utilities Safety Association (E&USA) is partnering with the IWH, CRE-MSD and eight firms to implement and evaluate best-practice participatory ergonomic (PE) programs. This research will evaluate this unique partnership approach to the implementation of sustainable PE programs in the sector. Findings from this research will help Health and Safety Associations (HSAs) improve the effectiveness of their MSD prevention efforts.

Objectives:

- ▶ Complete the baseline, midterm and final employee surveys.
- ▶ Collect administrative data from all participating utilities.
- ▶ Conduct cross-sectional data analyses using baseline survey data.
- ▶ Conduct longitudinal data analyses that include process indicator variables as well as outcome variables.
- ▶ Complete qualitative data collection and analysis.
- ▶ Prepare manuscripts on evaluation findings.

Methods: Questionnaire distribution, data entry, data coding, descriptive analyses.

Results: Improvements in some leading indicators noted but detailed analysis is not complete. Factor analyses have been completed on a number of scales and they performed as predicted. Work on the validity of a new readiness for organizational change scale is ongoing.

Researchers: Philip Bigelow (Principal Investigator), Suzan Krepostman (Institute Coordinator), Donald Cole, Renée-Louise Franche, C. Boyle (Electrical and Utilities Safety Association), Sue Ferrier (contract), M. Frazer, D. Kramer (University of Waterloo), S. Maracle (Electrical and Utilities Safety Association), N. Theberge, R Wells (University of Waterloo)

Stakeholder Involvement: Electrical & Utilities Safety Association: E&USA personnel were integral in the development of the intervention and are partners in all aspects of the project. The participating firms have worked with E&USA in designing and implementing their PE programs. CRE-MSD is also a major partner in the project. The provide scientific and technical assistance to all partners (ergonomics, MSD prevention). All the partners are actively engaged in the program evaluation (Hamilton Utilities Corp, Guelph Hydro Electric Systems Inc, Hydro Ottawa, Thunder Bay Hydro; CRE-Prevention of Musculoskeletal Disorders).

Potential Audiences and Significance: Workplace parties, regulatory agencies, WSIB, other workplace insurers, and policy-makers.

Link to WSIB Policy & Program Priorities: Health & Safety: Effective Preventions of Injury & Illness

2007 Presentations:

Bigelow P. Evaluation of a health and safety association-initiated collaborative partnership to implement participatory ergonomic programs. 6 Mar 2007; Calgary, AB: E&USA Ergonomic Change Team Symposium.

Bigelow P. Meetings of the Steering Group. 19, 28 Jun 2007; 10 Jul 2007; 16 Aug 2007; Waterloo, ON: Centre of Research Expertise for the Prevention of MSDs (CRE-MSD).

Bigelow P. Facilitator: Interactive session on evaluating workplace interventions. 26 Jul 2007; Waterloo, ON: CRE-MSD Researcher Day.

Bigelow P, Krepostman S, Ferrier S, Maracle S, McKean C, Subrata P, Van Eerd D, Kramer D, and the Electrical & Utilities PE Evaluation Team (Boyle C, Cole DC, Frazer M, Wells R, Franche R-L, and Zohar D). The role of knowledge transfer and exchange in a health and safety association initiated collaborative partnership to implement participatory ergonomic programs. 14-17 Oct 2007. Proceedings of the Association of Canadian Ergonomists 38th Annual Conference.

Krepostman S, Bigelow P, Ferrier S, Maracle S, McKean C, Van Eerd D, Subrata P, Cole DC, Franche R-L, Kramer D, Wells R, Zohar D. Poster: Evaluation of knowledge exchange in a health and safety-initiated collaborative partnership to implement participatory ergonomic programs. 16-18 Apr 2007; Toronto, ON: Industrial Accident Prevention Association Conference.

Krepostman S, Bigelow P, Ferrier S, Maracle S, McKean C, Van Eerd D, Subrata P, Cole DC, Franche R-L, Kramer D, Wells R, Zohar D. Evaluation of knowledge exchange in a health and safety-initiated collaborative partnership to implement participatory ergonomic programs. Jul 2007; Waterloo, ON: CRE-MSD Researcher Day.

Van Eerd D, Bigelow P, Dixon S. Participatory ergonomic interventions: Processes, challenges, and outcomes. 16-18 Apr 2007; Toronto, ON: Industrial Accident Prevention Association Conference.

Funding:

Bigelow P, Cole DC, Ferrier S, Franche R-L, Frazer M, Kramer D, Lee W, Maracle S, Theberge N, Wells R, Zohar D. Evaluation of a HSA-initiated collaborative partnership to implement participatory ergonomic programs. WSIB RAC: 2005-2007 (\$292,000)

Evaluation of Overhead Patient Lifting Devices in Ontario (252)

Project Status: Completed

Introduction: Each and every day in Ontario, caregivers perform more than 2,500,000 lifts, transfers and repositionings of residents and patients in long-term care facilities and in chronic care and rehabilitation facilities. The lifting and transferring of patients and residents is one of the major causes of caregiver injuries in the institutional health care sector. In May 2004, the Government of Ontario announced a commitment to invest \$60M in fiscal year 2004/05 for the purchase and installation of patient lifting equipment in Ontario health care institutions. An additional \$29M was provided in 2005/06, specifically allocated to support the acquisition of overhead lifts.

Objectives:

- ▶ To evaluate the impact of the Patient Lift Initiative on facility lifting policies, caregiver training in patient/resident handling and lift assist ergonomics, caregiver awareness and knowledge of the new lifts, caregiver lifting practices, caregiver workload including measures of physical and biomechanical demands, patient/resident and caregiver ratings of quality of care and caregiver health outcomes including musculoskeletal pain and work-related injury.

Methods: The Ontario Patient Lift Evaluation Study (OPLES) has documented the integration of lifting equipment into routine caregiving in long-term care facilities and chronic care and rehabilitation facilities, measuring the impact of this initiative on facility lifting policies, caregiver training in patient/resident handling and lift assist ergonomics, caregiver awareness and knowledge of the new lifts, caregiver lifting practices, caregiver workload including measures of physical and biomechanical demands, patient/resident and caregiver ratings of quality of care and caregiver health outcomes including musculoskeletal pain and work-related injury. Primary data collection was conducted in 50 long-term care facilities over two measurement waves involving 1,800 caregivers. In addition, WSIB workers' compensation claims were examined over a six year period for all long-term care facilities in the province.

Results: The acquisition and installation of more than 19,000 patient/resident lifting devices in more than 650 health care institutions over a 24 month period is a significant achievement. The availability of installed and operating patient/resident lifting devices increased from 5.4 per 100 beds (March 2004) to 14.3 per 100 beds (March 2007) in the long term care sector and increased from 8.8 per 100 beds (March 2004) to 65.9 per 100 beds (March 2007) in the chronic and rehabilitation sector. A very high proportion of health care institutions receiving funding support under the MOH-LTC Patient Lift Initiative have adopted written policies and procedures supporting optimal caregiver practices in patient/resident lifting and transferring. Most facility policies follow guidelines developed by the Ontario Safety Association for Community and Healthcare. Consistent with the physical demands of caregiving in these settings, caregivers in the long-term care sector reported a high prevalence of musculoskeletal pain. Caregivers in the long-term care system reported performing an average of 35 lifts and transfers in a typical daily work shift. A total of 48% of lifts and transfers performed by caregivers in the long-term care sector were assisted by a floor or overhead lift. Further monitoring of caregiver musculoskeletal injuries over the period 2007-2008 will clarify the effect of the MOH-LTC Patient Lift Initiative on the health of caregivers.

Researchers: Cameron Mustard (Principal Investigator), Mickey Kerr (Principal Investigator), Philip Bigelow, Virginia Cale, Caroline Dickie, Roman Dolinschi, Jacob Etches, Janet Farrell, Brenda Gentles, Selahadin Ibrahim, Christina Kalcevich, Sandra Sinclair, Michael Swift, Marjan Vidmar, G. Fernie (TRI), M. Frazer (University of Waterloo), P. Keir (York University), H. Laschinger (University of Western Ontario), Nisha Wahlbhai

Stakeholder Involvement: M. Ringland, Ontario Association of non-profit Homes & Services for Seniors; K. Robinson-Holt, Ontario LTC Association; M. Francoeur, Ontario Hospital Association; J. Sikorski, Ontario Safety Association for Community and Health Care; B. Saunders, Occupational Health Nurses; L. Mitschele, WSIB; L. McGroarty, Registered Nurses Association of Ontario; A-M Hann, Registered Practical Nurses Association of Ontario; V. Thomas, Ontario Nurses Association; F. Ludwick, Canadian Union of Public Employees; R. Collie, Service Employee International Union; A. Ellenor, MoH-LTC; A. Duffy, Ministry of Labour; J. Higgins, WSIB.

Potential Audiences and Significance: The results of this evaluation will inform prevention program design targeting the prevention of work-related musculoskeletal disorders in institutional health care settings.

Links to WSIB Policy & Program Priorities: Health & Safety: Effective Preventions of Injury & Illness

2007 Presentation:

Mustard CA, Kalcevich C. CSA & OSACH Healthcare Safety Forum 2007: Ontario Patient Lift Evaluation Study.

Funding:

Kerr MS, Mustard CA, Bigelow P, Fernie G, Fraser M, Keiri P, Laschinger H. Evaluation of overhead patient lifting devices in Ontario. MoH-LTC: 2004-2007. (\$1,028,000)

Mustard CA. Evaluation of overhead patient lifting devices in Ontario – Weenebayko Long Term Care Facility. MoH-LTC: 2006-2007 (\$81,485).

WMSD: Evaluating Interventions Among Office Workers (430)

Project Status: Complete, minor revisions to papers required.

Introduction: Workplace parties have expressed considerable interest in evidence of effectiveness, evaluation of workplace programs designed to prevent and limit work-related musculoskeletal disorders of the neck and upper limb (WMSD). This final phase of collaborative research with the Star-SONG workplace partners aims to assess the impact of a joint labour-management directed program on all aspects of prevention of WMSD among office workers in the newspaper industry. With the completion of this phase, this multi-year project will be finished.

Objectives:

- ▶ The purpose of this study was to document short-term (3 month) outcomes in workers with WMSDs and to identify factors associated with higher levels of self-efficacy.
- ▶ Assess whether the "Stop RSI" Program results in a workforce-wide reduction in self-reported exposures to physical and psychological risk factors for WMSD with a concomitant reduction in the self-reported period prevalence and severity of WMSD symptoms and their associated disability.
- ▶ Evaluate an enhanced workplace WMSD surveillance system for risk factors and symptoms of WMSD.
- ▶ Monitor baseline levels of symptoms, function, work performance limitations and self-efficacy among those reporting WMSD to the occupational health centre and receiving a variety of individually-focused worksite interventions and clinical treatments funded by the workplace.
- ▶ Model changes in rates of sickness absence, rates of health-care utilization and associated costs for WMSD, to assess whether these measures are different across organizational units of the company or across groups of employees reporting different levels of risk factors and to determine whether the "Stop RSI" Program results in reductions in these measures over time.

Methods: Data was collected prospectively from workers (n=45) at a newspaper who reported to the Health Centre with pain. Burden measures (QuickDASH, RMQ, WLQ-16 and Self-efficacy) were assessed at baseline, 4 and 12-weeks.

Results: Substantial pharmaceutical utilization for MSD, with the majority paid for by negotiated health insurance. Rise in costs with introduction of COX2 inhibitors. Substantial physio utilization, higher than population rates but similar to those with low back pain. Majority covered by the workplace directly leaving concerns about physio accessibility for non-benefit plan employees in other workplaces. In multivariate analysis, changes in surface electromyographic indicators, some of which were associated with changes in workstation equipment, postures and tasks over three years among a small cohort of volunteers. Mean change in burden measures showed improvement. Individual trajectories identified distinct patterns among workers with change ($> \text{MDC}_{95\%}$, either improvement or worsening) versus no change ($\# \text{MDC}_{95\%}$). Higher self-efficacy and workers' expectation at baseline were associated with higher self-efficacy scores at 12-weeks.

Researchers: Donald Cole (Principal Investigator), Dorcas Beaton, Cynthia Chen, Sheilah Hogg-Johnson, Hyunmi Lee, Anjali Mazumder, Dwayne Van Eerd, A. Moore (York University), R. Wells (University of Waterloo)

Stakeholder Involvement: Toronto Star and Southern Ontario Newspaper Guild: have been extensively involved in on-site work and intervention formulation and implementation.

Potential Audiences and Significance: Workplace parties and practitioners, insurers including the WSIB and policy-makers (e.g., informing guidelines and regulations)

Links to WSIB Policy & Program Priorities: Health & Safety: Effective Preventions of Injury & Illness; Health Services: Effectiveness & Efficiency of Clinical Care

2007 Publication:

Beaton DE, Bombardier C, Cole DC, Hogg-Johnson S, Van Eerd D, and the Clinical Expert Group. Validity of a classification system for upper-limb musculoskeletal disorders in workers. Submitted: Arthritis Care Res

Evaluation of CSST Inspector Led Ergonomic Interventions (242)

Project Status: Ongoing consultation with IRSST.

Introduction: The evidence for the effectiveness of workplace interventions for reduction of work-related musculoskeletal disorders (WMSD) burden in workplaces remains inconclusive. A recent systematic review conducted at IWH found that inspector orders and enforcement could reduce injuries. One randomized controlled trial of a brief inspector-led ergonomic intervention was conducted in Australia but its generalizability to other jurisdictions and its impact on subsequent incidence of WMSD and lost-time costs remains unevaluated. The Quebec Health and Safety Council (CSST) has asked the Institute for Research on Safety & Health at Work (IRSST) to evaluate the impact of their inspector-led response to new cases of WMSD or to poor WMSD incidence profiles based on workers' compensation lost-time data. IWH has been asked to cooperate in the research to promote experience sharing with workplace intervention evaluations for WMSD.

Objectives:

- ▶ Conduct follow-up of the implementation of workplace interventions ordered by CSST inspectors and carried out by a range of public and private sector interveners.
- ▶ Measure the effects of interventions on worker exposure to risk factors for WMSD within a subset of companies.
- ▶ Evaluate the impact of the interventions on compensable WMSD claims by company.

Methods: Three independent components were piloted with approximately five organizations. The first documented the characteristics of the interveners in the organizational contexts, facilitators and barriers, the changes achieved and the indirect impacts of the interventions. The second used direct tools to assess the impact of the interventions on risk factors at selected workstations, immediately and at six months follow-up. The third was the design of a comparison of the intervention organizations with a comparison group to determine impacts on WMSD compensable injury rates.

Results: Pending

Researchers: D. Imbeau (Principal Investigator) (Montreal Polytechnical Institute), Donald Cole (Institute Coordinator), D. Denis (IRRST), M. St. Vincent (IRRST)

Stakeholder Involvement: CSST staff involvement.

Potential Audiences and Significance: Workplace parties (unions, health & safety professionals, company management), health & safety associations, and policy-makers (workers' compensation and labour) in Quebec and other jurisdictions including Ontario.

Link to WSIB Policy & Program Priorities: Health & Safety: Effective Preventions of Injury & Illness

High Risk Firm Initiative- Controlled-targeted Ontario Workplaces (432)

Project Status: Revised; Initial submission to CIHR was unsuccessful. However a project of more limited scope will be considered for 2008 pending external funding.

Introduction: In 2005, the Ontario Ministry of Labour (MoL) led the development of the Ontario High Risk Firm Initiative, a comprehensive approach to workplace health and safety that aligns the efforts of the MoL inspectorate and the technical consulting and training staff of the Health and Safety Associations (HSAs). Under this initiative, the Ontario government committed to the goal of reducing workplace injuries by 20 per cent over a four-year period. The initiative features two core elements: 1) enhanced inspection and enforcement of health-and-safety systems in Ontario workplaces; and 2) the delivery of education, training and consultation services. The initiative targets Ontario workplaces with the poorest health-and-safety performance. Early in 2005, the Institute for Work & Health was invited to lead in the development of options for an evaluation of the High Risk Firm Initiative. These evaluation options were discussed at a workshop held in Toronto on June 23, 2005 with participation from program staff at the MoL, the WSIB and the HSAs. At this workshop, Dr. Ben Amick, Dr. Barbara Silverstein and Dr. John Mendeloff participated as external discussants. They gave a strong endorsement of the value of a rigorous evaluation of the Ontario High Risk Firm Initiative. Discussions are underway to establish an appropriate mechanism for funding the evaluation. Currently a funding decision is pending based on a grant submission to CIHR.

Objectives:

- ▶ To assess whether the High Risk Firm Initiative (HRFI) produces changes in health and safety practices and final outcomes (claims rates; costs and consequences of the initiative) in Ontario firms with costs appropriate to effectiveness and benefits. Specific research questions include:
- ▶ Is there an overall reduction in firm level lost time (LT) and no-lost time (NLT) claims rates (frequency) and durations (severity) corresponding to implementation of the initiative over time?
- ▶ Do firms receiving different aspects of the intervention (inspection & enforcement, consultation & education) show differential changes in LT and NLT claims rates and durations and in organizational policies and practices for health and safety, as compared to each other and to untargeted firms?
- ▶ What are the firm level and system level costs and consequences associated with responding to different aspects of the intervention?
- ▶ How do interveners (inspectors and health & safety association staff) implement the intervention process and what practical strategies are used to enhance firm compliance or positive responses? Correspondingly, what processes of organisational change and learning occur in firms receiving different interventions?

Methods: A detailed evaluation protocol was developed, based on the recommendations of the June 2005 workshop. This protocol had four components: 1) plan to evaluate the system as a whole using secondary data sources; 2) primary data collection within a sample of firms, plus randomization of some firms to different components of the intervention; 3) economic evaluation of how firms react to intervention; 4) two qualitative studies - one studying firms and how they respond to the intervention and one studying the inspectors and HSA staff delivering the intervention.

Results: None to date.

Researchers: Donald Cole, Sheilah Hogg-Johnson, Cameron Mustard (Institute Coordinator's), Philip Bigelow, Kim Cullen, Roman Dolinschi, Jacob Etches, Selahadin Ibrahim, Ellen MacEachen, Lynda Robson, Peter Smith, Emile Tompa, Dwayne Van Eerd

Stakeholder Involvement: The Ontario WSIB provides funding for HSA activities under this initiative. WSIB senior staff have been active in developing information systems to monitor the activities and outcomes of the intervention. The MoL is responsible for coordinating the alignment of MoL and HSA activities under this initiative. MoL senior staff have been actively supporting the design and development of an evaluation protocol and endorse the evaluation as an important contribution to the Ministry's commitment to enhancing evidence to support policy and program development. Health and Safety Associations in Ontario have made a strong commitment to support the objectives of the High Risk Firm/Last Chance Initiative. To conduct the evaluation, all three (WSIB, MoL, HSAs) will be required to provide data resources.

Potential Audiences and Significance: The results of this research project will have major and broad implications for policy makers interested in the prevention of work-related injuries and the communication and enforcement of workplace safety standards at a system-wide level, both within and outside of Canada. This project will, for the first time, provide policy makers with detailed information on the differential impact of both increased inspections and enforcement and increased intensive education on lost-time and no-lost-time work injuries and firm-level safety practices. Further, we will also estimate the economic costs and benefits of these different approaches to work-injury prevention at both the workplace and province-wide level.

Link to WSIB Policy & Program Priorities: Health & Safety: Effective Preventions of Injury & Illness

Safety Climate Monitoring in Ontario (269)

Project Status: Ongoing

Introduction: This is a pilot project that will examine the feasibility of developing research in two areas. One, is the introduction of safety climate measures into Statistics Canada survey (the WES) and the other is the integration of safety climate monitoring into evaluation of firms in the manufacturing sector who are undergoing an OHS intervention.

Objectives:

- ▶ Examine the feasibility and cost of linking WSIB claims records (firm level) to firms that are in the current WES sample.
- ▶ Develop relationships with firms in the manufacturing sector who are in the Safety Groups program and examine the feasibility of incorporating safety climate monitoring in the Safety Group evaluations process.
- ▶ Develop a proposal for submission to the WSIB RAC or CIHR to conduct a more detailed investigation in these two areas.

Methods: Communication with stakeholders, power computations using WSIB data, analyses to determine the accuracy of linking WSIB and Statistics Canada (WES) data, preparation and submission of grants, and organization of a workshop.

Results: Proposals submitted to WSIB RAC and to WorkSafe BC. WorkSafe BC project was approved for funding, however the WSIB RAC was not. As the projects were linked the WorkSafe BC project could not be conducted. Safety climate workshop was delayed but is now scheduled for March 2008. Recruitment of firms has been successful. A poster session at IAPA was used as a method of informing stakeholders of the project and inviting firms to participate.

Researchers: Philip Bigelow (Principal Investigator), Sheilah Hogg-Johnson, Selahadin Ibrahim, Lynda Robson, Marjan Vidmar

Stakeholder Involvement: Investigators on the project include individuals from IAPA, the WSIB, Statistics Canada, and Dalhousie University.

Potential Audiences and Significance: Safety climate is a leading indicator of injury and illness in workplaces so the findings from this investigation will have interest to a wide range of stakeholders. The IAPA, other HSAs, and the WSIB are interested in interventions that improve safety climate. OHS professionals are interested because of the clear link to injury reduction with improved safety climate.

Link to WSIB Policy & Program Priorities: Health & Safety: Effective Preventions of Injury & Illness

2007 Presentation:

Tate G, Bigelow P, Stuewe D, Zohar D, Iverson R, Skarlicki D, Sharma M, Robson LS, Hogg-Johnson S, Evers T, Zhao R, Shermer P. Safety climate monitoring in Canada: Improving workplace safety through measurement & leadership development. 16-18 Apr 2007; Toronto, ON: Industrial Accident Prevention Association Conference.

Funding:

Bigelow P, Robson LS, Zohar D, Sharma M, Hogg-Johnson S, Evers T, Shermer P. Ontario safety climate monitoring. WSIB RAC-Bridging the Gap: 2007-2008 (\$22,481)

Tool Development

Stakeholders are always interested in seeing research information developed into highly practical and applied tools. Some primary prevention projects at IWH lead to this type of product, such as the economic evaluation workbook, which is currently under development. Others focus more on the validation of existing tools. Included also in this section are projects assessing the measurement properties (e.g. reliability and validity) of an existing tool, and developing a prevention system monitoring report.

2007 Quick Statistics

Completed projects (0)
Ongoing projects (3)
New projects (0)
Papers published or in press (13)
Peer review papers submitted (0)
Reports to WSIB or other Prevention System Partners (2)
Presentations of results and stakeholder consultations (0)
External grants awarded (1)

Findings of Note: (See project: 218R, p.70)

Economic Evaluation of Interventions for Occupational Health and Safety: Developing Good Practice
Edited by Emile Tompa, Anthony Culyer, and Roman Dolinschi

Undertaking economic evaluations of workplace-based occupational health and safety interventions can be difficult. This new book by IWH researchers and others aims to lay the foundation for a systematic methodology of economic evaluation of workplace interventions, by identifying the main barriers to research of high quality and practical relevance, and proposing a research strategy to remedy these weaknesses. It was written to appeal to the broad market of those interested in undertaking, commissioning, teaching, studying, or appraising economic evaluations of occupational health and safety interventions.

- Features a reference case that highlights best practice, helping readers ensure that the methods they use are based on sound economics and that principles are consistently applied.
- Provides detailed methodological guidance and recommendations, to prepare the reader for hands-on experience in undertaking economic evaluations in this area.
- Acknowledges the different systems in which economic evaluations can take place, by conducting an international survey of the institutional and regulatory context in several jurisdictions.
- A comprehensive glossary makes complex terms accessible to both the beginner and experienced practitioner and researcher.

Prevention System OHS Management Audit Tools: Description, Content Validation and an Assessment of the Feasibility of Measurement Research (267)

Project Status: Ongoing; Twelve eligible organizations with 17 eligible audit methods were identified. Thirteen key informant interviews have been conducted. Nine audit methods were observed in use. Ten auditors were interviewed. Data collection completed. Analysis underway.

Introduction: Occupational health and safety management system audits are used by workplaces or workplace stakeholders for several diagnostic or evaluative purposes, including the following:

- 1) identifying those aspects of the OHS management system for which improvement is warranted;
- 2) evaluating the impact of any workplace interventions to improve the OHS management system;
- 3) monitoring the OHS performance of the workplace;
- 4) determining whether the workplace meets a particular OHS management standard.

Given these applications of audits, it is important that they have good measurement properties (e.g., reliability, validity). Yet, a recent literature review (Bigelow and Robson, 2005) found that little has been published in the research literature about the properties of audit instruments.

Objectives:

- ▶ Describe and compare the OHS management system audit methods used by Ontario Prevention System partners, i.e., Ministry of Labour, WSIB Prevention Division, 14 Health & Safety Associations supported by the WSIB.
- ▶ Investigate the content validity of the audit instruments.
- ▶ Assess the feasibility of a larger study of the measurement properties of the audit methods.

Methods: Key informant interviews were conducted with eligible Prevention System organizations. Audit-related documents from these organizations were reviewed. The conduct of their audits were observed. Interviews with auditors conducted.

Results: Preliminary findings show some commonalities and differences across methods.

Researchers: Lynda Robson (Principal Investigator), Philip Bigelow, Lori Chambers, Garry Gray, Dwayne Van Eerd

Stakeholder Involvement: Eleven Health & Safety Associations (HSAs) and WSIB were partners in the grant proposal. The HSAs are:

Construction Safety Association of Ontario (CSAO)
Electrical & Utilities Safety Association of Ontario (E&USA)
Farm Safety Association (FSA)
Industrial Accident Prevention Association (IAPA)
Mines and Aggregates Safety and Health Association (MASHA)
Municipal Health & Safety Association (MSHA)
Ontario Forestry Safe Workplace Association (OFSWA)
Ontario Safety Association for Community & Healthcare (OSACH)
Ontario Service Safety Alliance (OSSA)
Pulp and Paper Health and Safety Association (PPHSA)
Workers Health & Safety Centre (WHSC)

Potential Audiences and Significance: Prevention System: Partner organizations can compare their own particular audit methods to those of other partner organizations and to the new Canadian OHS management system standard CSA Z1000. Comparisons could indicate ways in which organizations could modify their methods. Also, audits were seen by two partners as relevant to the anticipated OHS management system accreditation program that the WSIB will be launching.

Researchers: By examining content validity of a population of audit instruments, this study begins to address the gap in the research literature about the measurement properties of OHS audit methods.

Link to WSIB Policy & Program Priorities: Health & Safety: Effective Preventions of Injury & Illness

Funding:

Robson LS, Bigelow P, Van Eerd D, Gray GC. Prevention system OHS management audit tools: Description, content validation and an assessment of the feasibility of measurement research. WSIB RAC-Bridging the Gap: 2007-2008 (\$59,894)

Performance Measurement Report on the Ontario Prevention System for the Occupational Health and Safety Council of Ontario (249)

Project Status: Ongoing; report developed annually.

Introduction: This project continues pre-existing work of the System Measurement Sub-committee of OHSCO. The Sub-committee plans to continuously improve the quality of the performance indicators. This requires ongoing investigation of: opinions within the Prevention System, new concepts and techniques in the field, methods of data collection, and the strengths and limitations of data sources.

Objectives:

- ▶ Annually conduct a targeted scan of relevant research literature.
- ▶ Annually identify areas for improvement in the performance report.
- ▶ Investigate and develop new data sources and computation methods as required.
- ▶ Improve the efficiency, reliability and validity of the methods of data collection as required.
- ▶ Annually collect required data and produce report.

Methods: Consultation with OHSCO members used interviews. The content was analyzed to identify common themes. The workshop involved didactic and interactive presentations in the morning and brainstorming sessions with participants in the afternoon. Producing the report involved collecting data from various sources: a survey by the Sub-committee of OHSCO members; inquiries to key informants in the WSIB and MOL; Statistics Canada Labour Force Survey; and the websites of WSIB, MOL, and AWCB. Indicators were generated through aggregation and transformation of gathered data. Time trends in indicators were reported in the form of text, tables and graphs in an annual report

Results: The consultation yielded priorities for future direction for the report; and identified particular aspects for improvement. The workshop led to a revision of the survey data collection instrument, which should improve the acceptability and reliability of the collected data. A draft report on 2006 was completed.

Researchers: Lynda Robson (Institute Coordinator), Cameron Mustard

Stakeholder Involvement: The report was developed within the System Measurement Sub-committee of OHSCO. It involves interactions with OHSCO members on an ongoing basis.

Potential Audiences and Significance: The primary audience is OHSCO. Future reports may be disseminated more broadly, including to other jurisdictions.

Link to WSIB Policy & Program Priorities: Health & Safety: Effective Preventions of Injury & Illness

2007 Publication:

Robson LS, Speers JC, Kusiak RA, Burns BB. Development of a performance measurement report for the Ontario Prevention System. Policy and Practice in Health and Safety 2007; 5: 3-18.

Economic Evaluation for Workplace Partners & Systems Partners (218R)

Project Status: Ongoing

Introduction: Workplace parties have expressed ongoing interest in the ‘business case’ for workplace interventions to reduce the burden of injury and illness. In addition, policy-makers have solicited literature reviews and sought a greater emphasis on economic evaluation. The focus of this project was on developing a coherent framework and enhanced methods for economic evaluation of workplace interventions for health and safety. An environmental scan/methods paper was undertaken through work on project 960: Systematic Review of OHS Studies with Economic Evaluations. An international workshop on methods and application of economic evaluation as they apply to workplace OHS interventions was held in April 2006. The workshop proceedings will be published by Oxford University Press in 2008.

Objectives:

- ▶ Hold a workshop on good practices in the application of economic evaluation methods in workplace OHS interventions.
- ▶ Publish a book from the workshop.

Methods: Longitudinal multi-site study of health care sector employees (and their partners) who are taking maternity leaves, compared to other employees (and their partners). Three data collection points for the maternity group and two for the comparison group.

Results: Book to be published in early 2008.

Researchers: Emile Tompa (Institute Coordinator), Roman Dolinschi, Jacob Etches, Anthony Culyer, W. Gnam (Centre for Addiction & Mental Health), M. Grignon (McMaster University), A. Laport (University of Toronto)

Stakeholder Involvement: Some stakeholders for the WSIB and MoL attended the workshop held in April 2007. The book will also be distributed to a number of individuals at the WSIB, MoL and to researchers who undertake workplace intervention research. Stakeholders will continue to be involved in our next step as we undertake further workshops to develop applications.

Potential Audiences and Significance: Workplace parties (employers, workers, unions), researchers undertaking interventions studies, WCBs, Ministries of Labour.

Link to WSIB Policy & Program Priorities: Health & Safety: Effective Preventions of Injury & Illness

2007 Submissions for 2008 Release:

Amick B, Bigelow P, Cole DC. Workplace-researcher relationship: Early research strategy and avoiding the “data dearth”. In: Tompa E, Culyer AJ, Dolinschi R (Eds) Economic Evaluation of Interventions for Occupational Health and Safety: Developing Good Practice.

Culyer AJ, Amick B, Laporte A. What is a little more health and safety worth? In: Tompa E, Culyer AJ, Dolinschi R (Eds) Economic Evaluation of Interventions for Occupational Health and Safety: Developing Good Practice

Culyer AJ, Sculpher M. Lessons from health technology assessment. In: Tompa E, Culyer AJ, Dolinschi R (Eds) Economic Evaluation of Interventions for Occupational Health and Safety: Developing Good Practice.

Culyer AJ, Tompa E. Equity in economic evaluation. In: Tompa E, Culyer AJ, Dolinschi R (Eds) Economic Evaluation of Interventions for Occupational Health and Safety: Developing Good Practice

Gnam W, Grignon M, Dolinschi R. Time preference and uncertainty. In: Tompa E, Culyer AJ, Dolinschi R (Eds) Economic Evaluation of Interventions for Occupational Health and Safety: Developing Good Practice

Gnam W, Robson L, Kohstall T. Study design. In: Tompa E, Culyer A and Dolinschi R. (Eds) Economic Evaluation of Workplace Interventions for Health and Safety: Developing Good Practice. Oxford University Press.

Hotopp U, Mendeloff J, Pinilla Garcia J, Koeper B, Sinclair S, Tompa E, Clayton A, Eltard D. The institutional and regulatory settings for occupational health and safety: An international survey. In: Tompa E, Culyer AJ, Dolinschi R (Eds) Economic Evaluation of Interventions for Occupational Health and Safety: Developing Good Practice.

Laporte A, Dolinschi R, Tompa E. Costs. In: Tompa E, Culyer AJ, Dolinschi R (Eds) Economic Evaluation of Interventions for Occupational Health and Safety: Developing Good Practice

Mustard CA. The broad conceptualization of work and health. In: Tompa E, Culyer AJ, Dolinschi R (Eds) Economic Evaluation of Interventions for Occupational Health and Safety: Developing Good Practice

Tompa E, Culyer AJ, Dolinschi R. Suggestions for a reference case. In: Tompa E, Culyer AJ, Dolinschi R (Eds) Economic Evaluation of Interventions for Occupational Health and Safety: Developing Good Practice

Tompa E, Dolinschi R, de Oliveira C. Consequences. In: Tompa E, Culyer AJ, Dolinschi R (Eds) Economic Evaluation of Interventions for Occupational Health and Safety: Developing Good Practice

Tompa E, Dolinschi R, Niven K, de Oliveira C. A critical review of the application of economic evaluation methodologies in occupational health and safety. In: Tompa E, Culyer AJ, Dolinschi R (Eds) Economic Evaluation of Interventions for Occupational Health and Safety: Developing Good Practice

Tompa E, Dolinschi R, de Oliveira C. Interim report on a systematic review of OHS interventions with economic evaluations. Report prepared for the Systematic Review Initiative

Knowledge Transfer & Exchange Focus on Primary Prevention

Introduction: KTE have taken a lead role in facilitating stakeholders engagement in the Prevention Reviews program, in completing the final reviews, preparing summaries and developing strategies to disseminate and discussing their result.

KTE has continued to sustain relationships with workplace parties (employers, organized labour, health and safety associations (HSAs), ergonomists and kinesiologists) to ensure their early participation in formulating primary prevention research, and to ensure we have well established communication channels for disseminating findings. Creating stronger employer relationships will be a focus for IWH and the Centres of Research Expertise via the KTE Hub.

Audience: Workplace parties, prevention partners WSIB, MoL, and HSAs (E&USA, IAPA, OHCOW, OSSA).

Focus and messages: Evidence-based messages on the prevention of workplace injury with emphasis on MSDs.

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Work Disability Management and Prevention

The WSIB has a stated vision in The “Road to Zero” of eliminating all workplace fatalities, injuries and illnesses with the aim of reducing the lost time injury rate and the number of traumatic fatalities by 35% from 2007 levels. There is however ongoing recognition of the importance of evidence based strategies to manage and prevent further disability when injury and illness do occur. As the second of five fundamentals in the WSIB Strategic Plan 2008-2012, return to work is a critical focus and the Institute is well aware of the WSIB’s considerable interest in evidence on the quality and effectiveness of interventions to support safe sustainable return to work. Addressing the challenge of optimal return to work outcomes which support the functional recovery of injured workers and minimize workplace and societal costs requires coordination between workplace parties, the compensation insurer and healthcare system institutions and providers.

The Institute has been committed to the study of return to work issues for over a dozen years. Its research portfolio in this area includes systematic reviews, observational studies based on primary data collection, and observational studies using administrative or secondary data. This portfolio of work had led to the development of tools for practical application in workplace parties and the compensation system.

In 2007 our portfolio of research included the continued examination for the risk factors for chronicity and understanding the phenomenon of claims persistency as well as the examination of several interventions designed to improve the process and sustainability in return to work. As part of our focus in disability management and prevention our research in the measurement of health and function continued to engage the clinical staff of the WSIB specialty clinics.

2007 Quick Statistics

Completed projects (4)
Ongoing projects (21)
New projects (4)
Papers published or in press (29)
Peer review papers submitted (5)
Reports to WSIB or other Prevention System Partners (3)
Presentations of results and stakeholder consultations (44)
External grants awarded (23)

Examining Risk Factors & Barriers

The WSIB has identified improved RTW outcomes as a priority in reducing costs to the system. They articulate the need to fully support workplace parties in achieving more successful return to work outcomes and to reduce the costs of claims while respecting injured workers. Approximately 20% of disability episodes compensated by the WSIB involve duration disability longer than twelve weeks. There is some emerging evidence that the persistency of long duration disability episodes is increasing. Understanding the factors which may lead to or which may predict this long duration disability and poor return to work outcomes is a significant part of the IWH portfolio both in our observational and qualitative research studies described below. In this portfolio of work we are actively engaged with colleagues at CREIDO and with researchers across Canada and internationally.

2007 Quick Statistics

Completed projects (0)
Ongoing projects (2)
New projects (1)
Papers published or in press (3)
Peer review papers submitted (1)
Reports to WSIB or other Prevention System Partners (0)
Presentations of results and stakeholder consultations (9)
External grants awarded (3)

Findings of Note: (See project 341, p. 77)

Work accommodation, communication critical for early effective RTW

Work accommodation and targeted health care practitioner communication with the workplace are critical elements in an early workplace based return-to-work intervention program during the first month following an injury. This analysis was done using workers' compensation administrative data and self reported indices of work absence. Results generally converge and are consistent with the findings of systematic literature review.

Recurrence and Persistence of Work Absence: Understanding their Risk Factors and Long-term Impact on Workers' Health, Work Limitations, and Non-work Role Participation (341)

Project Status: Ongoing

Introduction: Following an occupational injury and work absence, recurrence of work absence is a critical outcome to consider when assessing sustainability of RTW. It is also associated with future persistent work absence. Indeed, 20% of injured workers with a musculoskeletal (MSK)-related lost-time claim have one recurrence or more of work absence in the first 6 months post-injury, and they are more than twice as likely as workers without recurrences to be still be off work (2005 IWH analyses). Our study seeks to identify the risk factors of long-term RTW trajectories of injured workers, and to describe the long-term health, work limitations, and non-work role participation consequences of such trajectories, with a focus on recurrent and persistent work absence.

Objectives:

- ▶ Identify modifiable workplace, insurer, healthcare provider (HCP), and worker risk factors for recurrent and persistent work absence over 24 months post-injury.
- ▶ Describe the differences in, and identify the determinants of, the health status, work limitations, and role participation in parenting and care giving of injured workers over 24 months post-injury, associated with four RTW trajectories:
 - a) Sustainable first RTW: No recurrence(s) of work absence with sustainable first RTW;
 - b) recurrence(s) with sustained RTW;
 - c) recurrence(s) without sustained RTW;
 - d) persistent work absence.
- ▶ Determine the impact of variations in definitions of recurrence of work absence (e.g., using administrative data vs. self-report) on rates of recurrences.
- ▶ Provide a comprehensive and long-term assessment of RTW trajectories by extending our cohort follow-up period up to 24 months.

Methods: We have conducted a prospective cohort study of 632 injured workers, who have filed a Workplace Safety and Insurance Board (WSIB) lost-time claim for an MSK-related work injury of the back or upper extremity (UE). To date, data collection for baseline, 6 month, 12 month, and 24 month follow-up telephone interviews of these claimants is complete. Linkage of the interview with WSIB data allows data extraction on compensation duration and history, leading to a comprehensive picture of the RTW trajectory.

The four RTW trajectories will be operationalized using both self-report of working status and duration of WSIB wage replacement benefits at 12 and 24 month post-injury. We will examine the following modifiable risk factors for recurrent and persistent work absence, using logistic regressions: Workplace-based disability management practices, organizational culture, job characteristics, healthcare provider communication with worker/workplace, insurer factors, worker psychological/physical factors. In addition, quality of life will be compared across the four RTW trajectory groups using MANOVAs, as indexed by physical and mental health (SF-12), work limitations (WL-16), depressive symptoms (CES-D), change in time spent in parenting and care giving roles, and pain medication consumption. Predictors of quality of life at 12 and 24 months post-injury will be examined using structural equation modeling. Finally, using descriptive analyses and sensitivity analyses, the impact of variations in definitions of recurrences on rates of recurrences will be examined.

Results: PARTICIPATION/ RETENTION RATES: 61% of the lost-time claimants who were eligible and successfully contacted participated in the baseline interview; of which 71% completed the 6-month follow-up interview; 61% completed the 12-month follow-up interview; and 43% completed the 24-month follow-up interview.

Further information about preliminary results of the study can be obtained from the papers noted below.

Researchers: Renée-Louise Franche (Principal Investigator), Colette Severin (Institute Coordinator), Jane Brenneman Gibson, Curtis Breslin, Nancy Carnide, John Frank, Sheilah Hogg-Johnson, Hyunmi Lee, Cameron Mustard, Marjan Vidmar, Pierre Côté, G. Hepburn (University of Lethbridge)

Stakeholder Involvement: WSIB staff have been involved in determining the main areas of research focus from the beginning of the project. They were also involved in the recruitment process of the study. WSIB has been involved from the beginning of this project in identifying objectives, participating in recruitment, and in knowledge exchange and transfer.

Potential Audiences and Significance: Current RTW interventions do not focus on preventing recurrence and persistent work absence. Our study will provide evidence to guide future RTW interventions, whether they are provided by WSIB or by other insurers/companies.

The outcomes of this study will be relevant to current and planned activities in return-to-work at WSIB. Specifically, the findings will strengthen WSIB case assessment ability, and assist in the design and selection of appropriate interventions. Furthermore, the study findings can be incorporated into WSIB's external education initiatives.

An important focus of our study is the assessment of work accommodation not merely as an "offer" but also a "process" and the consideration of its role in RTW trajectories. Our assessment incorporates both organizational and interpersonal aspects of the process, as well as type, timing, and process of the work.

Returning an injured worker to work following an occupational injury is the shared responsibility of the worker, employer, health-care provider, and the WSIB. This study will provide compelling evidence to support effective workplace-based disability management, integrated with insurer and health-care provider activities, to prevent recurrent and persistent work absence and facilitate sustainable RTW. We anticipate that the importance of involving all RTW parties will be supported, with the main locus of action being the workplace.

Links to WSIB Policy & Program Priorities: Return to Work: Prevention & Management of Work Disability; Health Services: Effectiveness & Efficiency of Clinical Care

2007 Publications:

Bültmann U, Franche R-L, Hogg-Johnson S, Côté P, Lee H, Severin CN, Vidmar M, Carnide N. Health status, work limitations, and return-to-work trajectories in injured workers with musculoskeletal disorders. *Quality of Life Research* 2007 Sep; 16(7):1167-1178.

Franche R-L, Carnide N, Hogg-Johnson S, Côté P, Breslin FC, Bültmann U, Severin C. The course and correlates of depressive symptomatology in workers following a workplace injury: A prospective cohort study. Submitted: *Scan J Work, Environ Health*

Franche R-L, Corbiere M, Lee H, Breslin FC, Hepburn CG. Readiness for return-to-work staging scale: Initial development and validation of a questionnaire. *J Occup Rehabil* 2007; 17(3): 450-472.

Franché R-L, Severin CN, Hogg-Johnson S, Côté P, Vidmar M, Lee H. The impact of early workplace-based return-to-work strategies on work absence duration: A 6-month longitudinal study following an occupational musculoskeletal injury. *J Occup Environ Med* 2007 Sep; 49(9):960-974.

2007 Presentations:

Bültmann U, Franché R-L, Hogg-Johnson S, Côté P, Lee H, Severin C, Vidmar M, Carnide N. Health status, work limitations, and return-to-work trajectories in injured workers with musculoskeletal disorders. Oct 2007; Banff, AB: The 19th International Conference on Epidemiology in Occupational Health (EPICOH 2007).

Carnide N, Franché R-L, Hogg-Johnson S, Côté P, Breslin FC, Bültmann U, Severin CN, Krause N. Course, diagnosis, and treatment of depressive symptomatology in workers following a workplace injury: A prospective cohort study. 17-18 May 2007; Vancouver, BC: 2nd Canadian Congress on Research on Mental Health & Addiction in the Workplace.

Carnide N, Franché R-L, Hogg-Johnson S, Côté P, Breslin FC, Bültmann U, Severin CN, Krause N. Course, diagnosis, and treatment of depressive symptomatology in workers following a workplace injury: A prospective cohort study. 8 Jun 2007; Toronto, ON: Research Action Alliance on the Consequences of Work Injury – Team Meeting.

Franché R-L, MacDonald K. Workplace-based return-to-work strategies – What works? 26 Sep 2007; Richmond Hill, ON: Workplace Health and Safety & Disability Management, 18th Annual Schedule 2 Employers’ Group Conference.

Severin C, Franché R-L, Hogg-Johnson S, Côté P, Vidmar M, Lee H. The impact of early workplace-based return-to-work strategies on work absence duration: A 6-month longitudinal study following an occupational musculoskeletal injury. 27-30 Aug 2007; Boston, MA: 6th International Scientific Conference on Prevention of Work-Related Musculoskeletal Disorders.

Funding:

Franché R-L. Cross-sectoral aspects of mental health in the readiness for return to work injured workers’ cohort. FRSQ Team Grant: 2006-2007 (\$15,800)

Franché R-L, Breslin FC, Côté P, Frank JW, Hepburn CG, Hogg-Johnson S, Mustard CA, Reardon R. Recurrence and persistence of work absence: Understanding their risk factors, and long-term impact on workers’ health, work limitations, and non-work role participation. WSIB RAC: (2006-2008) \$246,674

Improving Care By Identifying Risk in Workers with Low Back Pain (170)

Project Status: Ongoing; three papers underway—Prediction rules, identifying sub groups, and comparing prediction rules and subgroup approaches for workers on compensation due to low back pain.

Introduction: Although intervention strategies based on prediction rules seem promising, both effectiveness and cost-effectiveness have not been proven yet. In this project we will attempt to add evidence on the effectiveness of this approach.

The project will be divided in three parts.

1. Establishing prediction rules for duration of time until return to work with low back pain.
2. Establishing grouping/splitting rules to determine sub groups in the population of workers applying for disability benefits.
3. Formulating interventions based on these prediction and grouping rules.

Objectives:

- ▶ To determine which combination of factors predicts the duration of time of work in a worker who has filed a claim for disability benefits.
- ▶ To determine if and which subgroups exist in the population of workers applying for disability benefits.
- ▶ To establish an intervention strategy based on the results from 1&2.

Methods: Secondary analysis of Early Claimants Cohort data and Readiness for Return to Work Cohort data. After comparing a great number of different methods, Latent Class Analysis has been chosen as the methods used for clustering. The prediction rule will be built by means of Cox Regression analyses.

Results: Pending

Researchers: I. Steenstra (Principal Investigator), Renée-Louise Franche, Sheilah Hogg-Johnson (Institute Coordinators), Selahadin Ibrahim, Pierre Côté, J. Hayden (CREIDO-Toronto Western Hospital)

Stakeholder Involvement: Informal contacts with WSIB (Michell Schofield and Judy Geary); Clinicians and return to work coordinators at Rehab Solutions, Toronto Western Hospital; From research: Bill Shaw, Liberty Mutual (Hopkinton, MA, USA) and Steven Linton, Orebro University (Orebro, Sweden); Judy Geary and Frances Share have been approached. Anthony Mincone, Case Manager at WSIB will be available to provide feedback during the process.

Potential Audiences and Significance: The results from this project will be of interest to WSIB case managers referring workers to different interventions, health care professionals delivering interventions for return to work, employers with workers on disability due to low back pain. This project will be of interest to researchers since new methods will be used to reach the objectives.

Links to WSIB Policy & Program Priorities: Health Services: Effectiveness & Efficiency of Clinical Care

2007 Presentation:

Steenstra IA, Hogg-Johnson S, Anema JR, Knol DL, de Vet HCW, Bongers PM, van Mechelen M. An exploratory subgroup analysis in a randomized controlled trial on the effectiveness of workplace interventions in low back pain patients on sick leave. 27-31 May 2007; Boston, MA: PREMUS 2007.

An Ethnographic Study of Process and Experience with Labour Market Re-entry (247)

Project Status: New; project initiated October 2007.

Introduction: Although much research has been conducted on early and safe return to work, very little is known about situations when the return is not early or to the pre-injury employer. When workers cannot return to their original employment because of the nature of their injury or because their employers cannot (or will not) offer them continued work they become clients of the WSIB's Labour Market Re-Entry (LMR) Program. The LMR program is described by WSIB as aiming to provide the worker with the skills, knowledge, and abilities needed to successfully gain employment.

Objectives:

- ▶ Gain an understanding of how LMR is carried out and of the particular challenges and opportunities in the LMR process.
- ▶ Study direct injured worker and provider experience of LMR.
- ▶ Examine patterns of practice and behaviour.
- ▶ Locate experiences within broader contexts of regional differences (access to education, employment and healthcare) as well as contractual and practical aspects of LMR provider integration within the WSIB system.
- ▶ Identify areas of possibility (and concern) for the re-integration of injured workers to the workforce.

Methods: Although much research has been conducted on early and safe return to work, very little is known about situations when the return is not early or to the pre-injury employer. When workers cannot return to their original employment because of the nature of their injury or because their employers cannot (or will not) offer them continued work they become clients of the WSIB's Labour Market Re-Entry (LMR) Program. The LMR program is described by WSIB as aiming to provide the worker with the skills, knowledge, and abilities needed to successfully gain employment. The objective of this study is to gain an understanding of how LMR is carried out and of the particular challenges and opportunities in the LMR process. Using a sociological approach which examines patterns of practice and behaviour, we will study direct injured worker and provider experience of LMR. We will locate these experiences within their broader contexts of regional differences (access to education, employment and healthcare) as well as contractual and practical aspects of LMR provider integration within the WSIB system. In doing so, we will identify areas of possibility (and concern) for the re-integration of injured workers to the workforce.

Results: Pending

Researchers: Ellen MacEachen (Principal Investigator), Renée-Louise Franche, Iggy Kosny, S. Ferrier (Contract), K. Lippel (Université du Québec à Montréal (UQAM))

Stakeholder Involvement: Each of the supporters listed below has reviewed the study rationale and description and provided feedback on the overall study design. Each of the stakeholders has agreed to sit (or provide a representative) on the project's Advisory Committee which will meet four times over the course of the study. The committee members will provide feedback and suggestions regarding study progress, analysis, findings and the final report.

Judy Geary, Vice President, Program Development Division, WSIB.
Jorma Halonen, Director, Office of the Worker Advisor.

Michael Zacks, Acting Director, Office of the Employer Advisor
Jamie McDermid, Associate Director Employment Services, March of Dimes (LMR Provider)
Marion Endicott, Injured Workers Consultants
Peter Page, President, Ontario Network of Injured Workers Groups

Potential Audiences and Significance: Our findings will provide direct evidence and knowledge about how the LMR system works at the level of day-to-day practice. This study is expected to help WSIB policy makers with decision-making about LMR process, and identify best (and worst) practices in the re-integration of workers to the labour force. The study will have implications for injured workers, unions, employers (who are financially affected when former employees are on LMR), compensation system parties and private providers who are interested in the provision of efficient and effective service, and researchers interested in the broad RTW process.

Links to WSIB Policy & Program Priorities: Return to Work: Prevention & Management of Work Disability

Funding:

MacEachen E, Kosny A, Lippel K, Franche R-L. An ethnographic study of process and experience with labour market re-entry. WSIB-RAC: 2007-2009 (\$140,605)

Evaluating Interventions & Developing Tools

As in Primary Prevention, the research we conduct in work disability management and prevention may lead to the evaluation of specific interventions and to the development of tools on decision aids.

In this suite of projects we describe the evaluation of two return-to-work interventions and the development of tools or metrics for use with long term claims. IWH researchers are also contributing to a Canadian based international training initiative for young researchers interested in work disability prevention.

2007 Quick Statistics

Completed projects (0)

Ongoing projects (3)

New projects (2)

Papers published or in press (1)

Peer review papers submitted (0)

Reports to WSIB or other Prevention System Partners (0)

Presentations of results and stakeholder consultations (5)

External grants awarded (5)

Findings of Note (See project: 237, p.87)

Researchers and workplaces collaborate to develop disability management tool

IWH researchers are developing a workplace-level workplace disability management (WDM) information system in collaboration with workplace parties in Ontario to monitor WDM practices. Early indications are that this is an important initiative and stakeholders are interested in participating. Organizations see high utility in disability management process and outcome metrics.

RETORK- Ontario Trial of Sherbrooke Model (251)

Project Status: New; RCT has not yet begun, since funding has not been obtained. A grant has been awarded to get the input of workplaces on the content of the intervention.

Introduction: Scientists from IWH are participating in preparing a proposal for a workplace-based return to work (RTW) coordination intervention for injured workers. This initiative led by Dr. Carlo Ammendolia from CREIDO involves planning of a randomized controlled trial for injured workers with neck or low back pain in the subacute phase. The study will test the effectiveness of a model of care for Ontario workers with soft tissue injuries to the lower back and neck regions. This same model has been shown to be effective in Quebec and the Netherlands for subacute LBP.

Objectives:

- ▶ The objectives are to assess the impact of the RTW coordination intervention compared to usual care for work-related non-specific low back pain or non-specific neck pain with respect to 1) proportion of returned to work over one year 2) Time to return to work and number of compensated disability days over one year 3) patient-centred secondary outcomes (pain intensity, functional disability and health-related quality of life).

Methods: A randomized controlled trial in which injured workers, still off work at eight weeks, with non-specific low back pain (LBP) or non-specific (NSP) incurred at work will be randomized to either care under the RETORK protocol or to usual care. RETORK is an early intervention program in which usual care is augmented by a workplace RTW coordination designed to reintegrate the injured worker back into their pre-injury employment position. We will accrue 135 participants to each treatment arm to ensure 108 participants per group at the end of the one-year follow-up. Injured workers will be randomly allocated to the intervention and followed by computer-aided telephone interviews (CATI). Intention-to-treat and per-protocol analyses with covariate adjustment will be used to compare the proportion and rate of RTW in the two groups over the follow-up. The rate of RTW and the number of disability days will be compared across treatment arms. Patient-centred outcomes will also be compared over follow-up period. Multivariate regression techniques will be used to evaluate treatment effect modification and the impact of various prognostic factors on the rate of RTW.

Results: Pending

Researchers: C. Ammendolia (CREIDO - Toronto Western Hospital), Renée-Louise Franche, Ivan Steenstra

Stakeholder Involvement: Regular meetings with WSIB management staff have been ongoing during 2007. WSIB staff are involved as collaborators on this project. **Relevance:** The study addresses two priorities of WSIB: return to work, disability management, and rehabilitation and occupational diseases, injury and health services. The study will be relevant to RTW coordinators, rehabilitation and healthcare professionals, insurance and workplace parties.

Potential Audiences and Significance: Health care providers, WSIB disability managers will be interested in the findings. If the intervention works, knowledge exchange and translation (KTE) of our findings will help to achieve improved case management, quicker RTW, improved health recovery for the worker and cost saving for the employer, the WSIB and the Ontario Health Insurance Plan.

Links to WSIB Policy & Program Priorities: Return to Work: Prevention & Management of Work Disability; Health Services: Effectiveness & Efficiency of Clinical Care

Funding:

Ammendolia C, Franche R-L, Steenstra I. RETORK- Ontario trial of Sherbrooke model. Centre of Research Expertise in Improved Disability Outcomes (CREIDO): 2007-2008 (\$60,000)

Economic Perspectives on a Workplace Return to Work Clinical Trial (172)

Project Status: New

Introduction: Economic evaluations of return-to-work (RTW) programs to date have been conducted primarily from the insurer's perspective, due to lack of data from other cost perspectives (e.g., the employer, the injured worker, society, etc.). This project concerns empirical work needed to develop economic evaluations from the perspective of the employer.

Objectives:

- ▶ Determine the employer's costs in the RTW process.
- ▶ Develop a questionnaire to collect data at the workplace and support cost-effectiveness and other economic evaluations from the employer's perspective.

Methods: In this study, we will conduct in-depth interviews with key informants at the workplace to determine the employer's costs in the RTW process. The steps involve both identifying and valuing cost items for employers caused by injury absenteeism and RTW interventions. From this information, a questionnaire will be developed that can be used to collect data at the workplace and support cost-effectiveness and other economic evaluations from the employer's perspective.

Results: Pending

Researchers: G. van der Velde (Principal Investigator) (CREIDO), Sheilah Hogg-Johnson, Emile Tompa, H. He (CREIDO)

Link to WSIB Policy & Program Priorities: Return to Work: Prevention & Management of Work Disability

Funding:

He H, van der Velde G, Tompa E, Hogg-Johnson S. Economic perspectives on a workplace return to work clinical trial. WSIB RAC: 2007-2008 (\$29,914) (Administered Externally)

Developing Standardized Metrics for Work Disability Management Benchmarking (237)

Project Status: Ongoing

Introduction: Lack of standardization of measures and inconsistencies across work disability management data systems pose challenges for workplace parties, insurers, and researchers trying to estimate the total burden of work disability and improve work disability management (WDM) practices. Many workplaces want benchmarks of WDM experience to assist them in identifying leaders in WDM. Researchers need detailed common information to be able to make cross-organizational comparisons and evaluate the relative effectiveness of different WDM strategies. We propose a benchmarking collaborative that would standardize recording and reporting of WDM metrics in ways that meet the needs of workplaces, their organizations, and researchers.

Objectives:

- ▶ To develop an ongoing workplace-level WDM information system in collaboration with workplace parties in Ontario to monitor WDM practices.
- ▶ To improve the measurement properties of metrics on absence and disability that will lead to valid and reliable tools as part of standardized benchmark.

Methods: In Phase 1 of the pilot organizations received 265 metrics covering outcomes, processes, and satisfaction domains. Outcomes were largely based on Employer Measures of Productivity, Absence, and Quality standards developed in the U.S., while the process and satisfaction metrics were developed based on available literature. Key informants rated each metric on perceived utility and ease of provision. Twelve companies representing financial, education, healthcare, and pharmaceutical sectors participated in Phase 1. Metrics assigned high benchmarking utility and ease of provision by members of a peer group proceeded to Phase 2. Organizations self-assessed their WDM outcomes based on metrics developed in Phase 1. A descriptive analysis of the utility data from all companies and the outcomes data was carried out.

In Phase 2, organizations worked to supply the values for each of the outcome metrics for the years 2005-2006. Results were plotted by quarter and sub-domain for each metric. Maximum and minimum values were shown to represent the range of response across organizations. Results were based on data aggregated from eight companies that have provided data to date.

In phase 3, researchers met with each participating company to review data supplied in phase 2, to identify any gaps in the data, and to understand the processes used to supply the metrics.

Results: Phase 1 results indicated that process metrics were all rated as potentially useful with mean utility ratings ranging across various metrics from 3.00-4.92 on a scale of 0-5 (5=very useful). The utility ratings of the outcome metrics were more variable, with means ranging from 1.00-4.44. The lower ratings reflect several metrics from the Group Benefits and Emergency Leave domains. The first phase reduced the full set of metrics to 61%. Within the financial services group, we examined the highest rated outcome metrics by domain, namely: STD-active claims; LTD-active claims; casual absence-total lost workdays, and group benefits-program cost. Analysis of the outcome metrics revealed significant variability over time and between companies. Phase 2 data revealed significant variation between companies' ability to supply the data, and the actual values of the metrics varied substantially among the participants. Phase 3 review engagement successfully uncovered variations in the processes used to produce the metrics, some data collection and interpretation of the results from Phase 3 is ongoing.

The forum held in May was another important accomplishment. 54 out of the invited 55 various stakeholders attended. The clear message that was heard at the forum was that the WDMB is an important initiative and is something that stakeholders are potentially interested in participating. In conclusion, organizations see high utility in disability management process and outcome metrics. Since outcomes varied across companies and over time, an opportunity exists to benchmark performance as appropriate standards are achieved.

Researchers: Donald Cole (Principal Investigator), Irina Rivilis (Institute Coordinator), Ben Amick, Roman Dolinski, Sheilah Hogg-Johnson, L. Stephenson, A. Clarke, L. Scott (Disability Consultants)

Stakeholder Involvement: Partners: The Employers' Advocacy Council (EAC) has expressed strong interest in contributing to the development of broad based WDM benchmarking initiatives. In this project, IBM staff will primarily observe and provide comments on the metric development process, as they scope out the infrastructure requirements.; Workplaces: Three diverse organizations have expressed strong interest in collaboratively developing WDM benchmarking metrics and processes along with the research team: Glaxo Smith Kline (GSK) Canada, McMaster University, and Toronto Rehabilitation Institute (TRI). In addition eight financial services organizations are participating in a parallel project; The Institute for Work & Health, as a major applied research resource in the WSIB funded occupational health and safety system, houses three of the five members of the research team and will be the primary location for ongoing research design and data analysis. Clarke, Brown & Associates and Organizational Solutions, as WDM consulting companies interested in applied research to improve WDM practices and outcomes, will play major roles in interfacing with workplaces and other partners, including workshops, data collection and guidance on WDM improvement opportunities. Three diverse organizations have expressed strong interest in collaboratively developing WDM benchmarking metrics and processes along with the research team: Glaxo Smith Kline (GSK) Canada, McMaster University, and Toronto Rehabilitation Institute (TRI). In addition eight financial services organizations are participating in a parallel project. The Employers' Advocacy Council (EAC) has expressed strong interest in contributing to the development of broad based WDM benchmarking initiatives. In this project, IBM staff will primarily observe and provide comments on the metric development process, as they scope out the infrastructure requirements.

Potential Audiences and Significance: Many stakeholders call for more explicit evidence for WDM but good economic and health evaluations of workplace interventions are rare, primarily because of the lack of access to data required to perform them. Hence, potential audiences for this initiative would include workplaces that express interest in benchmarking their disability experience against others. Partners such as The Employers' Advocacy Council (EAC), other safety groups and health and safety associations, researchers and WDM consultants are potential audiences for this work.

Link to WSIB Policy & Program Priorities: Return to Work: Prevention & Management of Work Disability

2007 Presentation: Rivilis I, Amick B, Cole DC, Clarke A, Scott L. Poster: Benchmarking work disability management – Preliminary results of utility and outcomes. 9-12 Oct 2007; Banff, AB: The 19th International Conference on Epidemiology in Occupational Health.

Funding:

Cole DC, Hogg-Johnson S, Tompa E, Franche R-L, Côté P. Workplace disability management benchmarking collaborative. Eight finance service sector contributions: 2006-2007 (\$80,000)

Cole, DC, Scott L, Clarke A, Hogg-Johnson S. Developing standardized metrics for work disability management benchmarking. WSIB RAC: 2006-2007 (\$59,932)

Exploring Multimorbidity: Identifying the Most Prevalent Persistent Health Conditions, their Co-occurrence, and their Relationship with Work Absence and Work Limitations in Healthcare Workers (131)

Project Status: Ongoing; received developmental funding; awaiting full grant funding decision.

Introduction: Research on work disability has primarily focused on musculoskeletal (MSK) disorders and work-related disorders, and has seldom considered other health conditions. In the context of MSK disorders, the impact of co-occurring conditions (multimorbidities) is often only examined by controlling for their confounding effects. Various persistent health conditions are individually associated with both work absence and work limitations, but it is less well understood how multiple conditions within an individual combine to influence work disability. We will examine the co-occurrence, and relationship with both work absence and work limitations, of the most prevalent persistent health conditions, using two databases – Statistics Canada’s 2005 National Survey of the Work and Health of Nurses (NSWHN) and the British Columbia Linked Health Database (BCLHD). We focus on the healthcare sector as it is a high-risk sector for work disability, with an aging workforce, multiple organizational challenges, and higher rates of lost-time injuries and absenteeism than other sectors. This study will assess the prevalence of persistent health conditions, their co-occurrence, and their relationship with work absence and work limitations in two samples of healthcare workers, using two methodologies – one using self-reported conditions and the other using administrative data indexing presence of conditions.

Objectives:

- ▶ To assess the prevalence of and relationship between co-occurring persistent health conditions in approximately 100,000 healthcare workers in British Columbia (representing a retrospective cohort over a 10 year period) and in 18,676 Canadian nurses (representing a cross-sectional random sample).
- ▶ To assess the relationship between individual and co-occurring persistent health conditions (multimorbidities) and a) work absence in healthcare workers of British Columbia; and b) both work absence and work limitations, in Canadian nurses.
- ▶ Compare the findings obtained using a) self-reported survey data of Canadian Nurses (NSWHN) and b) administrative data of healthcare workers in British Columbia (BCLHD) and the feasibility of the two different methods.
- ▶ Familiarize researchers with new datasets rich with information about work disability, work conditions, organizational factors, and health.

Methods: NSWHN: This sample consists of 18,676 employed regulated nurses (registered nurses, registered psychiatric nurses, licensed practical nurses) across Canada, who answered a self-report survey, with a response rate of 80%. Data are housed at Statistics Canada Research Data Centres (RDCs). We will focus our analyses on persistent health conditions reported to be highly prevalent in this sample. We will examine their co-occurrence using a number of previously used methods to examine multi-morbidity, and examine how different types of multimorbidity may be associated with self-reported work limitations and absences. We will also examine the association between a variety of sociodemographic, workplace, psychosocial, and health-related factors, in conjunction with the most prevalent persistent health conditions and measures of multimorbidity, with work limitation and absence indices.

BCLHD: A research database will be constructed that links at the individual-level (using previously established probabilistic linkage procedures) an external registry of workers in the acute care sector in British Columbia with health data in the BCLHD, including workers’ compensation claims data.

Additional linkages will be made with long-term disability (LTD) and extended health benefits via the Health Benefit Trust (HBT), the provincial provider of health benefits for the BC health care industry and a research partner organization. Data is currently available for the period 1991 to 2001 for a population of approximately 100,000 workers. Decision rules will be developed regarding how to group the ICD-9 diagnoses. We will examine co-occurrence of health conditions using a number of previously used methods to examine multi-morbidity. Work limiting impact of the most prevalent persistent health conditions will be estimated using the LTD claims data and workers' compensation data.

Results: N/A

Researchers: Renée-Louise Franche (Principal Investigator), Nancy Carnide, J. Guzman (Occupational Health & Safety Agency), M. Koehoorn (University of British Columbia)

Stakeholder Involvement: None at this point.

Potential Audiences and Significance: The findings of this study will provide valuable information on multimorbidity of prevalent health conditions and its impact on work disability in healthcare workers. It will also lead to a better understanding of multimorbidity (and types of multimorbidity) as risk factors for persistent lost-time claims, a top priority for the Workplace Safety and Insurance Board (WSIB), and for prolonged work absence as indexed by long-term disability claims. This will pave the way for future analyses examining more extensively how workplace and organizational factors interface with health conditions, which in combination, can lead to work disability. Findings will be disseminated through the usual channels of the Institute for Work & Health, CREIDO, and OHSa KTE activities to key partners, including professional associations, unions, employer groups, and the WSIB.

Links to WSIB Policy & Program Priorities: Return to Work: Prevention & Management of Work Disability; Health Services: Effectiveness & Efficiency of Clinical Care

2007 Presentation:

Franché R-L, Corbière P, Côté P, Coutu M-F, Guzman J, Imbeau D, Larivière C, Lippel K, Loisel P, MacEachen E. Developing a RTW/SAW recovery model of episodic health conditions: Building an integrated cross-jurisdiction cohort of healthcare workers. Aug 2007; Toronto, ON: Centre of Research Expertise in Improved Disability Outcomes (CREIDO)

Funding:

Franché R-L, Corbière M, Côté P, Imbeau D, Larivière C, Loisel P, Carnide N. Determinants of return-to-work and stay-at-work: Building an integrated cross-jurisdictional cohort. Work Disability Prevention FRSQ Research Team: 2007-2008 (\$10,000)

Training Initiatives in Work Disability Prevention (144)

Project Status: Ongoing

Introduction: The Institute is internationally recognized for its expertise in evidence-based practice, measurement research and work disability prevention (WDP). It has received an increasing number of requests to share its expertise and to contribute to the education and training of educators, clinicians and future researchers.

Objectives:

- ▶ To influence the next generation of health-care professionals and research trainees by participating in the development and execution of various training initiatives.

Methods: Many scientists at the IWH are involved as mentors or committee members for this CIHR training initiative in work disability prevention.

Results: Many scientists have participated as mentors and/or given courses during the two week summer session of the Work Disability Prevention Program at the University of Sherbrooke in Montreal - Sheilah Hogg-Johnson, Ellen MacEachen, Curtis Breslin, Emile Tompa and Donald Cole. In addition, Ellen MacEachen is now on the Program Advisory Committee, after Renee-Louise Franche ended her term in the summer.

Researchers: Renée-Louise Franche (Institute Coordinator), Dorcas Beaton, Claire Bombardier, Donald Cole, Andrea Furlan, Sheilah Hogg-Johnson, Carol Kennedy-Yee, Ellen MacEachen, Vicki Pennick, Pierre Côté, J. Guzman (Occupational Health & Safety Agency), J. Hunter (Dept of Physical Therapy, University of Toronto), P. Loisel (Sherbrooke University)

Stakeholder Involvement: Students, educators, health care providers, policy-makers, researchers and trainees may be consulted during the development of the various training initiatives. Systematic review workshops will be conducted in collaboration with the Toronto Cochrane Coordinator (R. Wong).

Potential Audiences and Significance: The IWH training initiatives will be of particular interest to health-care professional students, educators, clinicians, and research trainees.

Link to WSIB Policy & Program Priorities: Return to Work: Prevention & Management of Work Disability

2007 Publication:

Cann AP, MacEachen E, Vandervoort AA. Lay versus expert understandings of workplace risk in the food service industry: A multi-dimensional model with implications for participatory ergonomics. In Press: Work

2007 Presentation:

Carlan N, Hall A, MacEachen E, Spencer D. Occupational health knowledge creation and diffusion in the Ontario auto sector. Sep 2007; Aberdeen, UK: Work, Employment and Society Conference.

Funding:

Loisel P, Bombardier C, Franche R-L et al. Training new investigators in work disability prevention. CIHR: 2002-2007 (\$1,800,000.) (Administered at University of Sherbrooke)

Examining Effects of Compensation Policy & Regulation

Over the course of regular meetings with WSIB staff in 2007, the Institute has identified a number of opportunities for our research to contribute to understanding the factors related to long-duration disability episodes. This includes analyses of the markers of claims persistency under two different sets of legislation Bill 162 and more recently Bill 99.

The examination of wage replacement benefits is another area of IWH research which is highly relevant to workers' compensation policy in managing work disability in Ontario and other jurisdictions. One of the objectives of our research is to understand the adequacy and equity of long term disability income loss compensation programs. This work attempts to answer questions about earnings loss post-injury and the impact of workers' compensation system policies on the lives of injured workers. This ongoing research program considers the post-accident experience of individuals who have sustained permanent impairment due to a work-related accident occurring in Ontario and BC. This research is supported by grant funding from the U.S. National Institute of Occupational Health & Safety (NIOSH) and WorkSafe BC.

A third area of study follows the Institutes' long standing commitment to conduct research that informs compensation policy and practice that responds to the needs of seriously injured workers and other particular groups of workers. One of the key objectives in this area is to provide evidence based research that responds to the knowledge gaps in understanding the consequences of work injury and to understand the impact of legislation, policies and programs on these consequences within different groups of workers.

2007 Quick Statistics

Completed projects (3)
Ongoing projects (7)
New projects (1)
Papers published or in press (2)
Peer review papers submitted (4)
Reports to WSIB or other Prevention System Partners (3)
Presentations of results and stakeholder consultations (13)
External grants awarded (10)

Findings of Note: (See project: 244, p.102)

Physicians' role in the workers' compensation system; examining inter-system practices and processes contributing to claim complexity and duration

The physician is a key player in the compensation system, in injured workers' recovery, and return-to-work. Problems occurring at the nexus between the health care and compensation system complicate workers' progression through the system and prolong claims: the problem of access--- geographic barriers to appropriate and timely care; the problem of knowledge -- diagnostic doubt and conflicting medical opinions fit poorly with compensation system expectations and requirements, leading to delays and complications; the problem of communication and understanding -- workers and physicians have incomplete and poor understanding of compensation system requirements. Continued discussion is needed between compensation system parties to find better ways to serve injured worker health care needs and facilitate a smooth relationship between the compensation board and health care providers. Clearer communication between all compensation system parties and reduced administrative burden of working with the compensation system is needed.

Understanding Disability Insurance in Canada: Issues and Research Opportunities (404)

Project Status: Completed

Introduction: In Canada, the provision of income insurance for labour market earning losses arising from disability in working-age populations is provided by five primary sources. Unlike many other Organization for Economic Co-operation and Development (OECD) economies, in Canada these income security programs are poorly integrated. They have different definitions of disability, differing conditions for eligibility and duration of entitlement and different levels of benefit generosity. There are deficits in our understanding of the economic circumstances of disabled working-age adults, especially around information on the change in household economic well-being following the onset of disability. There is only limited information available in Canada on the demographic or occupational characteristics that influence the probability of eligibility for specific insurance programs. Additionally, there is very limited information on the consequences to economic well-being arising from work disability.

Objectives:

- ▶ To describe the number of working-age Canadians receiving disability income security benefits and estimate the sources and amounts of benefits.

Methods: This project will use the Survey of Labour and Income Dynamics, a labour market panel study. The SLID is composed of two panels, each containing roughly 15,000 households. A panel is contained in the SLID sample for six consecutive years. The Ontario sub-sample of the SLID contains approximately 14,500 respondents. Up to 12 interviews are conducted with each SLID respondent over the six year panel duration, collecting information on respondent's labour market activity, occupation, income and income sources. In addition, the SLID collects information on disability status and on health status. The sample design of the SLID will support the measurement of the incidence of work disability among Ontario labour force participants and the subsequent sources of disability income insurance received by the disabled worker.

Results: Income security benefits for labour market earning losses arising from disability in working-age populations in Canada are provided by four primary sources: 1) the federal Canada Pension Plan's disability benefit program, financed by employer and employee compulsory payroll taxes, 2) provincial worker's compensation agencies, funded by premiums paid by employers, 3) provincial social assistance programs, funded by general tax sources, and 4) employment-based (and typically employee-funded) long-term disability plans. In 2001, 5.1% of Canadians aged 15-64 received disability benefits. CPP(D) provided \$2.4 billion in benefits to 279,000 beneficiaries, provincial social assistance programs provided \$3.4 billion in benefits to 351,000 beneficiaries, provincial workers' compensation agencies provided \$2.3 billion in benefits to 130,000 beneficiaries and employment-based long-term disability plans provided \$4.4 billion in benefits to 166,000 beneficiaries. At ages 55-64, approximately 11% of working age Canadian were receiving a disability benefit. In addition, approximately 386,000 working age Canadians with disability were not participating in the labour force and were not receiving disability benefits. In 2001, disabled Canadians received a total of \$12.7 billion in income security benefits. The Canadian disability benefit system combines contributory schemes based on labour force participation with non-contributory mean-tested disability income security programs. Benefit amounts differ substantially between programs and there appear to be significant inconsistencies in program coverage.

Researchers: Cam Mustard (Principal Investigator)

Stakeholder Involvement: Human Resources Development Canada to be involved in discussions of the results of this project.

Potential Audiences and Significance: The results of this work will inform policy audiences with interests in understanding the experience of disabled persons in the context of multiple programs providing disability income protection. The study will provide original information not currently available in Canada. These questions are of long-standing policy interest at the federal, provincial and municipal level in Canada.

Link to WSIB Policy & Program Priorities: Return to Work: Prevention & Management of Work Disability

2007 Publication:

Mustard CA, Dickey C, Chan S. (2007) Disability income security benefits for working-age Canadians. Submitted: Healthcare Policy (WP # 339)

Dynamics of Parallel Systems of Finance: Interactions between Canada's Workers' Compensation Systems and Public Health Care Systems (462)

Project Status: Completed

Introduction: The purpose of this project is to examine the feasibility of conducting a program of research investigating the nature and effects of interactions between Canada's provincial workers' compensation systems and the publicly-funded provincial health-care systems. With short-term funding from CIHR, this project will identify opportunities for future research that may inform the development of health-care policy related to the public funding of health care services. The comparative analysis of the two systems may foster understanding on how to best organize and deliver high-quality care to Canadians, both within health-related aspects of the workers' compensation systems and the publicly-financed health-care systems.

Objectives:

- ▶ Complete a policy analysis describing the workers' compensation system and its relationship to and interactions with the public health-care system, analyse key points of policy conflict, identify key policy questions and identify key research questions.
- ▶ Complete an assessment of the availability of data to address key research questions including an assessment of the feasibility of linking workers' compensation claim records to administrative records in the public insurance systems.

Methods: Literature review and consultation with OH&S stakeholders.

Results: This project used a case study approach to document and analyze the interactions that arise between two health care payers in Canada: the provincial public health care insurance plans and the provincial Workers Compensation Boards. Through a documentary review and semi-structured key-respondent interviews, the study identified a set of policy events and decisions undertaken by each payer that had consequences for the other. These events, which included changes to governance, funding, and service delivery within each system, generated interactions transmitted through the political environment, the institutional environment, the economic environment (primarily through competition for the same resources) and cross-system learning. The two payers currently lack a formalized process by which to consider such spillover effects and to coordinate policy between them. These interactions and their associated consequences for both payers raise important policy challenges and provide insight into the dynamics of parallel system of health care finance more generally.

Researchers: J. Hurley (Principal Investigator) (McMaster University), Cameron Mustard (Institute Coordinator), Emile Tompa, Anthony Culyer, W. Gnam (Centre for Addiction & Mental Health), J. Lavis (McMaster University)

Stakeholder Involvement: Over the course of the project, consultations will be held with senior managers and policy-makers in provincial workers' compensation agencies and in provincial public health care insurance authorities.

Potential Audiences and Significance: This work will be of interest to workers' compensation agencies and policy-makers responsible for the financing of the public health-care system in Canadian provinces and territories.

Link to WSIB Policy & Program Priorities: Health Services: Effectiveness & Efficiency of Clinical Care

2007 Publications:

Hurley J, Pasic D, Culyer AJ, Gnam W, Lavis JN, Mustard CA. Parallel lines do intersect: Interactions between the workers' compensation health system and the public health care system in Canada. Accepted: Healthcare Policy [IWH WP # 336]

Hurley J, Pasic D, Culyer AJ, Gnam W, Lavis JN, Mustard CA. Parallel payers and preferred access: How Canada's worker's compensation boards expedited care for injured workers. Accepted: CMAJ

WSIB Lost-time Injuries and Income Sources Post-injury (406)

Project Status: Ongoing; data linkage completed Q4 2007.

Introduction: Better understanding of the adequacy and equity of income-loss compensation for individuals sustaining permanent impairment due to a workplace accident is needed. This project focuses on two key concerns. First, how successful are injured workers in re-entering the labour force and recouping at least a fraction of their earnings, and what characteristics determine success? Second, does workers' compensation adequately and equitably replace lost earnings? The first phase of the project will focus on addressing these two issues in Ontario. In the second phase we will investigate cross-jurisdictional differences in program adequacy and equity for a similar population using data from British Columbia and several U.S. jurisdictions. In the third phase, we will investigate the post-accident earnings experiences of individuals sustaining a temporary work disability arising from a work-related accident. The Institute will collaborate with the WSIB and workers' compensation insurers and Statistics Canada to secure the necessary data for these studies.

Objectives:

- ▶ Phase One: Permanent Impairment in Ontario
 - To determine the degree of and factors influencing labour-market success and the adequacy and equity of workers' compensation income benefits under two Ontario programs.
 - To describe the changes in individual and family income sources before and after permanent impairment and family formation/dissolution patterns after permanent impairment.
- ▶ Phase Two: Permanent Impairment Benefits in Additional Jurisdictions
 - To compare adequacy and equity of workers' compensation program across-jurisdictions.
- ▶ Phase Three: Temporary Work Disability in Ontario
 - To describe the long-term labour-market earnings of these individuals.

Methods: There are two parts to this project and the principal data source for both Part 1 and 2 is the Longitudinal Administrative Databank (LAD). Part 1 is focused on long-term disability beneficiaries, and Part 2 on short-term disability beneficiaries. For the descriptive analyses, a control group for each event observation will be identified through a matching based on characteristics such as age, gender, labour-market earnings over the four years prior to accident, and region of residence at the time of accident. The descriptive analysis will consist of an evaluation of the adequacy and equity of wage replacement rates offered by the two long-term disability programs under analysis. For the analytical component, post-accident labour-market earnings will be modeled using a fixed-effects, difference-in-differences regression analysis framework. Other related analyses will also be undertaken to investigate the social and economic costs of work injury based on the matched event-control and regression frameworks.

Results: Pending

Researchers: Emile Tompa (Principal Investigator), Miao Fang, Cameron Mustard, Sandra Sinclair, Marjan Vidmar

Stakeholder Involvement: Linda Jolley (WSIB) and Steve Mantis (Canadian Injured Workers Alliance) since inception. A working group of senior WSIB members was formed in 2002: Judy Geary, John Slinger, Richard Allingham, Joe Sgro, and Robert Dean. Dr. Robert Reville (RAND) has also provided helpful comments at several points during the project; Key stakeholder involvement will be with WSIB policy-makers, Steve Mantis, and some of the researchers from the WCRG in the US (e.g., Les Boden)

Potential Audiences and Significance: This project is of interest to both workers and workers' compensation insurance providers. Ontario WSIB policy-makers are interested in the comparison of the two benefit programs. The cross-jurisdictional comparisons will be of interest to insurance providers and workers across North America. The U.S. National Institute of Occupational Safety & Health is partially funding this research.

Link to WSIB Policy & Program Priorities: Return to Work: Prevention & Management of Work Disability

External Funding:

Tompa E, Mustard CA, Sinclair S. Post-accident earnings and benefits adequacy and equity.
NIOSH: 2004-2007 (\$150,000 US)

Adequacy & Equity of BC Workers Compensation Benefits (418)

Project Status: Ongoing

Introduction: Prior to June 30, 2002, WorkSafe BC had a bifurcated award system for compensating long-term work disability arising from work-related accidents. Two methods of benefits calculation were considered with each claim—a loss-of-function/permanent-impairment benefit and a loss-of-earning-capacity benefit. A worker was eligible for whichever benefit was higher. Bill 49, effective June 30, 2002, introduced a single award system for long-term work disability benefits based on loss-of-function. There are concerns that the change in benefits policy will have an adverse impact on some beneficiaries, particularly those who would have received a loss-of-earning-capacity benefit under the old system. Other changes to the short- and long-term disability benefit programs may also have an adverse impact on the adequacy and equity of wage-replacement benefits received by injured workers. These include a change of the benefit formula from 75% pre-tax to 90% after tax of pre-injury earnings, changes to cost-of-living adjustment, integration of CPP disability benefit into the benefits formula, and changes to benefits received after age 65.

Objectives:

- ▶ The purpose of the proposed study is to investigate the impact of changes in benefits calculation on the financial circumstances of workers' compensation beneficiaries. It will investigate the adequacy and equity of wage-replacement benefits provided by the pre- and post-Bill 49 benefit programs. Following is a list of research issues to be investigated: 1) earnings and earnings losses; 2) lost earnings replacement; 3) differences earnings losses between women and men; 4) regional differences in earnings losses; 5) principal income sources post accident; 6) marital formation/dissolution post accident.

Methods: We plan to use a sample of long-term disability claimants from the pre-June 2002 claimant cohort to undertake a counterfactual analysis, i.e., the benefits the cohort would have received if they were to receive benefits under Bill 49. The sample frame will be claimants who had a work accident between 1990 and 1994. This frame will be linked to the Longitudinal Administrative Databank (LAD), which is a 20% random sample of Canadian tax filers. Actual benefits received by claimants will be linked along with an identifier indicating the type of benefits received (i.e., loss-of-function or loss-of-earning-capacity benefit). We would expect to identify approximately 18-19% of this frame in the LAD, based on previous work. For each claimant identified in the LAD we will estimate on a yearly basis: 1) the after-tax labour-market earnings before and after the accident year, 2) the pre- and post-Bill 49 benefits, 3) the earnings recovery rate post-accident, and 4) the lost wage-replacement rate with pre- and post-Bill 49 benefits. Earnings recovery and wage-replacement rates will be calculated in two ways: 1) a comparison with pre-injury, after-tax earnings, and 2) a comparison with a sample of uninjured counterparts that have similar socio-demographic characteristics and earnings profiles prior to the accident year. Linkage and analyses for short-term disability claimants will be based on frames from calendar years 1996, 1998, 2000, and 2002.

Results: Analysis of impact of Bill 49 suggests that new program reduces wage-replacement rates but meets targets.

Researchers: Emile Tompa (Principal Investigator), Jacob Etches, Miao Fang

Stakeholder Involvement: A key knowledge transfer and exchange activity for this study will be frequent consultations with WorkSafeBC policymakers and worker representatives over the course of the project. Ongoing consultation over the duration of the research will ensure that the analyses undertaken and results

obtained are framed appropriately and address all the relevant issues. Two meeting with BC stakeholders have been planned for during the two-years of funding.

Potential Audiences and Significance: This project is of interest to both workers and workers' compensation insurance providers. WorkSafe BC policy-makers are interested in the comparison of the two benefit programs. Other jurisdictions will also be interested in this study, since the benefits programs in BC are quite unique, particularly the long-term disability program in existence prior to the introduction of Bill 49.

Link to WSIB Policy & Program Priorities: Return to Work: Prevention & Management of Work Disability

2007 Publication:

Draft report completed and discussed with WorkSafe BC

Funding:

Tompa E, Mustard CA, Koehoorn M. Adequacy and equity of workers' compensation benefits. WorkSafe BC: 2006-2008 (\$163,200)

WSIB Claims Persistence (327)

Project Status: New in 2007

Introduction: There has been growing concern among the Ontario prevention partners about the dramatic increase in days on benefits among Ontario WSIB claimants, including the increasing numbers of claims being locked in at the six year time point.

Objectives:

- ▶ To investigate different possible explanations for the increasing persistence of work injury claims in Ontario, including:
 - an artifact of the denominator used to describe days on benefits;
 - a change in case mix over time (age, gender, nature of injury, part of body, industries, occupations etc.);
 - a change in claims management associated with the change from Bill 162 to Bill 99.

Methods: A core data file of cohorts of claimants from 1990 to 2001 inclusive will be created to be used by all members of the working group for exploration. These cohorts will be identified using an agreed upon set of inclusion/exclusion criteria for these cohorts. All working groups will use the core data file when extracting different measures.

Denominators to be considered for the first hypothesis include all claimants and the entire labour force. For case mix, we will consider age, sex, occupation, industry, injury descriptors (pob, noi, source and event), pre-injury wage, etc.

Other markers related to the change from Bill 162 to Bill 99 will be extracted and may include: 12 consecutive months on TT/LOE benefits, changing status from NLT to LT, claim re-opens, health care utilization, VR/LMR activity, locked-in status, FEL and NEL awards. Time trends for various markers will be explored in population of all claimants in cohort and in population of those locking in.

Results: Early results show that the increasing trends in persistence are not an artifact of the denominator being used. There are some indicators of change in case mix. There are very marked changes in claims management practices over time, particularly associated with change in legislation in 1998.

Researchers: Sheilah Hogg-Johnson (Principal Investigator), Emile Tompa

Stakeholder Involvement: Working with WSIB team under guidance of Judy Geary.

Potential Audiences and Significance: The WSIB is very interested in understanding the reasons for the recent increase in claims persistence.

Link to WSIB Policy & Program Priorities: Return to Work: Prevention & Management of Work Disability

Injured Workers' Complex Claims Experience (244)

Project Status: Ongoing

Introduction: Preliminary findings from a study of Ontario's Injured Workers Outreach Services (IWOS) indicate that workers who join these injured worker support groups have very complex and unresolved compensation situations. As such, they represent the segment of WSIB clients who pose the greatest proportional costs to the system. These workers have experienced difficulties with compensation procedures and requirements which have led to an impasse with their claims. For example they may be "cut off" from compensation payments or they may be engaged in unsuccessful labour market re-entry training. Further research on the experiences and situations of this group of workers is expected to identify problematic processes and procedures that workers encounter as they pass through the compensation system. By identifying these areas, it is expected that the results of this study can aid policy-makers and injured worker groups by pointing out ways to improve the claims experience of workers who spend a disproportionate period of time on benefits.

Objectives:

- ▶ Complete data analysis.
- ▶ Develop a model of injured workers' experiences with the health-care and compensation systems.
- ▶ Disseminate findings at academic conferences, to injured worker groups, and to WSIB.
- ▶ Submit paper for publication.

Methods: This study will use qualitative research methods in order to gain an in-depth understanding of the experiences workers have of a complicated and prolonged claims process. Injured workers, injured worker peer helpers, and knowledgeable service providers will be approached. These groups will represent varied injured worker situations according to different industries or to remoteness or closeness to services which may affect health and job re-entry. In addition, secondary analysis will be performed on in-depth interviews recently conducted with peer helpers and injured workers at three IWOS locations. An advisory group consisting of occupational health physicians, an employer consultant, injured workers, and WSIB policy and service experts will provide ongoing feedback on analyses and findings.

Results: Results point to the many ways that 'persistent' or long term claims can be avoided. We identify social and structural determinants of these problems that can be avoided through refined service provision and revised policies. We also detail the human consequences of being caught up in a complex system, and the processes of how decline occurs. The findings provide relevant knowledge not available through large scale quantitative studies. This study has spawned five new studies:

Labour Market Re-Entry study (#247)

Injured workers & mental health studies (#428A)

An ethnographic study of injured workers' complex claims experience (#244)

Green Lights & Red Flags study (proposal submitted to WSIB-RAC)

Immigrant injured worker #273 (Kosny PI)

Researchers: Ellen MacEachen (Principal Investigator), Lori Chambers, Donald Cole, Iggy Kosny, Sue Ferrier (Contract)

Stakeholder Involvement: Judy Geary: Vice President Program development, WSIB; Arthur Bourre: Injured Worker Peer Helper, Dryden & District, Injured Workers Support Group; Linda Wood: President, Injured Workers Support Network of Kingston & Area; Dr. Allen Hall: Occupational Health Physician,

Dofasco (retired); Dr. Brian Gibson: Occupational Health Physician, LAMP Community Health Centre; Consultation with IWOS Director, Tom Yee. Consultation with three IWOS peer helpers in three regions of Ontario. Consultation with Frances Share (Director of RTW and LMR, WSIB); Carmine Tiano: Director Advocacy Services, Ontario Building Trades

Potential Audiences and Significance: This research will interest WSIB Board of Directors and program areas as well as organizations funded by the WSIB committed to helping injured workers with complex situations. It will interest the Fair Practices Commission as it will shed light on service delivery and the experience of injured workers with complex claims situations. University researchers who are interested in issues relating to injured workers, return to work, labour market re-entry, and mental health will also find this relevant.

Links to WSIB Policy & Program Priorities: Return to Work: Prevention & Management of Work Disability; Health Services: Effectiveness & Efficiency of Clinical Care

2007 Publications:

Kosny A, MacEachen E, Ferrier S, Chambers L. Physicians' role in the workers' compensation system; Examining inter-system practices and processes contributing to claim complexity and duration. Submitted: CMAJ

MacEachen E, Ferrier S, Kosny A, Chambers L. A deliberation on 'hurt versus harm' logic in early-return-to-work policy. *Policy and Practice in Health and Safety* 2007; 5(2):41-62.

MacEachen E, Kosny A, Ferrier S. Unexpected barriers in return to work: Lessons learned from Ontario injured worker peer support groups. *Work* 2007; 29(2): 155-164.

2007 Presentations:

MacEachen E, Kosny A, Ferrier S, Chambers L. *A hollowed shell of what I used to be*: A qualitative study of injured worker mental health and implications for return to work. May 2007; Vancouver, BC: Canadian Congress on Research on Mental Health and Addiction in the Workplace.

MacEachen E, Kosny A, Ferrier S, Chambers L. The "toxic dose": Social mechanisms underlying persistent workers' compensation claims. Jul 2007; Granada, Spain: Interdisciplinary Social Sciences Conference.

External Funding:

MacEachen E, Ferrier S, Cole DC. An ethnographic study of injured workers' complex claims experience. WSIB RAC: 2005-2007 (\$97,671)

MacEachen E, Franche R-L. Groundwork for an injured worker and mental health intervention study. CREIDO: 2007-2008 (\$9,573)

RAACWI: Compensation and Consequences of Work Injury (428)

Project Status: Ongoing

Introduction: A group of researchers, injured workers, community representatives and organizations is investigating the workers' compensation system and its influence on the lives of injured workers. The research agenda of the Community-University Research Alliance (CURA) on workers' compensation and work injury will look at how the system helps and protects-or negatively impacts injured and ill workers. The project will focus on injured workers' financial situations, their employment opportunities and their health and well-being. Under this project umbrella, there will be a number of different, but linked research initiatives, some located at IWH and others at our partner institutions. IWH located initiatives are outlined in the next few pages.

Objectives:

- ▶ Undertake the five-year program supported by a Social Sciences and Humanities Research Council of Canada (SSHRC) grant.
- ▶ To conduct innovative, community-based research that responds to knowledge gaps in understanding the consequences of work injury and the impact of legislation, policies, programs and practices on these consequences.
- ▶ To increase research capacity in the social and health sciences on occupational health and safety and workers' compensation through training and mentoring of new researchers.
- ▶ To build strong community-researcher links in the course of undertaking the research.
- ▶ To encourage evidence-based policy decision making in the workers' compensation arena through ongoing linkage and exchange with key stakeholders.
- ▶ To equip injured workers and their representatives with the skills to continue the involvement in research and the dissemination of evidence building sustainable representation of workers' needs in the development of legislation, policies and programs.

Methods: The Alliance research project has been divided into four themes. The first theme examines the broader disability compensation system and its ability to provide a social safety net. The research will examine the current system's policies and regulations, and will analyse the gap between the ideals put forward in this documentation and the real experience of injured and ill workers. This theme will also be concerned with future needs in legislation and policy.

Results: None to date

Researchers: Emile Tompa (Principal Investigator), Claire de Oliveira, Renée-Louise Franche, Ellen MacEachen, P. Ballantyne (Trent University), A. De Wolf (Independent Consultant), M. Endicott (Injured Workers' Consultant), A. Gildiner (McMaster University), J. Guzman (Occupational Health & Safety Agency), B. Kirsh (University of Toronto), K. Lippel (Université du Québec à Montréal (UQAM)), S. Mantis (Ontario Network for Injured Workers Groups), S. Puccini (Injured Workers' Consultants/Bright Lights), S. Stone (Lakehead University), R. Storey (McMaster University), P. Vinneau (Injured Workers' Consultants/Bright Lights)

Stakeholder Involvement: We had begun a dialogue with policy-makers at the WSIB in 2006, and this continued in 2007. A meeting of the Steering Committee with Jill Hutcheon is planned for early in the year.; The research program was developed in conjunction with the community of injured workers and their representatives. The lead partner organizations are McMaster University, IWH and the Bancroft Institute. There are several other university and community partners and supporters

Potential Audiences and Significance: Injured workers, their families and their representatives, WCBs, MoLs and workplace parties.

Links to WSIB Policy & Program Priorities: Return to Work: Prevention & Management of Work Disability; Health Services: Effectiveness & Efficiency of Clinical Care

2007 Publication:

Tompa E. Mar 2007 Milestone Report submitted to the SSHRC.

2007 Presentations:

Mantis S, Tompa E, Endicott M, Vienneau P, Pacini S. Challenges consultation session on developing a Community-University Research Alliance. Apr 2007; Toronto, ON: Community-Campus Partnership for Health 10th Anniversary Conference.

Tompa E. Feb 2007 RAACWI Website Launch. Apr 2007 call for second post-doctoral fellow.

Tompa E, Mantis S, et al. Research Action Alliance on the Consequences of Work Injury: Challenges Workshop. Injured Workers' Group. 11 Sept 2007: IWH Plenary.

Funding:

Tompa E, Endicott M, de Wolff A, Franche R-L, Guzman J, MacEachen E, Stone SD, Gildiner A, Storey R, Lippel K, Ballantyne P, Eakin J, Kirsh B, Tucker E. CURA: Workers' compensation and the consequences of work injury. SSHRC: 2006-2010 (\$997,322)

RAACWI - An Ethnographic Study of Injured Workers' Claims Experiences: A Focus on Mental Health and Substance Use Issues (428A)

Project Status: Ongoing; report in draft form. Successfully applied to CREIDO for additional funds to complete interviews.

Introduction: Injured workers with compensation claims which extend beyond the expected healing time are of concern because their claims costs are higher than expected for their condition, and research has shown that social and mental health difficulties can increase in proportion to time away from work. However, the various studies that have documented links between protracted claims and injured worker mental health difficulties have not examined in detail the dimensions of these links and how they are sustained. This study will use qualitative methodology to examine the complexity of injured worker's protracted claim experience, including their trajectories through health care and compensation systems and their experiences with home and community, and how these experiences may relate to mental health and substance use outcomes. Grounded theory analysis will be conducted with approximately 40 in-depth injured worker interviews. The study results will be of interest to injured workers and their representatives, worker's compensation boards, and clinical practitioners.

Objectives:

- ▶ To further explore problems associated with complex/persistent claims and how they become problematic.
- ▶ To focus on mental health and substance use problems experienced by workers and to account for them in the context of their claims experience.
- ▶ To identify those features of injured worker experience that have implications for service delivery, case management, and policy in both the compensation and associated health care systems.

Methods: This study will use qualitative methodology to examine the complexity of injured worker's protracted claim experience, including their trajectories through health care and compensation systems and their experiences with home and community, and how these experiences may relate to mental health and substance use outcomes. Grounded theory analysis will be conducted with approximately 40 in-depth injured worker interviews. We may also interview up to five service providers who specialise in injured worker and mental health/pain/substance use issues.

Results: Picture of social and structural determinants of mental health problems among injured workers.

Researchers: Ellen MacEachen (Principal Investigator), Lori Chambers

Stakeholder Involvement: CURA researchers and injured workers will develop advisory committee. Targeted participants: CURA injured worker (female), CURA injured worker (male), IWOS peer helper, physician injured worker and mental health counsellor, injured worker and mental health researcher.

Potential Audiences and Significance: WSIB's RTW program is concerned about claims persistence; study will support their interest through identification of factors related to persistence, its development and trajectory.

Link to WSIB Policy & Program Priorities: RTW: Prevention & Management of Work Disability

Funding: Through Project 428 CURA: Workers' compensation and the consequences of work injury. SSHRC: 2006-2010 (\$997,322)

RAACWI: Workers' Compensation Coverage and Interface with Various Stakeholder Groups (428B)

Project Status: Completed; continues as new projects in 2008.

Introduction: There are four projects to be completed over a two year period. The following describes activities during 2007 only.

Objectives:

1) The Health Care Provider (HCP), the Compensation System and Return to Work (secondary analysis). - Paper completed.

2) Using the complex claims data

In collaboration with Ellen MacEachen, an analysis focused specifically on health care issues and how these may affect claim length and complexity. Paper completed and presented. To be submitted for peer review publication.

3) Workers' Compensation and Occupational Health & Safety (OHS) Coverage in Non-profit Organizations (Project: 263 in 2008)

The proposed analysis, done in collaboration with Dr. Alina Gildiner (McMaster University), will review policies related to OHS and WC in Ontario and a number of other Canadian provinces. Other policies which may have an effect on worker health and safety in non-profit organization will also be reviewed (for example, provincial policies related to smoking in the workplace and infectious disease). The end result will be a comprehensive picture of how various Canadian jurisdictions protect or fail to protect workers in this sector. Ongoing

4) Immigrant Injured Worker Study. (Project: 273 in 2008)

This study will examine the experiences of injured immigrant workers and what happens to them when they get injured at work. We will examine their experiences at work prior to injury and also their experiences navigating the workers' compensation system (including LMR and RTW).

Methods: Qualitative analysis and document review.

Results: Physicians' role in the workers' compensation system; examining inter-system practices and processes contributing to claim complexity and duration.

This study identified the physician as a key player in the compensation system, in injured workers' recovery, and return-to-work. We identified three problems occurring at the nexus between the health care and compensation system that complicated workers' progression through the system and prolonged claims: the problem of access included geographic barriers to appropriate and timely care, as well as, access issues related to workers' "claimant status"; the problem of knowledge had to do with how diagnostic doubt and conflicting medical opinions fit poorly with compensation system expectations and requirements, leading to delays and complications; and finally the problem of communication and understanding related to workers' and physicians' incomplete and poor understanding of compensation system requirements.

Continued discussion is needed between compensation system parties to find better ways to serve injured worker health care needs and facilitate a smooth relationship between the compensation board and health care providers. This study points to the necessity of clearer communication between all compensation system parties and the need to lessen the administrative burden of working with the compensation system.

Researchers: Iggy Kosny (Principal Investigator), Ellen MacEachen, Peter Smith

Stakeholder Involvement: Injured workers/injured worker groups, office of the worker advisor, WSIB stakeholders.

Potential Audiences and Significance: WSIB, injured worker groups/injured workers, WSIB, policy makers.

Links to WSIB Policy & Program Priorities: Return to Work: Prevention & Management of Work Disability; Health Services: Effectiveness & Efficiency of Clinical Care

2007 Presentation:

Kosny A. Physicians' role in the workers' compensation system; examining inter-system practices and processes contributing to claim complexity and duration. Internal and External IWH Plenary, 2007.

Funding: Through Project 428 CURA: Workers' compensation and the consequences of work injury. SSHRC: 2006-2010 (\$997,322)

RAACWI: Mental Health and Quality of Life After a Work Injury Claim (428C)

Project Status: Ongoing

Introduction: Work injury has been associated with significant negative health impacts as well as decreased participation in daily life activities. Deprived of the opportunity to engage in meaningful work, injured workers often experience a decreased sense of well-being. A recent study by Franche et al. (2003) found that at one and six months post-injury, 44% and 37% of injured workers, respectively, had depression scores (CES-D scale, Radloff (1977)) indicative of a high likelihood of clinical depression (Turk & Okifuji, 1994).

Objectives:

- ▶ Based on data from our Readiness for Return to Work project (341):
 - To document the prevalence, incidence, and course of depressive symptomatology longitudinally in a cohort of injured workers.
 - To examine the determinants of persistence or resolution of symptoms longitudinally.

Methods: This analysis is based on existing data from a longitudinal survey of the Readiness for Return to Work cohort (Project #341) of 632 injured workers with lost-time claims for a work-related musculoskeletal disorder of the back or upper extremity, followed for a two-year period. Workers were interviewed at 1 month and 6 months post-injury. A high level of depressive symptoms was defined using the previously validated cutoff of 16 on the CES-D. Depression diagnosis and treatment were based on self-report.

Results: Half of all workers reported high depressive symptoms levels in at least one of the three interviews over 12 months post-injury. Most workers who began with low levels of depressive symptoms at baseline maintained these low levels through 12 months (82.9%, 95% CI 77.7%-88.1%). Workers with high levels at baseline were equally likely to experience persistence or resolution of symptoms at six months and these six-month levels were generally maintained through 12 months post-injury. Persistent high levels of depressive symptoms at all three follow-up interviews were demonstrated by 36.1% (95% CI 27.9%-44.3%) of participants. Only 18.8% (95% CI 7.7%-29.8%) of workers with persistent high depressive symptom levels reported receiving a depression diagnosis since injury and 29.2% (95% CI 16.3%-42.0%) reported currently receiving depression treatment at the 12-month follow-up.

Researchers: Renée-Louise Franche (Institute Coordinator), Nancy Carnide

Stakeholder Involvement: WSIB has participated in the formulation of research questions.

Potential Audiences and Significance: Injured workers; WSIB; healthcare providers

Links to WSIB Policy & Program Priorities: Return to Work: Prevention & Management of Work Disability

Funding: Through Project 428 CURA: Workers' compensation and the consequences of work injury. SSHRC: 2006-2010 (\$997,322)

Workers' Compensation and Occupational Health & Safety Coverage in Non-profit Organizations (263)

Project Status: Ongoing

Introduction: Why study OHS and WC coverage in NPOs. The non-profit sector is large and growing. The NPS includes 7.5 million volunteers and employs over 1.6 million Canadians. It is estimated that the NPS is growing yearly and contributes between 4 and 10% to Canada's GDP. Some indication that work can be hazardous – for example, in certain kinds of NPOs workers can be exposed infectious disease, violence, high work load, etc. Current occupational health and safety systems may poorly serve these workplaces. In Ontario, the Occupational Health and Safety Act (OHSA) and the Workplace Safety and Insurance Act (WSIA) does not apply to volunteer (unpaid) workers. There is also some ambiguity around whether paid workers doing unpaid work (after hours, for example) are covered under the acts. This is a problem for workplaces that may rely, heavily at times, on unpaid labour and volunteer workers. Many non-profit workplaces appear not to have mandatory WSIB coverage. A review of the 2006 WSIB classification manual uncovered that the following types of enterprises do not have compulsory coverage under the WSIA (Workplace Safety and Insurance Act).

Objectives:

- ▶ To collect, review and examine how OHS and WC policy across Canada applies to or excludes non-profit organizations.

Methods: Collection of OHS and WC legislation provincially. Collection of data on smoking legislation. Systematic comparison and analysis of the data, including exclusions that would affect workers in NPOs or NP worksites.

Results: Pending.

Researchers: Iggy Kosny (Principal Investigator) Krista Scott-Dixon

Potential Audiences and Significance: WSIB and OHS policy-makers, academic audiences.

Links to WSIB Policy & Program Priorities: Health & Safety: Effective Prevention of Injury & Illness

Funding:

Kosny A. Workers compensation and OHS coverage in non-profit organizations. National Network on Environments and Women's Health: 2007-2008 (\$19,000)

Measuring Health & Function

Over the past 15 years the Institute has focused on several aspects of research relevant to clinical care: the measurement of health and function includes understanding the course of disability and recovery; and the development of a clinical evidence base on the effectiveness of clinical interventions. These measurement tools and evidence on the clinically effective interventions for work related disability should assist the WSIB in their goal of increasing their capacity to measure other return to work and health care outcomes to improve the effectiveness of their business management.

Through 2007, the Canadian Arthritis Network and IWH researchers continued research that investigated the measurement of disability at work. Like others with musculoskeletal disorders, individuals with arthritis periodically miss days of work, but they may also be less productive while at work. This suite of studies is developing and comparing new approaches to measuring self-reported "decreased productivity at work". Looking at both injured workers and a community cohort of individuals with arthritis, the results will provide guidance on which measure or measures are best suited to quantify work disability in these populations and to help plan workplace interventions to mitigate against this.

2007 Quick Statistics

Completed projects (0)
Ongoing projects (7)
New projects (0)
Papers published or in press (4)
Peer review papers submitted (0)
Reports to WSIB or other Prevention System Partners (0)
Presentations of results and stakeholder consultations (7)
External grants awarded (3)

Findings of Note (See project: 121/117/910, p. 117)

Researchers examine differences in work functioning scales

In early analyses we have been able to demonstrate important differences in the description of at-work difficulties related to arthritis that are dependent on the scale/instrument used. Consumers/people with arthritis have a clear preference for two of the scales, one of which can also be used for costing. Validity and responsiveness are very specific to the target construct. For example, the work limitations questionnaire is sensitive to changes in "productivity" but not to changes in "work ability". The Work Activity Limitations Scale was the opposite.

We are modeling the trajectories of at-work difficulties over time and finding that people working with arthritis are experiencing fairly low levels of at work ability, but the trajectories over time vary and are typified by different patterns.

Measurement Methodology Studies (925)

Project Status: Ongoing

Introduction: This is a group of studies with primary focus on measurement issues and the development of measurement instruments. The objectives describe the particular contexts planned for this work in 2007. The data for much of this work comes from projects initiated for other research objectives within this theme and are described subsequently in greater detail.

Objectives:

- ▶ To advance our understanding of the measurement of longitudinal data collection (change versus trajectories).
- ▶ To advance our understanding of transitions in health (pain becoming a problem and recovery - Note: Overlaps with project 115), its measurement and its interpretation (Minimal Clinically Important Difference (MCID), comparisons, Jacobson approach).
- ▶ To disseminate our findings through peer-review publications, presentations, and Continuing Medical Education activities.

Methods: Various projects under the rubric of measurement methods. Supporting the methodology around measurement and interpretability of scores.

Results: Item Response Theory (IRT) has grown as an interest in our measurement methodology group and will continue to be a focus for 2008. Several papers are underway and there have been presentations at a number of scholarly meetings interested in measurement method issues.

Researchers: Dorcas Beaton (Institute Coordinator), Claire Bombardier, Cynthia Chen, Sheilah Hogg-Johnson, Carol Kennedy-Yee, Anjali Mazumder, Anusha Raj, Peter Subrata, Dwayne Van Eerd, Pierre Côté, J. Katz (Brigham and Women's Hospital, Harvard University), S. Solway (Toronto Rehabilitation Institute), Gabrielle van der Velde, J. Wright (Hospital for Sick Children, University of Toronto)

Stakeholder Involvement: N/A

Potential Audiences and Significance: Primarily directed at researchers at the Institute, the research community at large, and the clinical community who apply these instruments.

Links to WSIB Policy & Program Priorities: Health Services: Effectiveness & Efficiency of Clinical Care

2007 Presentations:

Beaton DE. Interpreting changes in scores in clinical research. Jan 2007: Visiting Professor, University of Nancy, Nancy, France.

Beaton DE, Van Eerd D, Smith P, van der Velde G, Cullen K, Kennedy C, Raj A. Which approach is best? Interpreting changes in health status scores for individual patients. IWH Plenary (January 16, 2007)

Development and Testing of the DASH Outcome Measure - DASH Instrument (425)

Project Status: Ongoing

Introduction: This multi-year project involves the development and ongoing testing of the DASH, a 30-item self-completed questionnaire of upper-limb disability and symptoms, designed at IWH in collaboration with the American Academy of Orthopaedic Surgeons (AAOS) to be used as an outcome measure for people with any disorder of the upper limb. It is now in world-wide use. In 2003 the 11-item *QuickDASH* was released. Summary documents were placed on the Web and published in *At Work*. In 2004 there was a specific testing of the *QuickDASH* in clinical and research settings and in 2005 the *QuickDASH* was published in the *Journal of Bone and Joint Surgery*.

The DASH Outcome Measure User's Manual, first published in 1999, and a detailed website allow public access to the instruments, their translations, frequently asked questions, scoring instructions and bibliographies. The DASH website remains the most often accessed part of the IWH web. This year will see the ongoing testing of the DASH, integration with the normative data now available, and further testing of the *QuickDASH*.

Objectives:

- ▶ To analyze the general population (normative) data gathered on the DASH and test the *QuickDASH*.
- ▶ To bring our knowledge of the measurement properties of the DASH to the clinicians treating persons with upper-limb disorders.

Methods: Series of projects and activities to support and advance measurement using the DASH Outcome Measure and the *QuickDASH*. The project involves support of translations, manuals, and manuscripts on these instruments.

Results: Updating the DASH website, establishing regular meetings of the DASH steering group, pooling all DASH papers, and organizing activities around the *QuickDASH*.

Researchers: Dorcas Beaton, Claire Bombardier, Kim Cullen, Sheila Hogg-Johnson, Carol Kennedy, Anjali Mazumder, Sandra Sinclair, Peter Subrata, S. Solway (Toronto Rehabilitation Institute)

Stakeholder Involvement: Consultation with clients, clinicians, educators, professional organizations, regulatory bodies and other researchers have and will continue to occur throughout the development and fulfillment of these projects.

Potential Audiences and Significance: The DASH is now available in 21 languages. Professional organizations such as the Canadian Physiotherapy Association (CPA), AAOS and regulatory colleges also have demonstrated their support through use of the DASH, as has the WSIB. Because of the numerous requests for commercial use of the DASH, the Institute has issued several limited use licences to orthopaedic manufactures, pharmaceutical companies and others to allow the use of the DASH in trials of new products and in clinical studies. Anyone who is interested in outcome measurement to reflect the client's perspective could be a potential user. The manual has enjoyed equal popularity and utility.

Link to WSIB Policy & Program Priorities: Health Services: Effectiveness & Efficiency of Clinical Care

How Are You Now? Testing a Model of Recovery from the Patient's Perspective One Year After a Traumatic Fracture of an Extremity (115)

Project Status: Ongoing; Approximately 250 patients have been recruited from St. Michael's Hospital and Sunnybrook and Women's Health Sciences Centre. Data collection is complete, analysis is under way.

Introduction: This project tests a model of recovery from a patient's perspective in working-aged patients one to two years after a fracture that required operative fixation. The model includes functional status and change in health state which are indicators of being better. It also includes indicators of adaptations or shifts in personal values and goals which can lead a patient to say they are better when they may still have residual effects of the disorder.

Objectives:

- ▶ Test a model of recovery from a patient's perspective.
- ▶ Describe the prevalence of resolution of symptoms, adaptation, or redefinition in people who say they are better.
- ▶ Test factors felt to be associated with outcome (SES, gender, age, baseline severity, expectations, satisfaction).

Methods: Cross sectional survey of 255 people 1-2 years after a fracture. The survey included measures of functional status, pain, work status, illness intrusiveness, and several indicators of recovery (How are you now?). Main analysis is a path analysis of pathways towards recovery.

Results: A new model of recovery has been described. A MSc student joined us for analysis. We presented "RTW: Is yes/no enough?" at Canadian Orthopaedic Association and at ISOQOL in 2007. Draft manuscript is under circulation. A second manuscript describing the theoretical framework for recovery using other literature is well underway.

Researchers: Dorcas Beaton (Principal Investigator), Claire Bombardier, Renée-Louise Franche, Selahadin Ibrahim, A. Davis (Toronto Rehabilitation Centre), G. Devins (Sunnybrook & Women's Health Sciences Centre), M. Gignac (ACREU), H. Kreder (University Health Network), E. Schemitsch (St. Michael's Hospital)

Stakeholder Involvement: Not applicable.

Potential Audiences and Significance: Clinical stakeholders who deal with patients whose perceptions of their health differ from the clinically assessed severity or state of the injury. The WSIB and workplaces need to understand how patients/workers come to the perception of themselves as "whole" and as "better", as this is the state from which workers will usually resume their occupational roles.

Links to WSIB Policy & Program Priorities: Return to Work: Prevention & Management of Work Disability; Health Services: Effectiveness & Efficiency of Clinical Care

2007 Presentation:

"RTW: Is yes/no enough?" at Canadian Orthopaedic Association and at ISOQOL in 2007.

Managing the Tail of the Curve: The Course, Predictive Factors and Work-related Outcomes of Injured Workers One Year After Attending the WSIB Specialty Clinics for Upper Limb Disorders (113)

Project Status: Ongoing

Introduction: It is known that the majority of disability and costs associated with lost time claims comes from those workers with the longest duration of lost time...the proverbial "tail of the curve". One access point to injured workers in the "tail" is through the WSIB specialty clinics that usually see workers only after about six months post injury. In this study we will be examining the usual course of work-related outcomes (absenteeism and at-work productivity losses) in workers recruited from two upper extremity specialty clinics. We will also examine the predictors of this course, and potentially identify those which are amenable to intervention/modification. The project will also introduce web-based, touch screen data collection and continue with our "just-in-time" summary reports of the workers responses. Six hundred workers will be followed for one year.

Objectives:

- ▶ This is a longitudinal cohort of injured workers who are attending the WSIB specialty clinic in Toronto and in London. This study is an expansion of work originated under project 124, and has as its specific objectives:
- ▶ Understand the usual course of persons attending the specialty clinic;
- ▶ Identify modifiable and non-modifiable factors that could predict likely course;
- ▶ Join two specialty clinics (OAI and London) to coordinate and collaborate on this type of data collection and analysis with the view of establishing a network of research across specialty clinics in Ontario.

Methods: This cohort is a longitudinal cohort of injured workers who are attending the WSIB specialty clinic in Toronto and in London. The project is reported under project 124, but has the specific objectives as follows:

1. To understand the usual course of persons attending the specialty clinic.
2. To identify modifiable and non-modifiable factors that could predict likely course.
3. To join two specialty clinics (OAI and London) to coordinate and collaborate on this type of data collection and analysis with the view of establishing a network of research across specialty clinics in Ontario.

Results: Pending. We have 80% follow-up to 6 months, and 12 months is also looking good.

Researchers: Dorcas Beaton (Principal Investigator), Claire Bombardier, Kim Cullen, Renée-Louise Franche, Sheilah Hogg-Johnson, Ivan Steenstra, P. Côté (University Health Network), J. MacDermid (McMaster University), S. Pagura (Sunnybrook & Women's Health Sciences Centre), R. Richards (Sunnybrook & Women's Health Sciences Centre)

Stakeholder Involvement: WSIB specialty clinics are integrally involved in the project. We are also in regular contact with the staff at the WSIB regarding our progress and research interests.

Potential Audiences and Significance: WSIB policy-makers, clinicians treating injured workers, researchers interested in the application of research findings directly into clinical practice.

Links to WSIB Policy & Program Priorities: Return to Work: Prevention & Management of Work Disability; Health Services: Effectiveness & Efficiency of Clinical Care

Funding:

Beaton DE, MacDermid J, Richards R, Franche R-L, Côté P, Hogg-Johnson S, Bombardier C, Pagura S. Managing the “tail of the curve”: The course, predictive factors and work-related outcomes of injured workers one year after attending the WSIB specialty clinics for upper limb disorders. WSIB RAC: 2005-2007 (\$287,332) (Administered at St. Michael’s Hospital)

The Measurement of Work Disability/Disability at Work (121/117/910)

Project Status: Ongoing

Introduction: This project includes five elements all aimed at improving our ability to measure the impact of limitations in health status on work productivity. The measures identify the impact of an injury or illness on work activities through self-reported limitations in job tasks. These measures may be markers for changes in productivity, may be precursors to disability resulting in work absence and may also serve as indicators of productivity-related costs in an economic appraisal. In this set of projects we will identify new measurement properties, factors associated with work disability, and also create links between clinical, community and workplace populations as well as between different local, national and international networks of researchers interested in the measurement of work disability.

Objectives:

- ▶ Understand the development, use and measurement properties of currently existing measures of work disability and work productivity.
- ▶ Conduct a concurrent comparison of different measures of at-work disability.
- ▶ Provide leadership to two research transfer initiatives: Outcome Measures in Rheumatoid Arthritic Clinical Trials (OMERACT) workshop and Canadian Arthritis Network (CAN-IWH) Strategic Service Resource (SSR) initiative.
- ▶ Make recommendations for the role of self-report measures of work disability in workplace studies at IWH and in the broader community.

Methods: This is a composite of several projects.

- A) Injured workers study - cross sectional comparison of four measures of at work disability at the WSIB shoulder and elbow clinic.
- B) Arthritis study CAN funded cross sectional study.
- C) OMERACT work productivity measurement.
- D) CAN-IWH SSR.
- E) Community/clinical work disability cohort (CAN funded longitudinal aspect of B + community cohort, 2005).
- F) NEW: A web-based survey of people with arthritis across Canada re: work disability experience.

Results: We have been able to demonstrate important differences in the description of at-work difficulties related to arthritis that are dependent on the scale/instrument used. This extended out to a comparison of frameworks and of methods used to quantify the at work productivity costs as well.

Consumers / people with arthritis have a clear preference for two of the scales, one of which can also be used for costing. Validity and responsiveness are very specific to the target construct. For example, the work limitations questionnaire is sensitive to changes in "productivity" but not to changes in "work ability". The Work Activity Limitations Scale was the opposite. The field might consider using two scales.

We are modeling the trajectories of at-work difficulties over time and finding that people working with arthritis are experiencing fairly low levels of at work ability, but the trajectories over time vary and are typified by three patterns. We are just now modeling factors associated with trajectory.

We are also comparing experiences of disease and work in the community based cohort from ACREU and the more clinical cohort from the hospital settings. The findings are being interpreted now.

Researchers: Dorcas Beaton (Principal Investigator), Ben Amick, Claire Bombardier, Sheilah Hogg-Johnson, Emma Irvin, Cameron Mustard, Anusha Raj, Dwayne Van Eerd, E. Badley (University of Toronto), M. Gignac (ACREU), M. Haase (OMERACT), D. Lacaille (OMERACT), S. Pitts (OT Student), R. Richards (Sunnybrook & Women's Hospital Sciences Centre), S. Solway (Toronto Rehabilitation Institute), P. Tugwell (OMERACT), D. Veale (OMERACT)

Stakeholder Involvement: The WSIB is a stakeholder, and is also coordinating the WSIB Shoulder and Elbow Specialty Clinic where our study will be conducted. The clinic medical director is a co-investigator on the study, and clinic staff will be involved in this study. The OMERACT and CAN initiatives both integrate the stakeholders into the process as well. Peter Tugwell has joined the group as our OMERACT mentor, and the CAN-IWH initiative will be well linked with that network.

Potential Audiences and Significance: A thorough understanding of work disability and the level of production lost from injured workers in the workplace, including how to measure this construct optimally, will be of particular interest to researchers, employers, employees, insurers, pharmaceutical industry, disability managers, and clinicians.

Links to WSIB Policy & Program Priorities: Return to Work: Prevention & Management of Work Disability; Health Services: Effectiveness & Efficiency of Clinical Care

2007 Publications:

Beaton DE, Bombardier C, Gignac M, Lacaille D, Govinda Raj A. A direct comparison of the reliability and validity of five measures of at-work productivity loss in people with rheumatoid and osteoarthritis. Accepted: Arthritis and Rheumatism

Escorpizo R, Bombardier C, Boonen A, Hazes M, Lacaille D, Strand V, Beaton DE. Worker productivity outcome measures in arthritis. Accepted: Journal of Rheumatology

Funding:

Beaton DE, Bombardier C, Gignac M, Lecaille D, Badley E, Anis A. Disability at work: Measuring the progression of at-work disability and workplace productivity loss. Canadian Arthritis Network: 2005-2007 (\$250,600) (\$67,273 at IWH)

Characterizing Patterns in Work Disability (209)

Project Status: Ongoing

Introduction: This study will help shed light on the experience of workers with short term disability (STD) by uncovering the factors that influence disability prevalence and duration. In response to healthcare professionals' need to critically examine the disability guidelines that they are currently using, it is deemed important to conduct an analysis to better understand whether these guidelines reflect experience in practice. In turn, such information can be useful for the long term goal of improving Work Disability Management (WDM) practices and outcomes for all stakeholders.

Objectives:

- ▶ To describe patterns (e.g., prevalence and duration) of various conditions experienced by workers on STD by job type, demographics, sector, and workplace factors.
- ▶ To identify what workplace, clinical, and individual factors are associated with different STD conditions.
- ▶ To examine the relationship between disability duration guidelines and actual time away from work, as well the factors that modify this relationship.

Methods: WDM Outcomes

We will compare organizations' current WDM relevant monitoring as assessed by the CADMAT audit to the standardized set of metrics being promoted by EMPAQ. Currently some of the EMPAQ metrics are standardized in Canada due to workers' compensation (WC) board requirements. The extent of modification of the participating organizations' systems to be EMPAQ compatible and conversely, the adaptation of EMPAQ standards to the Canadian context, will be assessed.

WDM Structures & Processes

We will start with an assessment of organizations' current WDM policies, programs and activities. The main data collection tool will be an adaptation of CADMAT. The consultant members of the research team will examine existing organizational documents and information systems and consult key informants to complete a review engagement and uncover areas in which organizations could improve their WDM performance, including their monitoring of WDM.

WDM Satisfaction

A component of the EMPAQ metrics package is an employee WDM satisfaction questionnaire for those employees who have had a WC or disability claim. We propose to extend this evaluation service to all employees from pilot workplaces who experience a WD episode i.e., have a work absence for a minimum number of days after which the collaborating organizations or their respective WDM consultants engage in active case management. We will distil sections of available questionnaires for employee cases and make the necessary adaptations for supervisors. Completion of the questionnaires may occur just after a facilitated RTW meeting among the supervisor, employee and a staff person from one of the consultant research team member's companies. Alternate options for those in which the RTW to either modified or full duties is fairly rapid without a meeting, include questionnaires provided in already addressed envelopes for return to the WDM consultant's staff or logging on to an IWH website for completion. In different organizations, we will work with different mechanisms for data collection to assess the feasibility and acceptability of the various mechanisms.

Each of the above will go through a utility assessment to hone down the metrics, then collection trials, and finally reach agreement by sector on the WDMB metrics. Analyses of concordance among satisfaction ratings will also be carried out.

Results: We observed that STD due to mental disorders were highly prevalent conditions in this population, and generally tended to have long durations. The proportion of mental health claims ranged from 8-28% across different companies. Some variations across demographic factors were also observed. Collaborating with a work disability management consultant provided a unique opportunity to access data from private insurers and across various organizations simultaneously. It has also forged a productive research-practitioner partnership.

Researchers: Irina Rivilis (PhD Candidate & Principal Investigator), Donald Cole, Sheilah Hogg-Johnson, L. Scott (Disability Consultant)

Stakeholder Involvement: Disability Consultants from Organizational Solutions.

Potential Audiences and Significance: Significance is the long term goal of improving WDM practices and outcomes for all stakeholders.

Links to WSIB Policy & Program Priorities: Return to Work: Prevention & Management of Work Disability

2007 Presentations:

Rivilis I, Cole DC, Scott L. Characterizing patterns due to mental health absences among workers on short-term disability. May 2007; Vancouver, BC: Canadian Congress on Research on Mental Health and Addiction in the Workplace.

Rivilis I, Cole DC, Scott L. Poster: Characterizing patterns due to mental health absences among workers on short-term disability. 9-12 Oct 2007; Banff, AB: 19th International Conference on Epidemiology in Occupational Health (EPICOH).

Funding:

Personnel support to Irina Rivilis, CIHR Graduate Fellowship. CIHR-IPPH Public Health Agency of Canada (2006-2009). Implementation and evaluation of a workplace-based measurement system for monitoring work disability management practices.

The Relationship Between Impairment, Activity Limitations, Participation Restrictions and Markers of Recovery in Individuals with MSK Disorders: A Validation Study of Two Conceptual Frameworks (826)

Project Status: Ongoing; papers in progress. Principal Investigator moved to CREIDO in September 2006.

Introduction: Musculoskeletal disorders are a leading cause of disability and health-care utilization in Canada. For most individuals, the course of musculoskeletal disorders is episodic but a significant proportion of this population suffers from recurrent episodes of chronic disability. Despite improvements in our understanding of musculoskeletal disorders, defining and measuring "recovery" from these disorders remains problematic.

Objectives:

- ▶ Determine whether the construct of "resolution of the disorder" mediates the relationship between impairments, activity limitations, participation restrictions and self-assessment of recovery in a population-based cohort of Saskatchewan residents who sustained musculoskeletal injuries in a motor vehicle collision.
- ▶ Determine whether the indirect relationship between impairments, activity limitations, participation restrictions and self-assessment of recovery is mediated by the construct of "re-adjustment/re-definition" among subject who do not experience a resolution of their disorder.

Methods: We use data from a population-based incidence study of individuals with MSK disorders following traffic collision injuries in Saskatchewan. The cohort includes 6,139 insurance claimants who completed an insurance proof of claim form shortly after a traffic collision. Follow-up interviews took place at six and 12 weeks, and again at six, nine and 12 months post-injury. The data includes a measure of self-assessment of recovery and other standardized health status measures that will be used to measure: 1) impairment (pain intensity in 10 parts of the body and percentage of body in pain); 2) activity limitations (physical functioning and role physical subscales of the SF-12 questionnaire); and 3) participation restrictions (ability to perform occupation and insurance claim closure). We propose to use the Vanderbilt Pain Management Inventory to measure the construct of "readjustment/redefinition" and the CES-D questionnaire to measure depression. We use structural equation modeling to test the validity of the proposed framework.

Results: Pending

Researchers: Pierre Côté (Principal Investigator), Dorcas Beaton, Sheilah Hogg-Johnson, Selahadin Ibrahim, L. Carroll (University of Alberta), J. Cassidy (The Toronto Western Hospital), V. Kristman (Toronto Western Hospital)

Stakeholder Involvement: Clinicians (medical doctors, chiropractors, physiotherapists, occupational therapists); researchers (epidemiologists, clinical epidemiologists, biostatisticians); further involvement TBD.

Potential Audiences and Significance: There is a general recognition among most professionals involved in the management of musculoskeletal injuries that only a small group of individuals go on to develop chronic pain, and that there are a number of factors - both physical and psychosocial - that contribute to the development of chronicity. The ability to develop a model that will predict, with certainty, what these factors are and perhaps how they can be altered, will be an important tool for

allocating resources across the system, one which will be welcomed by health-care practitioners, researchers, insurers and employers. The results of this work and an earlier project will contribute to the development of this predictive model.

Links to WSIB Policy & Program Priorities: Return to Work: Prevention & Management of Work Disability; Health Services: Effectiveness & Efficiency of Clinical Care

2007 Publications:

Côté P, Hogg-Johnson S, Cassidy JD, Carroll L, Frank JW, Bombardier C. Early aggressive care and delayed recovery from whiplash: Isolated finding or reproducible result? *Arthritis & Rheum* 2007; 57(5): 861-868.

Yang X, Côté P, Cassidy JD, Carroll L. Association between body mass index and recovery from whiplash injuries: A cohort study. *Am J Epi Advance Access*. 8 Feb 2007.

2007 Presentation:

Côté P, Ibrahim S, Carroll L, Beaton DE, Cassidy JD, Hogg-Johnson S, Kristman V. The path to recovery from whiplash injuries: A road with many turns! 16 Feb 2007; Toronto Western Hospital; Toronto, ON: Musculoskeletal Health and Arthritis Program Rounds.

Using Evidence to Improve Clinical Practice

Injured workers, health care providers, payers, such as the WSIB and the public, are increasingly asking for system-wide processes to improve the quality of care provided and to measure the success of care delivery. High quality care implies practices that are consistent with the best evidence of efficacy and effectiveness (from randomized trials or observational studies) as well as systematic assessment of actual health outcomes. The Institute for Work & Health has made major contributions towards evidence-based practice (EBP) for the most burdensome musculoskeletal conditions: low back pain, neck pain, upper extremity conditions and chronic back pain.

Much of the current work of our researchers in EBP is related to the Institute's role as an international Cochrane Collaboration Review site. WSIB is completing a comprehensive review of all aspects of its health care business with the goal of delivering a health care business model that provides appropriate, timely and evidence-based health care for injured and ill workers within a financially sustainable system. IWH researchers will be participating in a briefing to a regional family health network in March 2008, providing an overview of research evidence related to the optimal management of disability and opportunities to support primary care providers in improving disability outcomes among injured workers.

2007 Quick Statistics

Completed projects (1)
Ongoing projects (2)
New projects (0)
Papers published or in press (19)
Peer review papers submitted (0)
Reports to WSIB or other Prevention System Partners (0)
Presentations of results and stakeholder consultations (10)
External grants awarded (2)

Findings of Note: (See project: 550, p.124)

The Bone and Joint Decade 2000-2010 Task Force On Neck Pain and Its Associated Disorders

The Neck Pain Task Force considered almost 32,000 research citations and performed critical appraisals of more than 1,000 research studies that were relevant to its mandate. In summarizing the evidence the Task Force developed specific messages aimed at individuals with neck pain, health care providers including emergency physicians and surgeons, as well as public and private insurers. The general summary of their findings is noted below.

1. Neck pain is common and frequently persistent or recurrent.
2. There is typically no single cause and no single effective treatment for Grades 1 (neck pain with little or no interference with daily activities) or Grade 2 neck pain (neck pain that limits daily activities)
 - Effective treatment options are all low risk and may provide short-term relief when provided in moderation.
 - Informed patient preferences are key to treatment decisions.
 - A variety of treatments may need to be tried.
3. Routine imaging of Grades 1 or 2 neck pain will not increase understanding of causation.
4. There is not enough evidence to support the use of invasive interventions in Grades 1 or 2 neck pain.

Providers, policy makers and insurers need to move toward universal, validated, evidence-based treatment guidelines.

The Bone and Joint Decade 2000-2010 Task Force On Neck Pain and Its Associated Disorders (550)

Project Status: Completed

Introduction: Neck pain is a common source of pain and disability in the industrialized world. Although several treatments are available for neck pain, there is a lack of consensus about the relative effectiveness of these therapies. This international project started in 1999, includes a suite of studies designed to answer different research questions. Several Institute staff are participating as members of the Task Force Scientific Secretariat (TFSS) (which has Canadian, U.S. and Swedish participation) as well as the Task Force Advisory Group (TFAG). The TFAG also has additional international representatives from Brazil, France, Australia and Switzerland. Of the chapters planned for the report which will be published in 2008 as a Supplement in Spine, IWH staff are involved in 12, and taking the lead in five of the 19 chapters.

Objectives:

- ▶ To conduct a systematic review on the epidemiology, diagnosis, treatment (benefit and harm) and prognosis of neck pain.
- ▶ To determine the risks of stroke associated with manipulation and the risks of gastrointestinal events associated with non-steroidal anti-inflammatory medication.
- ▶ To conduct a decision analysis study of patient preference with regard to the most common treatment for neck pain. See: Cost Analysis for Neck Pain (Project 122).
- ▶ To develop clinical guidelines for the treatment of neck pain.

Methods: The Bone and Joint Decade 2000-2010 Task Force on Neck Pain and Its Associated Disorders is composed of a group of international researchers and scientist-clinicians who have spent the past seven years undertaking a comprehensive and structured review of the current research on neck pain. The Scientific Secretariat of the Task Force is composed of 13 members and has been supported by an International Advisory Committee of 17 members. The Task Force and Advisory Committee members represent 14 disciplines ranging from neurology and rheumatology to epidemiology, chiropractic and physical therapy from across nine countries.

Results: In conducting its review of the available published research on neck pain, the Neck Pain Task Force considered almost 32,000 research citations and performed critical appraisals of the more than 1,000 research studies that were relevant to its mandate. The Task Force report synthesizes the best available evidence on the onset, course and prognosis, assessment and management of neck pain, and includes the results of several original research studies.

All of the articles have been accepted for publication by Spine and by the European Spine Journal, and they will be jointly published as a supplement to these two journals. The articles should be published on-line by January 15th, 2008.

In summarizing the evidence the Task Force developed specific messages aimed at individuals with neck pain, health care providers including emergency physicians and surgeons, as well as public and private insurers. The summary is noted below.

Summary:

1. Neck pain is common and frequently persistent or recurrent.

2. There is typically no single cause and no single effective treatment for Grades 1 (neck pain with little or no interference with daily activities) or Grade 2 neck pain (neck pain that limits daily activities):
 - Effective treatment options are all low risk and may provide short-term relief when provided in moderation.
 - Informed patient preferences are key to treatment decisions.
 - A variety of treatments may need to be tried.
3. Routine imaging of Grades 1 or 2 neck pain will not increase understanding of causation.
4. There is not enough evidence to support the use of invasive interventions in Grades 1 or 2 neck pain.
5. Providers, policy makers and insurers need to move toward universal, validated, evidence-based treatment guidelines.

Researchers: Pierre Côté (Institute Coordinator), Dorcas Beaton, Claire Bombardier, Sheilah Hogg-Johnson, L. Carroll (University of Alberta), J. Cassidy (The Toronto Western Hospital), S. Haldeman (President, Scientific Secretariat), E. Hurwitz (UCLA), V. Kristman (Toronto Western Hospital), A. Nygren (Karolinska Institute), P. Peloso (University of Saskatchewan), Gabrielle van der Velde

Stakeholder Involvement: Clinicians (physicians, chiropractors, physio-therapists, psychologists), Researchers (epidemiologists, clinical epidemiologists, biostatisticians).

Potential Audiences and Significance: The Task Force will synthesize and produce new knowledge that will be relevant to patients, clinicians, researchers, insurers and policy-makers. The guidelines will inform all stakeholders about the best current practice for the treatment of neck pain and the research community about research priority.

Link to WSIB Policy & Program Priorities: Health Services: Effectiveness & Efficiency of Clinical Care

2007 Submission for 2008 Publication:

All articles from a special issue of Spine, dedicated to the Neck Pain Task Force.

Originally published in Spine Journal Supplement, February 15, 2008, Vol. 33 (4S). Subsequently published in European Spine Journal (2008) Vol. 17(Supplement 1).

Carragee E, Hurwitz E, Cheng I, Carroll L, Nordin M, Guzman J, Peloso P, Holm L, Côté P, Hogg-Johnson S, van der Velde G, Cassidy JC, Haldeman S. Surgical interventions: Results of The Bone and Joint Decade 2000-2010 Task Force on Neck Pain and its Associated Disorders.

Carroll L, Cassidy JD, Peloso P, Giles-Smith L, Cheng S, Greenhalgh S, Haldeman S, van der Velde G, Hurwitz E, Côté P, Nordin M, Hogg-Johnson S, Holm L, Guzman J, Carragee E. Methods for the best-evidence synthesis on neck pain and its associated disorders: The Bone and Joint Decade 2000-2010 Task Force on Neck Pain and its Associated Disorders.

Carroll L, Hogg-Johnson S, Côté P, van der Velde G, Holm L, Carragee E, Hurwitz E, Peloso P, Cassidy JC, Guzman J, Nordin M, Haldeman S. Course and prognostic factors for neck pain in workers: results of The Bone and Joint Decade 2000-2010 Task Force on Neck Pain and its Associated Disorders.

Carroll L, Hogg-Johnson S, van der Velde G, Haldeman S, Holm L, Carragee E, Hurwitz E, Côté P, Nordin M, Peloso P, Cassidy JC, Guzman J. Course and prognostic factors for neck pain in the general population: results of The Bone and Joint Decade 2000-2010 Task Force on Neck Pain and its Associated Disorders.

Carroll L, Holm L, Hogg-Johnson S, Côté P, Cassidy JC, Haldeman S, Nordin M, Hurwitz E, Carragee E, van der Velde G, Peloso P, Guzman J. Course and prognostic factors for neck pain in whiplash-associated disorder: results of The Bone and Joint Decade 2000-2010 Task Force on Neck Pain and its Associated Disorders.

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Côté P, Kristman V, Vidmar M, Van Eerd D, Hogg-Johnson S, Beaton D and the 2000-2010 Bone and Joint Decade Task Force on Neck Pain and its associated Disorders. The prevalence and incidence of work absenteeism involving neck pain: A cohort of Ontario lost-time claimants.

Côté P, van der Velde G, Cassidy JC, Carroll L, Hogg-Johnson S, Holm L, Hurwitz E, Carragee E, Peloso P, Guzman J, Nordin M, Haldeman S. The burden and determinants of neck pain in workers: results of The Bone and Joint Decade 2000-2010 Task Force on Neck Pain and its Associated Disorders.

Guzman J, Hurwitz E, Côté P, Carroll L, Haldeman S, Carragee E, Peloso P, van der Velde G, Nordin M, Cassidy JC. The Bone and Joint Decade 2000-2010 Task Force on Neck Pain and its Associated Disorders' conceptual model for the course and care of neck pain.

Hogg-Johnson S, van der Velde G, Carroll L, Holm L, Cassidy JC, Guzman J, Côté P, Haldeman S, Ammedolia C, Carragee E, Hurwitz E, Nordin M, Peloso P. Burden and determinants of neck pain in the general population: results of The Bone and Joint Decade 2000-2010 Task Force on Neck Pain and its Associated Disorders.

Holm L, Carroll L, Cassidy JC, Hogg-Johnson S, Côté P, Guzman J, Peloso P, Nordin M, Hurwitz E, van der Velde G, Carragee E, Haldeman S. The burden and determinants of whiplash-associated disorders after traffic collisions: results of The Bone and Joint Decade 2000-2010 Task Force on Neck Pain and its Associated Disorders.

Hurwitz E, Carragee E, van der Velde G, Carroll L, Nordin M, Guzman J, Peloso P, Holm L, Côté P, Hogg-Johnson S, Cassidy JC, Haldeman S. Non-invasive interventions for neck pain and its associated disorders: results of The Bone and Joint Decade 2000-2010 Task Force on Neck Pain and its Associated Disorders..

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van der Velde G, van Tulder M, Côté P, Hogg-Johnson S, Aker P, Cassidy JD, et al. The sensitivity of review results to methods used to appraise and incorporate trial quality into data synthesis. *Spine*, (2007); 32, 796-806.

2007 Presentations:

Hogg-Johnson S. The Bone and Joint Decade 2000-2010 Task Force on Neck Pain and Its Associated Disorders. 16-19 Apr 2007; Stockholm, Sweden.

Hogg-Johnson S. Neck pain in the general population - Risk and factors influencing course and prognosis. The Bone and Joint Decade 2000-2010: International Symposium - Task Force on Neck Pain and Its Associated Disorders. 27-28 Sept 2007; Bern, Switzerland.

van der Velde G. The Bone and Joint Decade 2000-2010 Task Force on Neck Pain and Its Associated Disorders Translates Its Findings into Clinical Practice: Should We Change the Way We Look at Neck Pain? 1) Is the risk of stroke following chiropractic visits greater than the risk of stroke following primary care physician visits? Results of the Canadian Stroke Study; 2) What is the impact of the risks and benefits of neck pain treatments on patients' health? Results of a decision analysis comparing common neck pain treatments]. 18 Aug 2007; St. Gaithersburg, Florida. Florida Chiropractic Association Annual General Meeting.

van der Velde G. Managing neck conditions - Report of the Findings of the Bone & Joint Decade 2000-2010 Task Force on Neck Pain and its Associated Disorders: Report on a Decision Analysis of Common Neck Pain Treatments. 15-16 Nov 2007; Regina, Canada

Cochrane Collaboration Back Review Group: Systematic Reviews of the Scientific Literature on Spinal Disorders (440)

Project Status: Ongoing

Introduction: The Cochrane Collaboration is an international network of individuals and institutions committed to preparing, maintaining, and disseminating systematic reviews of the scientific literature on the effects of health care. The Institute currently coordinates the Back Review Group (BRG), one of 50 review groups in the Cochrane Collaboration. The editorial and central coordinating activities associated with the BRG are described here as well as IWH researcher involvement in conducting systematic reviews within the BRG. The work of the Cochrane BRG is also closely aligned with the new systematic review program initiated at IWH in 2005.

Objectives:

- ▶ To prepare, maintain and disseminate systematic reviews of the scientific literature on spinal disorders.
- ▶ To maintain a specialized database of trials on spinal disorders as a resource for those conducting literature searches; to help identify gaps in the literature and to suggest areas for further studies.
- ▶ To communicate regularly with our BRG membership.

Results: In summary, during 2007, the CBRG submitted five protocols, six new reviews and six substantially updated reviews for publication in The Cochrane Library. This brings our total to 44 reviews (including 9 withdrawn, 3 of which are currently in the editorial process and should be submitted in 2008), nine protocols and four registered titles. We also submitted 2420 RCTs and CCTs to CENTRAL. In response to resignations on the Editorial Board, we successfully recruited four new editors and eight new members to the Advisory Board; the development of an orientation program is currently underway. Final revisions to the updated method guidelines were delayed to the fourth quarter due to pending CC method updates and the release of new Review Manager software, due March 2008. Our Editorial Assistant and Trial Search Coordinator are now both assuming their full roles, which results in a higher level of customer service for our authors and editors. We held a joint Editorial/Advisory Board and an Open CBRG meeting at the International LBP Forum in Mallorca and an Open CRRG meeting at the Cochrane Colloquium in Brazil.

Researchers: Vicki Pennick (Institute Coordinator), Claire Bombardier, Judy Clarke, Rachel Couban, Andrea Furlan, Emma Irvin, Allison Kelly, J. Guzman (Occupational Health & Safety Agency), M. Van Tulder (Vrije Universiteit, Amsterdam)

Stakeholder Involvement: Clinical stakeholders: Participate in Cochrane activities at their own level of interest and expertise. This varies by individuals, but may involve attending a systematic review workshop, conducting a review, or helping with strategies to make Cochrane reviews more accessible to clinical colleagues, students and the general public. (See KTE project #617 for more details).

Potential Audiences and Significance: Patients, health care professionals, policy-makers and payers. Updated systematic reviews of the literature provide the most current information on the effectiveness of treatment modalities and therapies, thereby assisting evidence-based treatment and payment decisions.

Links to WSIB Policy & Program Priorities: Health Services: Effectiveness & Efficiency of Clinical Care

2007 Presentations:

Pennick V. Cochrane Reviews: In the beginning. 12 Apr 2007; Hamilton, ON: Program for Assessment of Technology in Health Author Training.

Pennick V. What works, what doesn't: Research of the Cochrane Back Review Group. 24 Apr 2007; Toronto, ON: Canadian Orthopaedic Nurses Association.

Pennick V, Shah P. Strengths and limitations of systematic reviews. 19 Jul 2007; Toronto, ON: Canadian Dental Hygienists Conference.

Pennick V, et al. Cochrane Back Review Group Open Meeting. 3 Oct 2007; Palma de Mallorca, Spain: 9th Low Back Pain Forum.

Pennick V, et al. Cochrane Back Review Group Editorial/Advisory Board Meeting. 3 Oct 2007; Palma de Mallorca, Spain: 9th Low Back Pain Forum.

Pennick V, et al. Cochrane Back Review Group Open Meeting. 23-27 Oct 2007; Sao Paulo, Brazil: 15th Cochrane Colloquium.

2007 Publications:

Ammendolia C, Furlan AD, Imamura M, Irvin E, van Tulder MW. Evidence informed management of chronic low back pain with needle acupuncture. Accepted: Supplement to The Spine Journal.

Hayden J, Van Tulder M, Malmivaara A, Koes B. Part I: Is exercise therapy effective in the treatment of non-specific low back pain? An updated systematic review and meta-analysis of randomized controlled trials. Accepted: Ann Intern Med

Hayden J, Van Tulder M, Tomlinson G. Part II: Which exercise therapy intervention strategies are associated with improved outcomes in chronic low back pain? A Bayesian meta-regression analysis. Accepted: Ann Intern Med

External Funding:

Pennick V. Opportunities Fund: RGC induction and mentoring program. Cochrane: 2007 (£1500)

Grimshaw J, Bombardier C, Klassen T, McDonald J, Moher D, Pennick V. Knowledge synthesis and translation by the Cochrane Collaboration in Canada. CIHR: 2005-2010 (\$1,873,355.) (\$840,000 administered at IWH)

Back Guide/Linkages/Ontario Occupational Health Nurses' Association Journal (830)

Project Status: Ongoing; One contribution in 2007 *Where is the evidence?* OHN Journal 2007. 26(2): 20-21. Back Guide update postponed due to other priorities and review of status of *Linkages* with Communications.

Introduction: The Institute has developed a number of evidence-based products in response to clinical stakeholders' requests for critiques of the research literature. *Linkages*, distributed semi-annually with *At Work* and available in PDF through the Institute's web site, critically reviews the best available evidence in the peer-reviewed literature in soft-tissue injury. From the Research Frontier is a regular feature of the Journal of the Ontario Occupational Health Nurses' Association (OOHNA), the official publication of the Association. Published three times a year, the column highlights the work of Institute researchers and colleagues that may be important to our occupational health stakeholders. The BackGuide™ is an educational web site for health-care providers who are involved with the management of low-back pain. Based on research conducted by the U.S. Agency for Health Care Policy and Research (AHCPR) and developed by the Institute in collaboration with the University of Calgary, it is designed to improve patient care and foster better use of valuable health-care resources.

Objectives:

- ▶ Make the knowledge gained through high quality research both accessible and useful to our stakeholders.

Methods: Varies according to product, but generally involves a literature search, synthesis of the evidence and publication of a paper.

Researchers: Andrea Furlan, Vicki Pennick (Institute Coordinator's), Claire Bombardier, Emma Irvin, Sandra Sinclair

Stakeholder Involvement: Clinical network members, clinical stakeholders and the general public: Stakeholder feedback, obtained through needs assessment and contacts made by our KTE associate and scientific personnel, will guide product development.

Potential Audiences and Significance: By developing and distributing evidence-based clinical products, we support professional excellence and improved quality of health care for workers.

Link to WSIB Policy & Program Priorities: Health Services: Effectiveness & Efficiency of Clinical Care

Knowledge Transfer & Exchange Focus on Disability Prevention and Management

Introduction: Clinical provider groups who treat patients with MSDs are potential audiences for the research evidence that IWH generates. Some providers practice outside the more traditional clinical settings and focus on the work/health interface. We have targeted these groups as potential audiences for IWH research messages specifically: family physicians, and providers who work within or in close association with workplaces (in primary/secondary prevention roles and/or return to work, delivering treatment and/or disability management) including physiotherapists (PT), kinesiologists (Kin), occupational health nurses (OHN), occupational therapists (OT) and chiropractors (DC) and ergonomists.

There are a number of research messages from IWH and the Cochrane Back Review Group that are relevant and useful to these groups (management of back pain, disability management and RTW). Equally, there is a practice expertise and knowledge that these groups possess that is useful and relevant to IWH as research and knowledge transfer activities are planned and implemented. We have created a number of “informal opinion leader” or “educational influential” (EIs) networks with these clinical groups. Professional colleges who regulate these clinical disciplines are partners in these networks. We have identified and met with EIs in OHN, kinesiology, PT, OT and family medicine. Initial meetings have been planned with the final two EI networks, chiropractors and ergonomists for early in 2008.

Audience: Family physicians, physiotherapists, occupational health nurses, kinesiologists, occupational therapists, chiropractors, ergonomists.

Focus and Messages: Evidence-based management of back pain and evidence on effective RTW.

Deliverables:

- ▶ Discipline-specific, in-person knowledge transfer and exchange sessions.
- ▶
- ▶ Specific project-based participation of members of the EI networks.
- ▶ Routine information dissemination to EI networks.
- ▶ Maintain current database of all EIs with practice profile and contact information.
- ▶ Annual update and feedback sessions with EI organizational partners.
- ▶ Share EI networks with CRE partners via KTE Hub.

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Foundation Programs

There are two programs within the Research Program whose scope of activities may cross cut all the research we undertake at the Institute. These two programs, Data & Information Systems and Systematic Reviews have their own methodological foci, and provide this expertise to all relevant research projects in the Institute, hence the term foundation programs.

The first of two foundation programs at the Institute is Data & Information Systems. The success of Institute research, including the productivity of our scientists, rests to no small extent on expertise provided by the staff of this program. This team of statisticians and programmers/analysts provides statistical consulting and information technology solutions to all the other research programs.

Reliable measurement methods and rigorous analytic approaches are vital to research excellence. Among other things, they help scientists clarify the relationship between exposures and outcomes in epidemiologic studies.

Our data sources include current administrative data from the Workplace Safety & Insurance Board (WSIB). Program staff are constantly refining the Institute's ability to use this resource to its maximum capacity. They also develop and maintain our repository of historical WSIB databases as a potential resource for future research projects. Our access to WSIB administrative data provides scientists with some unique opportunities.

Program staff are very responsive to the needs of other Institute researchers, and as a result, are highly regarded by our scientists and staff in the other program. Besides being a source of methodological expertise and data management, program staff have also taken the lead in other areas. These include the exploration, development and implementation of research methodologies, among with new approaches to accessing, collecting, analyzing, interpreting, storing and maintaining the security of our data.

This team also provides continuity and training across the organization in maintaining issues of privacy, confidentiality and data security. Projects listed below which have an internal focus are a small part of the portfolio of this group as program staff are primarily involved in projects described elsewhere.

Workplace Safety & Insurance Board Data Routine Statistics (845)

Project Status: Ongoing

Introduction: The Workplace Safety & Insurance Board of Ontario routinely collects claims based data for administrative and reporting purposes. Through a special research agreement with the WSIB, the Institute for Work & Health can access and use much of the WSIB routinely collected data for research purposes.

Objectives:

- ▶ Continually develop and maintain expertise in the data holdings of the WSIB.
- ▶ Aid Institute researchers by providing information on the data holdings and their potential use for research projects.
- ▶ Respond to ad hoc requests for data extractions required for project planning purposes, etc.
- ▶ Develop internal capacity to use WSIB data and introduce three new staff to list of those who can extract data.
- ▶ Provide training.
- ▶ Develop set of core competencies re: WSIB data.
- ▶ Position IWH to provide assistance to external researchers (WSIB RAC, WSIB Privacy Office).

Methods: Various

Results: We developed a working group who composed a set of core competencies in WSIB data use. We also identified different pieces of documentation and data knowledge held around IWH and began an organizational framework for that. A software application has been identified as an organization vehicle for the different pieces of documentation.

Researchers: Sheilah Hogg-Johnson, Peter Smith, Peter Subrata, Michael Swift, Marjan Vidmar

Stakeholder Involvement: Possible external researchers from universities, CREs etc.; WSIB through our research and master agreements.

Potential Audiences and Significance: This IWH research activity is largely of interest to internal Institute colleagues, but has potential interest to WSIB stakeholders also. Data extractions will be conducted solely for Institute researchers as per our research agreement with the WSIB.

Links to WSIB Policy & Program Priorities: Health & Safety: Effective Preventions of Injury & Illness; Return to Work: Prevention & Management of Work Disability; Health Services: Effectiveness & Efficiency of Clinical Care

Development of an Instrument Database and Questionnaire Design Tools (835)

Project Status: Ongoing

Introduction: Several questionnaire instruments appear in Institute studies time and time again (e.g., SF-36, DASH, Chronic Pain Grade, Job Content Questionnaire, Effort-Reward Instrument). The purpose of this project is to create Microsoft Access modules for the most commonly used questionnaires which can be used for a variety of purposes such as data entry (when the data are collected via pencil and paper), Computer Assisted Telephone Interviewing (CATI), direct data collection in clinical settings etc. To date 45 instruments have been created for the questionnaire modules.

Objectives:

- ▶ Develop multi-purpose data entry modules for the most commonly used questionnaire instruments at IWH.
- ▶ Develop tools for use in designing data entry by allowing research staff to copy the instruments to another database.
- ▶ Develop a review section for the instruments, including: the conceptual basis in developing the instrument, an operational description of the instrument (format and scoring), its' psychometric properties (responsiveness, reliability and validity), IWH staffs' experience with using the instrument in their research, and the original and related bibliographic references.

Methods: Used Access 2000 Database with Visual Basic programming language.

Researchers: Michael Swift (Institute Coordinator), Sheilah Hogg-Johnson

Stakeholder Involvement: External Researchers

Potential Audiences and Significance: The data entry aspects of the proposed system will largely be of interest to other researchers at IWH.

Data Dictionary (301)

Project Status: Ongoing

Introduction: The Data Dictionary project is an attempt to create a searchable catalogue that documents the tools, resources and information on areas of research at the Institute. Staff initiating research at the Institute will be able to access this information, thereby limiting duplication of effort. Information will typically include the concept, definition, data access (if applicable), previous IWH work, and links to other sources of information on the concept. A beta version of limited information had been completed.

Objectives:

- ▶ To identify areas and subjects where specific researchers at the Institute may contribute information.
- ▶ To create a template for the presentation of information within the Data Dictionary.
- ▶ To display this information and together with IWH staff, work towards agreement on the structure of the Data Dictionary (i.e., how best to categorize the information within it).
- ▶ Cross reference information where appropriate.
- ▶ Maintain the dictionary.

Methods: To identify areas and subjects where specific researchers at the Institute may contribute information. To create a template for the presentation of information within the Data Dictionary. To display this information and together with IWH staff, work towards agreement on the structure of the Data Dictionary (i.e., how best to categorize the information within it). Cross reference information where appropriate. Maintain the dictionary.

Results: Working group has assembled an inventory of information currently held at IWH (R:\DATA RESOURCES\WSIBmaterials\DocumentationInventory.xls). After some exploration of different software tools, we have been testing the use of Twiki, a wiki application. A presentation will be made to the IWH executive group in early January outlining the plan to use the Twiki, and then we will continue with entries in the new year.

Researchers: Sheilah Hogg-Johnson (Institute Coordinator), Stella Chan, Jacob Etches, Paolo Maselli, Peter Smith, Peter Subrata, Michael Swift, Marjan Vidmar, Grant Yao

Stakeholder Involvement: Ministry of Labour Data Diagnostic Unit: potential audience and user of Dictionary - potential contributor around sources/uses of data.

Potential Audiences and Significance: Largely of internal interest, but may be some specialized interest with data users within MoL and WSIB.

Keyword Project (311)

Project Status: Ongoing

Introduction: The keyword project is an attempt to create a common nomenclature for describing content of IWH research projects. This nomenclature would be used for a variety of projects including: the web, Refman, working papers. It would be generated using MeSH vocabulary and tailored to suit our own needs.

Objectives:

- ▶ To identify a frequency of terms that are representative of our work at the IWH.
- ▶ The next step in the refinement of this initiative is to get a consensus agreement on the structure of the tree.
- ▶ To flush out the tree and develop layers which would be dependent on the various uses.
- ▶ Cross reference the tree structure.

Methods: Develop set of terms for IWH web search engine. Tag all material on Website. Tag all other material within IWH e.g., Refman, Projects. Edit and maintain.

Researchers: Emma Irvin (Institute Coordinator), Anita Dubey, Jacob Etches, Quenby Mahood, Katherine Russo, Michael Swift

Stakeholder Involvement: Not applicable.

Potential Audiences and Significance: This project is primarily focused on compiling facilitating access to information within the IWH based on a common structured language. The product focus is on internal staff, but iw will greatly assist us in responding to external stakeholder requests for information.

Integrated Information Database (307)

Project Status: Ongoing

Introduction: The genesis of this project was the need to streamline the accountability reporting of project accomplishments and activity plans for internal and external audiences. An initial review of the requirements indicated that many of the same data elements and information were used across different reports. A comprehensive database that contained all of these information items and could easily be manipulated to allow for customization was proposed. The integrated information database was conceived as a tool that could reduce repetition in data gathering, increase efficiency and accuracy in reporting and improve overall project tracking and management. This project was initiated in 2001 and now comprises three phases. The first phase was the tracking of time spent on individual projects and included linking the 'hours' part of the database with the Institute's secure budget and accounting system. The second phase encompassed all elements of detailed project descriptions. The third phase contained CV type information on Institute staff and affiliates.

Objectives:

- ▶ To develop an efficient computer-based tool for collecting information on project and staff activity.
- ▶ To create a central electronic repository of all project related information.
- ▶ To improve the efficiency of project reporting.
- ▶ To improve the overall tracking and management of project activities and milestones.

Methods: Building and testing of multi-user databases using MS-Access 2000 Database in consultation with users.

Results: Version 2.01 was released in November 2007. This report was generated from the information contained in the database.

Researchers: Sandra Sinclair (Institute Coordinator), Joan Antal, Mary Cicinelli, Linda Harlowe, Sheilah Hogg-Johnson, Vicki Pennick, Cathy Sir, Michael Swift

Stakeholder Involvement: None

Potential Audiences and Significance: The development of the database itself will be of interest externally to other research organizations who face similar reporting challenges as IWH.

Systematic Review

For a number of years the Institute has conducted systematic reviews of the published scientific literature. The main focus of this research has been on the effectiveness of treatments for work-related musculoskeletal disorders. However, over the past five years our expertise in conducting systematic reviews of the clinical literature has been more broadly applied. Institute researchers are now conducting reviews of research into economic and other non-clinical aspects of occupational Health and safety, especially in the area of prevention. As a result, this “umbrella” program, which encompasses various kinds of reviews, encourages cross-disciplinary collaboration and the use of systematic review methods across the Institute was created as the second Foundation Program at the Institute.

SR Program has three main areas of focus:

- ▶ The first and most fully developed area is managing the systematic reviews themselves. These include Prevention Reviews, Cochrane Reviews, and Other Reviews.
- ▶ The second is on providing training and education mostly via workshops to clinicians, researchers, educators and policy-makers about systematic reviews, including the methods involved, how to interpret findings, and how best to use the results.
- ▶ The third is on the development of useful methodologies for summarizing large bodies of literature. This is particularly relevant in the area of observational studies.

SR Program resources are available to researchers in other programs. These resources include advice and support on all aspects of literature review, including bibliographic searching, article retrieval, quality appraisal and evidence synthesis.

SR Program staff consult regularly with Institute stakeholders who are interested in the results of systematic reviews in a particular area of health and safety. The Institute’s knowledge transfer and exchange specialists are involved in these consultations and also in disseminating systematic review findings. As a Foundation program, the majority of “output” to which the Program contributes, have been reported elsewhere in the document. The projects reported on here have a particular methodological or training focus.

Methodological Developments in Systematic Reviews (951)

Project Status: Ongoing

Introduction: As part of the IWH's commitment to continuously improving the field of Systematic Review methodology, in 2007 we undertook the following methods projects:

- A - Meta-Analyses of Prevalence
- B - Prevention Review Methodology: Evaluation of Non-clinical Interventions
- C - Methods Workshops: i) Quality Appraisal tools
- D - Stakeholder Development in Prevention Reviews
- E - Literature Search Strategies for Grey Literature

Objectives:

- ▶ A. To do a systematic review of meta-analysis of prevalence studies published in the last five years for any health condition.
- ▶ B. To publish a paper intended to underline the challenges and solutions of adapting the established systematic review methodology to a non-clinical literature.
- ▶ C. To run a series of workshops to discuss aspects of the systematic review methods; the first workshop will be to discuss Quality Appraisal tools.
- ▶ D. To discuss the various models of stakeholder engagement throughout the process of writing a systematic review and their associated benefits.
- ▶ E. To systematically search and review relevant grey literature on the process and implementation of participatory ergonomics interventions in workplaces.
- ▶ To explore and document various methods of searching and obtaining grey literature on the topic of participatory ergonomics (PE) interventions.
- ▶ To provide recommendations about the use of grey literature in systematic review methods.

Methods: Literature searches and syntheses

Results:

- A and B papers are pending;
- C. "Levels of Evidence – Stating what works clearly" workshop held September 21, 2007 with 40 stakeholders. Workshop report distributed.
- D. A presentation and working paper on stakeholder involvement was finalized
- E. Results reported under Project 985, p.9.

Researchers: Andrea Furlan (Institute Coordinator), Emma Irvin (Institute Coordinator), Kiera Keown (Institute Coordinator), Quenby Mahood (Institute Coordinator), Ben Amick, Amber Bielecky, Claire Bombardier, Stella Chan, Kim Cullen, Vicki Pennick, Dwayne Van Eerd, J. Hayden (CREIDO), F. Lakha (Toronto Western Hospital), A. Mailis-Gagnon (Toronto Western Hospital), G. Tomlinson (University of Toronto & University Health Network)

Potential Audiences and Significance: Methods groups of the Cochrane Colloquium and other researchers conducting systematic reviews and those interested in incorporating stakeholders in the process.

Links to WSIB Policy & Program Priorities: Health & Safety: Effective Preventions of Injury & Illness; Return to Work: Prevention & Management of Work Disability; Health Services: Effectiveness & Efficiency of Clinical Care

2007 Publication:

Keown K, Van Eerd D, Irvin E. Engagement opportunities in systematic reviews; Knowledge transfer for policy and practice. Submitted: Journal of Continuing Education in the Health Professions.

2007 Presentations:

Irvin E. Searching for OHS information on the internet. 19 Feb 2007; Mississauga, ON: Research & Exchange Series for HSAs, The Centre for Health & Safety Intervention

Irvin E. Methods workshop, levels of evidence discussion with research stakeholders 18 May 2007; Toronto, ON.

Irvin E, Gibson J. How to access and obtain good research for use in OHS. 25 Apr 2007; Mississauga, ON: Woodbridge Group Annual Internal Meeting

Keown K, Irvin E, Van Eerd D. Stakeholder involvement within the Institute for Work & Health Systematic Review Program. 12-13 Feb 2007; Ottawa, ON: 5th Canadian Cochrane Symposium.

Keown K, Irvin E, Van Eerd D. Workshop: Informing policy, influencing practice, improving health. 23-24 Apr 2007; Ottawa, ON: 2007 CADTH Invitational Symposium.

Systematic Review Workshop (114)

Project Status: Ongoing; annual workshops.

Introduction: The Institute for Work & Health has considerable expertise in conducting systematic reviews to support evidence-based practice. Many researchers and students at the Institute are involved with the Cochrane Collaboration and the Institute's Systematic Review Program. The Institute has many requests to share its expertise and to contribute to the education and training of educators, researchers, clinicians and students. Institute personnel and colleagues have been offering a series of workshops that range from two hours to two-day Systematic Review Workshop since March 2001 with plans to continue through 2007. The series of workshops and other educational activities are part of the new Systematic Review Program initiated in 2005.

Objectives:

- ▶ Provide workshops that teach participants to plan, conduct and communicate the results of systematic reviews.

Methods:

Program Day 1: Introduction to the Workshop.

Evidence-based medicine, systematic reviews and the Cochrane Collaboration.

Literature searches and study selection.

Methodological quality of randomized controlled trials.

Exercise in small groups (quality assessment of a randomized controlled trial).

Combining studies with and without meta-analysis. Reporting of systematic reviews.

Program Day 2: Systematic reviews of observational studies. Methodological quality of observational study.

Exercise in small groups (quality assessment of a cohort study)

Clinical and statistical homogeneity. Statistical methods to combine studies. Bayesian meta-analysis.

Software for conducting meta-analysis.

Using systematic reviews: finding them, critically appraising, standard reporting and interpreting conflicting conclusions.

Exercise in small groups (quality assessment of a systematic review).

Dissemination, implementation and clinical practice guidelines.

Results: Workshop 16-17 May 2007, 25 Participants; Workshop 22-23 Nov 2007, 23 Participants

Researchers: Emma Irvin (Institute Coordinator), Claire Bombardier, Judy Clarke, J. Bayene (The Hospital for Sick Children), Pierre Côté, J. Hayden (CREIDO - Toronto Western Hospital), V. Kristman (Toronto Western Hospital), G. Tomlinson (University of Toronto & University Health Network), M. Van Tulder (Vrije Universiteit, Amsterdam)

Stakeholder Involvement: N/A

Potential Audiences and Significance: The Systematic Review Workshop will be of particular interest to healthcare professional students, educators, clinicians, researchers, insurers and policy makers. This workshop was an accredited group learning activity under Section 1 of the Framework of the Continuous Professional Development options for the Maintenance of Certification Program of the Royal College of Physicians and Surgeons of Canada (11 hours). In addition, members of the WSIB have and continue to show interest in attending as part of our Prevention Systematic Review initiative.

Links to WSIB Policy & Program Priorities: Health & Safety: Effective Preventions of Injury & Illness; Return to Work: Prevention & Management of Work Disability; Health Services: Effectiveness & Efficiency of Clinical Care

2007 Presentations:

Bombardier C, Irvin E, Kristman V, Tomlinson G, Van Tulder M. (The Netherlands). Systematic reviews workshop. 21-22 Nov 2007; Toronto, ON

Irvin E, Van Tulder M, Bombardier C, Hayden J, Côté P, Kristman V, Tomlinson G. The systematic review workshop. 16-17 May 2007; Toronto, ON

Knowledge Transfer & Exchange

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The Institute considers Knowledge Transfer & Exchange (KTE) to be a process by which relevant research information is made available and accessible through interactive engagement with stakeholders for practice, planning and policy-making. Stakeholders frequently are involved early in the research process to provide researchers with guidance to help shape the research questions and provide information about the context in which research results are likely to be used. Stakeholders also may be involved while the research is underway and at the message extraction stage when the research has been completed. The target audiences for the Institute include policy-makers (for example federal and provincial governments, disability insurers such as WSIB), prevention parties, health and safety associations (HSAs), workplace parties (labour and employers) and clinicians.

The KTE process is supported by user-friendly materials and a corporate communications strategy that enhances the Institute's ability to communicate effectively with its stakeholders. The communication

tools include our corporate newsletters, the IWH web site, media relations, special events and the marketing of specific products such as booklets and workshops. In addition, KTE actively works to build capacity in our audiences to understand and use research evidence.

The work of KTE falls into three goals:

- 1. Build stakeholder/audience relationships** to enhance the applicability and uptake of IWH research. KTE creates formal and informal networks of stakeholders to allow us to link with stakeholders over time with different research messages. KTE also provides support to the systematic review program engaging appropriate stakeholders throughout the review process. Developing evidence tools based on the results of the reviews will be a focus in 2008.
- 2. Enhance capacity** of KTE to develop effective strategies to reach key audiences and build capacity in our audiences to make better use of research evidence in their decision-making.
- 3. Support the Institute through effective communication strategies.** This goal focuses on increasing the Institute's visibility through communications and marketing. The website continues as a major source of outreach along with the publication of our quarterly newsletter *At Work*. We have continued to pursue coverage in trade media. IWH continued its presence at conferences and workshops to enhance strategic linkages with its audiences and partners.

RTW Audience (638)

Project Status: Ongoing

Introduction: The RTW systematic review (Franché et al) focused on understanding the effectiveness of workplace interventions in RTW outcomes. The findings, combined with other research knowledge, was used to create the “Seven Principles for Successful RTW”, which are messages for the 'players' (workplace parties, insurers, clinical care providers and disability managers) in the RTW continuum. This project explored the feasibility of delivering the “Principles” to local audiences with participants from each of the 'player' groups. The intended impact was to stimulate local action for improving RTW processes.

RTW for WSIB continues as strategic priority and KTE has worked to re-engage on this portfolio with them as new research emerges. More recently the HSAs have been encouraged by WSIB to become more engaged in this area of secondary prevention.

Objectives:

- ▶ Develop processes to transfer the “Seven Principles” messages to key parties in RTW process.
- ▶ Utilize the clinical EI networks (particularly OTs, Kins and Ergos) to get the RTW messages out.
- ▶ Support WSIB RTW strategic priority.
- ▶ If HSAs begin to engage in this area of prevention, provide support via workshops and other interactive events.

Summary of Accomplishments:

Wide dissemination of “Seven Principles for Successful RTW”, through print media and presentations to OHN, OT, PT and KIN EI networks, to IAPA Conference and Schedule 2 Employers Conference; Notable uptake by WSIB who are using “Seven Principles” in developing their new RTW toolkit; OT and OHN associations reprinted “Seven Principles” in their respective newsletter/journal; Articles published in *Accident Prevention* and *Back to Work* on the “Seven Principles”; St. Joseph's Tehab created one page handout based on RTW systematic review recommendations; Downloads of “Seven Principles” totaled **2,342** this year; Downloads of RTW Systematic Review totaled **1,511** this year.

WSIB RTW/LMR research analyst spending one day a week at IWH (liaison role\learning about KTE)

Team: Jane Brenneman Gibson, Kristina Buccat, Renée-Louise Franche, Kiera Keown, Ellen MacEachen, Kelly Grover

Stakeholder Involvement: WSIB RTW Branch; EI Networks; Workplace Parties; Disability Managers

Audiences: Players in the RTW continuum (workplace parties, insurers, clinical care providers and disability managers) will receive materials and linked to discussions on RTW.

Relationship Building with Policy-Makers (603)

Project Status: Ongoing

Introduction: Policy-makers are a key target audience for the Institute. Policy-makers include WSIB, MoL and MOH-LTC. Building relationship pathways with these audiences improves linkages between their priorities and the research agenda and makes research results more readily available to support policy making.

Objectives:

- ▶ Working through the Office of the President, KTE supported the development of relationships with policy makers through sharing of evidence from IWH research, building capacity for the use of evidence by policy-makers and facilitating information exchange about priorities of policy-makers.

Summary of Accomplishments: Increased linkage with WSIB staff using systematic prevention review products. Workshops were assessed as successful at both WSIB and MOL. WSIB committed to bi-monthly meetings on discussion of evidence and its use.

Team: Kelly Grover (Project Leader), Jane Brenneman Gibson, Cameron Mustard, A. Culyer (WSIB RAC), A. Peter (WSIB)

Stakeholder Involvement: WSIB, MoL, MOH-LTC

Potential Audiences and Significance: WSIB, MoL, MOH-LTC

KTE HUB (601)

Project Status: Ongoing

Introduction: IWH is working with the CREs to maximize our KTE capabilities with our joint target audiences by creating a KTE "Hub". An MOU was signed in 2006 for a three year time period. A work plan for 2007 was approved at the December 2006 KTE Hub Steering Committee.

Objectives:

- ▶ Build and share audiences/networks interested in work and health.
- ▶ Build capacity in target audiences to utilize research.
- ▶ Share joint research messages across our audiences, align with OHSCO priorities.
- ▶ Build KTE capacity in work and health.
- ▶ Develop a broader vision for a KTE Hub to serve the WSIB funded research organizations in Ontario.

Summary of Accomplishments:

KTE Hub models developed, consultations completed and WSIB RAC supports recommended model.
CRE insert for At Work publication developed, designed and published with Fall 2007 edition.
Research Exchange Series with IAPA supported by KTE Hub.
KTE Hub took lead to support OSSA Research Day May1, 2007.
KTE Hub partners assist with CRE-OD KTE Day.
KTE Hub expanded to include CREIDO.

Team: Jane Brenneman Gibson (Project Leader), Kiera Keown, Cameron Mustard, J. Brown (CRE-OD St. Michael's Hospital), L. Holness (St. Michael's Hospital), D. Kramer (University of Waterloo), R. Wells (University of Waterloo)

Stakeholder Involvement: WSIB, HSAs, workplace parties, organized labour, MoL, clinicians

Potential Audiences and Significance: The audiences include all the target audiences for work and health messages.

Clinical Networks (617)

Project Status: Ongoing

Introduction: Many clinical provider groups deliver care to populations of interest to IWH (MSK disorders). Some practice outside the more traditional clinical settings and focus on the work/health interface. We have targeted these groups as potential audiences for Institute research messages and providers who work within, or in close association with, workplaces (in primary/secondary prevention roles and/or return to work, delivering treatment and/or disability management) including family physicians(MDs), physiotherapists (PT), kinesiologists (Kin), occupational health nurses (OHN), occupational therapists (OT), Chiropractors (Chiro) and Ergonomists (Ergo).

There are many IWH research messages that are relevant and useful to these groups (management of back pain, disability management and RTW) and, equally, there is a practice expertise and knowledge that these groups possess that is useful and relevant to IWH as research and knowledge transfer activities are planned. This project builds knowledge transfer & exchange infrastructure that can be used over time with multiple messages. Fundamental to this project are partnerships developed with professional bodies who represent or regulate these disciplines. These partners have assisted in identifying those individuals across the province who are informal opinion leaders, i.e. individuals who are identified by their peers as “educationally influential” (EI - as defined in the Hiss methodology). We have identified EIs in OHN, kinesiology, PT, OT and family medicine. We created EI networks with Chiropractors and Ergonomists. Each of these discipline groups have been convened to seek their cooperation in an ongoing role as “knowledge broker”.

Objectives:

- ▶ Engage partners who helped create EI Networks.
- ▶ Plan and implement annual face-to-face contact with each discipline group.
- ▶ Plan and implement projects to bring EIs into IWH's work (e.g., PT EI input to selected Cochrane reviews; regional cross discipline EI meetings on RTW).
- ▶ Finalize Chiro EI network and develop Ergonomist network.
- ▶ Create a comprehensive and accurate ‘EI Database’.
- ▶ Determine where EI 'renewal' is necessary and undertake necessary new surveys.
- ▶ Disseminate information to EI groups as appropriate.

Summary of Accomplishments:

Networks of Educational Influentials

Ergonomists: Decision to proceed with Ergo EI network. EIs were identified and selected in meeting with ACE and an invitation to join network by completing a profile survey was sent to potential EIs. 15/21 people responded and planning for inaugural event in early 2008 is underway.

Occupational Health Nurses: Met with OHN EI steering committee to discuss and possible event at yearly conference, planned a new survey of OHNs. Resurveyed OHNs to identify topics of interest and best KTE approach for OHNs. Web-based survey was completed by 309 OHNs. Results will be summarized for steering committee meeting in January 2008 and an article written on survey results was drafted for winter edition of OOHNA journal.

Kinesiologists: Held EI event at OKA conference, IWH research summaries to be sent to KINs nationally in quarterly journal; Linked communications to an KIN EI initiating an IWH research column in CBI newsletter to go out to 500 employers.

Physiotherapists: Clinical discussion notes called *Practice Perspectives* posted on IWH website and distributed to all PT EIs, PTs were contacted to determine identify topics of interest for 2008 event.

Chiropractors: Materials sent to Chiro College for distribution to Potential EIs. Chiro EI inaugural event in planning.

Occupational Therapists: Final draft of OT employer engagement tool completed, continue with development of evaluation plan.

Physicians: Annual EI event was held. With Physicians of Ontario Collaborating for Knowledge Transfer & Exchange (POCKET) team, revised web-based POCKET physician toolkit to be office-printer-friendly; Scoping phase of POCKET Project #2 on *Chronic Non-cancer Pain* complete.

Team: Kathy MacDonald (Lead), Jane Brenneman Gibson, Kristina Buccat, Judy Clarke, Kiera Keown, Vicki Pennick, Sandra Sinclair

Stakeholder Involvement: Clinicians; professional bodies (Associations/Regulatory Colleges); Guidelines Advisory Committee; WSIB (RTW & LMR Division)

Potential Audiences and Significance: Family physicians, PTs, OHNs, OTs and Kins, Ergonomists, Chiros.

Prevention Partners Networks (240)

Project Status: Ongoing

Introduction: KTE continues to build relationships with the prevention partner community through vehicles like the HSA Liaison Committee (HSALC). Members of the KTE Hub (project 601) are now full partners in the HSALC and the "Research Alerts" product has been rebranded to be from the "Research Partners". Capacity building in the use of evidence in programming and planning will continue through the review of evidence from the prevention reviews and the Research Alerts. We will supplement this regular committee work with workshops open to the broader HSA community. We will also look at the experience of the HSAs who have become research participants in a series of pilot projects.

Objectives:

- ▶ Continue to build relationships with prevention partners to take research evidence to Ontario workplaces.
- ▶ Continue to develop opportunities for our prevention partners to participate in the research process and review their experience with this participation.
- ▶ Increase capacity to understand research evidence.
- ▶ Work jointly with KTE Hub members on this agenda.

Summary of Accomplishments: Continued HSA network development which now includes the Centres of Research Expertise. MASHA and Ministries of Labour added members to the Network for the first time. New OHCOW member started. WSIB Prevention Division member was withdrawn while they were in their strategic planning phase. Centres of Research Expertise have utilized HSALC to present their research priorities.

Team: Jane Brenneman Gibson (Project Leader), Kristina Buccat, Anita Dubey, Kiera Keown, Greer Palloo

Stakeholder Involvement: HSA Community, CRE-MSD, CRE-OD, CREIDO via KTE Hub, IWH researchers.

Audiences: Health and Safety Association Consultants, OSHCO Membership, WSIB Prevention Division, WSIB RAC, MoL.

KTE Advisory Committee (646)

Project Status: Ongoing

Introduction: The KTE Advisory Committee forms part of the accountability framework for KTE by providing expert advice on our KTE activities challenges and accomplishments.

Objectives:

- ▶ Provide expert advice to KTE at IWH to enhance the quality and effectiveness of the programs.
- ▶ To develop a timetable for committee member renewal.

Summary of Accomplishments: KTE Advisory Committee met in May 2007. Full day meeting reviewed a number of KTE projects and provided advice about future directions. New members made strong contribution.

Team: Jane Brenneman Gibson (Project Leader), Kristina Buccat, Anita Dubey, Kiera Keown, Cameron Mustard, Greer Palloo, Sandra Sinclair, Rob Van Kruistum, Kelly Grover

Stakeholder Involvement: KTEAC Chair, Internal Committee

Audiences: KTE, IWH researchers, Executive, IWH Board of Directors.

KTE Partnerships (652)

Project Status: Ongoing

Introduction: This project has been broadened to include not just research partnerships but partnerships with other KTE practitioners as part of our capacity building as a unit and team. The Ontario KTE Community of Practice continued in 2007. In addition the new Li Ka Shing Knowledge Institute at St. Michael's Hospital provides an opportunity to link to this group. We continue to profile the IWH KTE work at appropriate conferences and workshops.

Objectives:

- ▶ Hold meetings of the Ontario KTE Community of Practice Practitioners (KTE C of P).
- ▶ Community of Practice will provide venue to share research evidence and best practices on what works in KTE.
- ▶ Link with Li Ka Shing Knowledge Institute at St. Michael's Hospital.

Summary of Accomplishments: KTE Community of Practice grew in memberships. Webinar technology added to the meeting process. New co-chairs for 2008, Kelly Grover and Dee Kramer. Despite other KTE exchange opportunities in the environment, an assessment of the continued need for the KTE Community of Practice indicated its ongoing usefulness.

Team: Jane Brenneman Gibson (Project Leader), Kiera Keown, Greer Palloo, Kelly Grover, Kathy Mac Donald.

Stakeholder Involvement: KTE community in Toronto

Audiences: KTE practitioners, Researchers in KTE, Scientific Director

Tracking KTE/Evaluation (629)

Project Status: Ongoing

Introduction: Underpinning the work of KTE is the information gathered about key stakeholders. Capturing this information in a systematic way and establishing a process for sharing information about the stakeholders in IWH has been a challenge. As well, there is a need to establish a process to respond to stakeholders research ideas.

Objectives:

- ▶ To identify a systematic process to capture key information on priority stakeholders.
- ▶ To identify a process to share information about stakeholders within the organization.
- ▶ To identify a process to manage stakeholder interests in and suggestions for IWH.

Summary of Accomplishments: Identified a process for responding to stakeholder ideas. Developed a database for capturing stakeholder activities stemming for the Prevention Systematic Reviews. Updated the stakeholder database and mailing lists.

Team: Kelly Grover (Project Leader), Jane Brenneman Gibson, Kristina Buccat, Kiera Keown, Sandra Sinclair

Stakeholder Involvement: Not applicable.

Audiences: Internal.

Tool Development (636)

Project Status: Ongoing

Introduction: Stakeholders have told us that they need “tools” to help them apply research findings in the workplace. Research in knowledge transfer has also demonstrated the advantage of having evidence-based tools (e.g., DASH, Ergonomics Blueprint, BackGuide, Physician Toolkit, Seven Principles of RTW). As new knowledge emerges at the Institute, there will be a need for additional tools to meet the needs of the Institute’s stakeholders and other interested audiences.

Objectives:

- ▶ Continue to look for new opportunities for tool development, e.g., systematic reviews.
- ▶ To update, repackage and market current tools within IWH toolkit as needed.
- ▶ To administer and coordinate all procedures related to translations of the DASH, QuickDASH and maintain related database
- ▶ Monitor and maintain database of requests for commercial and non-commercial use of the DASH

Summary of Accomplishments: DASH and QuickDASH commercial and non-commercial databases monitored and maintained. User Profile worksheet added to database. DASH website: FAQ section updated - two new questions added; revised recommendations for the Cross-Cultural Translation database monitored, updated on an ongoing basis.

Team : Greer Palloo (Project Leader), Jane Brennehan Gibson, Carol Holland, Sandra Sinclair

Stakeholder Involvement: HSA community, workplace parties, clinicians, other stakeholders as appropriate.

Web Development (230)

Project Status: Ongoing

Introduction: The Institute's website is the key communications tool to keep our external stakeholders up to date on current IWH activities and projects. The website content reflects the growing research and KTE agendas. The objectives for this year are to update content on an ongoing basis, conduct an evaluation of the web site, with the intent of completing an IWH website redesign. In addition to the main corporate site, the Institute also manages the Cochrane Back Review Group site, the DASH (Disabilities of the Arm Shoulder and Hand) website and the CLUG (Cochrane Library Users' Group) sites.

Objectives:

- ▶ Continue to develop web site content to include: all working paper summaries, revised online publications catalogue, research and KTE project summaries, links to published papers/abstracts and briefings.
- ▶ Conduct an evaluation of the current IWH website, including a user survey.
- ▶ Work with consultants to propose a new design for the IWH website.
- ▶ Build and launch a rebranded IWH website.
- ▶ Revise and update content in KTE section.
- ▶ Explore information sharing with other organizations (HSAs, Canadian Health Network, preventiondynamics.ca, etc.)
- ▶ Explore web technologies and other interactive features (blogging, webcasting, podcasting).

Summary of Accomplishments: The website continued to be updated on an ongoing basis with a new section created for KTE. Website traffic was calculated, the keywords were implemented, where possible and regular maintenance was achieved. Preliminary discussions around the redevelopment of the new website occurred in Q4, 2007.

Team: Jane Brenneman Gibson, Carol Holland, Emma Irvin, Greer Palloo, Rob Van Kruistum, Philip Kiff, Katherine Russo, Anita Dubey.

Stakeholder Involvement: External stakeholders, Possible input from HSAs on the idea of information sharing.: Possible input from HSAs on the idea of information sharing.

Audiences: External stakeholders.

Alf Nachemson Memorial Lectureship (245)

Project Status: Ongoing

Introduction: Established by the Institute in 2002 to honour Dr. Alf Nachemson's significant contribution to research evidence in clinical decision-making, the Alf Nachemson Lectureship is awarded annually to a prominent national or international individual who has made a significant and unique contribution to a number of work and health-related themes, including the interface between work and health, the role of evidence in decision-making or evidence-based practice in the prevention of work-relevant injury, illness or disability. The lecture is delivered at a networking event to which many of the Institute's stakeholders are invited. Dr. Nachemson died in 2006 and thus the title of the lecture series has been revised to note his passing.

Objectives:

- ▶ To increase the visibility of the Institute provincially, nationally and internationally.
- ▶ To identify and acknowledge individuals who have made significant and unique contributions to work-health research.
- ▶ To provide an opportunity for Institute staff and stakeholders to network.

Results: Dr. David Stuewe was the 2007 lecturer. His presentation was entitled: *Safety climate: The role of leadership in enhancing workplace safety*.

Approximately 160 persons attended this successful event.

Team: Greer Palloo (Project Leader), Jane Brenneman Gibson, Kristina Buccat, Philip Kiff, Anita Dubey

Stakeholder Involvement: N/A

Audiences: Members of IWH's Board of Directors, stakeholders, other interested individuals and IWH staff members.

Outreach (250)

Project Status: Ongoing

Introduction: The Institute continues to engage in opportunities and activities to increase its visibility provincially, nationally and internationally. Throughout the year there are key events and conferences in which the Institute participates. During these, targeted information can be made available to stakeholder groups to raise IWH's awareness and profile. In addition, the Institute uses these opportunities to market its products to increase awareness.

Objectives:

- ▶ Continue to develop themed displays to meet targeted audiences, profiling key research initiatives where appropriate. Use these opportunities to demonstrate use of research evidence in improving health of worker.
- ▶ Increase the visibility of the Institute.
- ▶ Coordinate and lend support to a calendar of key events.
- ▶ Take advantage of opportunities to increase awareness of the Institute's research and knowledge transfer and exchange activities.
- ▶ Profile the Institute as a credible resource of evidenced-based information and tools.

Summary of Accomplishments:

Events tracked - quarterly report produced for communications and quarterly update reports.
Corporate brochures and annual reports sent to Injured Workers Group for display at a RSI Day seminar.
Presentation Skills workshop completed.
Calendar of events produced and maintained.
IWH successfully participated in the IAPA Conference and Trade Show.

Researchers: Greer Palloo (Lead), Jane Brenneman Gibson, Kristina Buccat, Carol Holland, Anita Dubey, Philip Kiff.

Stakeholder Involvement: N/A

Audiences: Institute's external and internal stakeholders; others listed in the Institute's database; other individuals/organizations doing similar work to or interested in the work of the Institute.

Media Relations (255)

Project Status: Ongoing

Introduction: Increasing the profile and visibility of the Institute with the commercial and trade media is an ongoing objective of the Institute and the KTE group. Contact with work-health, business and OHS reporters in both commercial and trade media should lead to increased use of the Institute as a resource for publications and electronic media.

Objectives:

- ▶ Develop a strategic plan to target trade media.
- ▶ Increase profile in commercial and trade media.
- ▶ Update media room.
- ▶ Maintain database.
- ▶ One op-ed piece.

Summary of Accomplishments:

Increased visibility in trade media, including a regular column in IAPA's magazine Accident Prevention. Other trade outlets that published IWH research results in 2007 were: Back to Work, Canadian Occupational Safety, Workplace Wellness and several newsletters of HSAs. Ongoing visibility in commercial media, including the Toronto Star, Globe and Mail, Canadian Press and Metro News.

Team: Anita Dubey (Project Leader), Jane Brenneman Gibson, Kristina Buccat, Rob Van Kruistum, Katherine Russo.

Stakeholder Involvement: N/A

Audiences: Media, general public, external stakeholders.

Internal Communications (622)

Project Status: Ongoing

Introduction: The Institute continues to grow and expand its activities provincially, nationally and internationally. As a result, there is a need to keep its staff informed of such activities in a timely manner through insightful, explicit and rapid internal communications processes. In addition inter- and intra-departmental communications must be encouraged and enhanced to improve working relationships and comradery, and assist in meeting our corporate goal of “be a model of a healthy workplace”.

Objectives:

- ▶ To implement strategies for the ongoing renewal of the Intranet including creating new pages and reorganizing of sections as appropriate.
- ▶ To inform staff of internal and external activities through the Institute’s e-newsletter, thisweek@IWH.
- ▶ To evaluate internal communications and vehicles used to communicate with staff.

Summary of Accomplishments:

E-newsletter, thisweek@IWH, produced and distributed to staff every Monday morning.

Monthly innie stats collected and analyzed.

Monthly, quarterly and bi-annual reports produced.

Intranet pages monitored, reviewed and updated with information provided on an ongoing basis.

Team: Greer Palloo (Project Leader), Jane Brenneman Gibson, Kristina Buccat, Carol Holland, Rob Van Krustum, Katherine Russo, Philip Kiff.

Stakeholder Involvement: N/A

Audiences: All staff.

Corporate Communications (290)

Project Status: Ongoing

Introduction: The communications group provides overall support to KTE and corporate activities of the Institute. Support for the latter includes production of the Annual Report and response to external queries for information on a variety of topics.

Objectives:

- ▶ Production of the annual report, corporate brochure and other corporate documents.
- ▶ Monitor and respond to ongoing requests for information and Institute products.
- ▶ Maintenance of the corporate contact and mailing database.
- ▶ Preparation of the quarterly communications statistics for internal and Board of Directors use.

Summary of Accomplishments: All corporate reports and communications materials completed and distributed in 2007.

Team: Anita Dubey (Lead), Jane Brenneman Gibson, Kristina Buccat, Carol Holland, Greer Palloo, Rob Van Kruistum, Philip Kiff, Katherine Russo.

Stakeholder Involvement: N/A

Audiences: All external stakeholders.

At Work (260)

Project Status: Ongoing

Introduction: The At Work newsletter provides ongoing communication with stakeholders regarding Institute research and knowledge transfer and exchange activities. Research Highlights showcases Institute research that is relevant to stakeholders.

Objectives:

- ▶ Produce four editions.
- ▶ Meet with researchers, KTAs and communications committee to generate potential story ideas.
- ▶ Investigate ongoing opportunities for including external content and having issues based on specific themes.
- ▶ Produce Research Highlights as scientific papers are published.

Summary of Accomplishments: Develop, produce and disseminate four editions. In an *At Work* readership survey in 2007, 42% of respondents said they had used information from *At Work* to make changes in their workplace. In a WEB survey, 87% rated Research Highlights as “useful or very useful.”

Team: Katherine Russo (Lead), Jane Brenneman Gibson, Kristina Buccat, Carol Holland, Rob Van Kruistum, Anita Dubey.

Stakeholder Involvement: N/A

Audiences: External stakeholders.

IWH Annual Report (265)

Project Status: Ongoing

Introduction: The annual report provides an overview of the Institute's research and KTE activities as well as financial statements for the previous year.

Objectives:

- ▶ Produce and distribute the annual report.

Summary of Accomplishments: Distribution of annual report completed Q3.

Team: Anita Dubey (Lead) Jane Brenneman Gibson, Kristina Buccat, Carol Holland, Cameron Mustard, Katherine Russo.

Stakeholder Involvement: N/A

Audiences: External stakeholders.

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2007 Journal Articles - Peer Reviewed

- Ahmad F, Hogg-Johnson S, Stewart DE, Levinson W. Violence involving intimate partners-Prevalence in Canadian family practice. *Canadian Family Physician* 2007; 53:461-468 (Generic)
- Alamgir H, Demers P, Koehoorn M, Ostry A, Tompa E. Epidemiology of work-related injuries requiring hospitalization among sawmill-workers in British Columbia: 1989-1997. *Eur J Epidemiol* 2007; 22:273-280. (Generic)
- Alamgir H, Tompa E, Koehoorn M, Ostry A, Demers P. The hospital costs of treating work-related sawmill injuries in British Columbia. *Injury* 2007; 38:631-639. (Generic)
- Ammendolia C, Côté P, Hogg-Johnson S, Bombardier C. Do chiropractors adhere to guidelines for back radiographs? A study of chiropractic teaching clinics in Canada. *Spine* 2007; 32(22):2509-2514. ([Project # 680: Adherence to LBP Guidelines; #2005-018](#))
- Baldwin ML, Butler RJ, Johnson WG, Cote P. Self-reported severity measures as predictors of return-to-work outcomes in occupational back pain. *J Occup Rehabil* 2007; 17(4):683-700. ([Project 555: ASU Back Study](#))
- Barrientos-Gutierrez T, Gimeno D, Mangione TW, Harrist RB, Amick BC. Drinking social norms and drinking behaviours: a multilevel analysis of 137 workgroups in 16 worksites. *Occup Environ Med* 2007; 64(9):602-608. (Generic)
- Beaton DE, Bombardier C, Cole DC, Hogg-Johnson S, Van Eerd D, and the Clinical Expert Group. A pattern recognition approach to the development of a classification system for upper-limb musculoskeletal disorders in workers. *Scan J Work Environ Health* 2007; 33(2):131-140. ([Project 750: Upper Extremity Classification](#))
- Breslin FC, Day D, Tompa E, Irvin E, Bhattacharyya S, Clarke J, Wang A, Koehoorn M. Non-agricultural work injuries among youth: a systematic review. *Am J Prev Med* 2007; 32:151-162. ([Project 409: SR – Risk factors for work injury among teens - OC](#))
- Breslin FC, Tompa E, Mustard CA, Zhao R, Smith P, Hogg-Johnson S. Association between the decline in workers' compensation claims and workforce composition and job characteristics in Ontario. *Am J Pub Health* 2007; 97(3):453-455.
- Brown JA, Shannon HS, McDonough P, Mustard CA. Social and economic consequences of workplace injury: a population-based study of workers in British Columbia, Canada. *Am J Ind Med* 2007; 50(9):633-645 (Generic).
- Brown JA, Shannon HS, McDonough P, Mustard CA. Healthcare use of families of injured workers before and after a workplace injury in British Columbia. *Healthcare Policy* 2007; 2:1-19. (Generic)
- Butler RJ, Johnson WG, Côté P. It pays to be nice: Employer-worker relationships and the management of back pain claims. *J Occup Environ Med* 2007; 49:214-225. ([Project 555: ASU Back Study](#))
- Cadarette SM, Dickson L, Gignac M, Beaton DE, Jaglal JB, Hawker GA. Predictors of locating women six to eight years after contact: Internet resources at recruitment may help to improve response rates in longitudinal research. *BMC Medical Research Methodology* 2007; 7:22. (Generic)

Chang CH, Amick BC, Menendez CC, Katz JN, Johnson PW, Robertson M. Daily computer usage correlated with undergraduate students' musculoskeletal symptoms. *Am J Ind Med* 2007; 50:481-488. (Generic)

Chen C, Hogg-Johnson S, Smith P. The recovery patterns of back pain among workers with compensated occupational back injuries. *Occup Environ Med* 2007; 64:534-540. (Generic)

Claxton K, Culyer AJ. Rights, responsibilities and NICE: a rejoinder to Harris. *J Med Ethics* 2007; 33: 462-464. (Generic)

Culyer AJ. NICE misconceptions. *The Lancet*, September 11 2007, on-line at <http://www.thelancet.com/journals/lancet/article/PIIS014067360761321X/comments>

Culyer AJ. Equity of what in health care? Why the traditional answers don't help policy - and what to do in the future. *Healthcare Papers* 2007; 8(Sp):12-26. (Generic)

Culyer AJ, McCabe C, Briggs AH, Claxton K, Buxton B, Akehurst RL, Sculpher M, Brazier J. Searching for a threshold, not setting one: the role of the National Institute of Health and Clinical Excellence. *Journal of Health Service Research and Policy* 2007; 12:56-58. (Generic)

Culyer AJ, McCabe C, Briggs A, Claxton K, Buxton M, Akehurst RL, Sculpher M, Brazier J. Not so..." *Journal of Health Service Research and Policy* 2007; 12:190-191. (Letter: Reply to G. Mooney, J. Coast, S. Jan, D. McIntyre, M. Ryan and V. Wiseman)

Escorpizo R, Bombardier C, Boonen A, Hazes JM, Lacaille D, Strand V, et al. Worker productivity outcome measures in arthritis. *J Rheumatol* 2007; 34(6):1372-1380.

Furlan AD, Sjolund BH. Invited editorial: Igniting the spark? *Pain* 2007; 130(1-2):1-3.

Gallasch CH, Alexandre NM, Amick B. Cross-cultural adaptation, reliability, and validity of the work role functioning questionnaire to Brazilian Portuguese. *J Occup Rehabil* 2007; 17(4):701-711. (Generic)

Gilkey DP, Keefe TJ, Bigelow P, Herron RE, Duvall K, Hautaluoma JE, et al. Low back pain among residential carpenters: ergonomic evaluation using OWAS and 2D compression estimation. *Int J Occup Saf Ergon* 2007; 13(3):305-321.

Griffiths LE, Shannon HS, Wells R, Cole DC, Hogg-Johnson S, Walters S. Developing common metrics of mechanical exposures across etiologic studies of low back pain in working populations for use in meta-analysis. *Occup Environ Med* 2007. Nov (on-line); DOI:10.1136/oem.2007.034801' URL: <http://oem.bmj.com>

Griffiths LE, Hogg-Johnson S, Cole DC, Krause N, Hayden J, Burdorf A, et al. Low back pain definitions in occupational studies were categorized for a meta-analysis using Delphi consensus methods. *J Clin Epi* 2007; 60:625-633.

Guzmán J, Hayden J, Furlan AD, Cassidy JD, Loisel P, Flannery J, et al. Key factors in back disability prevention: A consensus panel on their impact and modifiability. *Spine* 2007; 32(2):807-815. (Project 111: Consensus using Delphi & Q-cards) [WP# 314]

Guzmán J, Jones D, Cassidy JD, Furlan AD, Loisel P, Frank JW. Key factors in back disability prevention: What influences the choice of priorities? *Spine* 2007; 32(9): E281-E289. ([Project 111: Consensus using Delphi & Q-cards](#))

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Kristman VL, Côté P, Van Eerd D, Vidmar M, Rezai M, Hogg-Johnson S, Wennberg RA, Cassidy JD. Prevalence of lost-time claims for mild traumatic brain injury in the working population: Improving estimates using workers compensation databases'. *Brain Injury* 2008; 22(1):51-59. (Generic)

Laing AC, Cole DC, Theberge N, Wells RP, Kerr MK, Frazer MB. Effectiveness of a participatory ergonomics intervention in improving communication and psychosocial exposures. *Ergonomics* 2007; 50: 1092-1109. (Generic)

Lemieux J, Beaton DE, Hogg-Johnson S, Bordeleau LJ, Goodwin PJ. Three methods for minimally important difference: No relationship was found with the net proportion of patients improving. *J Clin Epi* 2007;60:448-455. (Generic; 2007-117)

Lemieux J, Beaton DE, Hogg-Johnson S, Bordeleau LJ, Hunter J, Goodwin PJ. Responsiveness to change to supportive-expressive group therapy, improvement in mood and disease progression in women with metastatic breast cancer. *Quality of Life Research* 2007; 16:1007-1017 (Generic; 2007-117)

Mustard CA. Data protection and the promotion of health research. [Comment on Steeves 2007 below] *Healthcare Policy* 2007; 2:44-46.

Robson LS, Clarke JA, Cullen K, Bielecky A, Severin C, Bigelow P L, et al. The effectiveness of occupational health and safety management system interventions: A systematic review. *Saf Sci* 2007; 45:329-353. ([Project 215: SR - OH&S Management Systems](#))

Smith P. A transdisciplinary approach to research on work and health: What is it, what could it contribute, and what are the challenges? *Crit Pub Health* 2007; 17:159-169. (Generic)

Tompa E, Trevithick S, McLeod C. A systematic review of the prevention incentives of insurance and regulatory mechanisms for occupational health and safety. *Scan J Work Environ Health* 2007; 33:85-95. ([Project 860: Disability literature review](#)) [IWH WP #213]

Wijeysundera HC, Austin PC, Mustard CA, Chong A, Alter DA. Age-social stratification designs had a negligible impact on income-mortality associations. *J Clin Epidemiol* 2007;60(6):579-84. (Generic)

Williams RM, Westmorland MG, Shannon HS, Amick BC. Disability management practices in Ontario health care workplaces. *J Occup Rehabil* 2007; 17:153-165. (Generic)

Journal Articles Forthcoming or Submitted: Peer Reviewed

Alamgir H, Demers P, Koehoorn M, Ostry A, Tompa E. Accuracy of injury coding in a Canadian workers' compensation system. Accepted: *J Occup Health Saf – Aust NZ*. (Generic)

Beaton DE, Bombardier C, Cole DC, Hogg-Johnson S, Van Eerd D, and the Clinical Expert Group. Validity of a classification system for upper-limb musculoskeletal disorders in workers. Submitted: *Arthritic Care Res* ([Project 750: Upper Extremity Classification](#))

Bogoch ER, Elliot-Gibson V, Beaton DE. The osteoporosis needs of patients with wrist fracture. Submitted: J Ortho Trauma. (Generic)

Breslin FC, Day D, Tompa E, Irvin E, Bhattacharyya S, Clarke J, Wang A, Koehoorn M. Systematic review of factors associated with occupational disease among young people. Revise and resubmit: Am J Prev Med ([Project 409: SR Risk Factors for Work Injury among Youth – Occupational Disease](#))

Cadarette SM, Gignac MAM, Jaglal JB, Beaton DE, Hawker GA. A multi-item scale to measure patient perceptions about osteoporosis pharmacotherapy. Submitted: Osteoporosis International May 2007. (Generic)

Chalkidou K, Culyer AJ, Naidoo B, Littlejohns P. Cost-effective public health guidance: asking questions from the decision-maker's viewpoint. (under revision for Health Economics).

Chalkidou K, Culyer AJ. The challenges of developing cost-effective public health guidance: a NICE perspective. Policy Futures for UK Health (Basingstoke: Palgrave-Macmillan; series on health policy) in press. (Generic)

Claxton K, Culyer AJ. Not a NICE fallacy: A reply to Dr. Quigley. Submitted: J Med Ethics

Claxton K, Sculpher MJ, Culyer AJ. Mark vs Luke? Appropriate methods for the evaluation of public health interventions. Submitted: Health Econ (Generic)

Côté P, Baldwin ML, Johnson WG, Frank JW, Butler R. Patterns of sick-leave and health outcomes in injured workers with back pain. Revise and resubmit: European Spine Journal ([Project 555: ASU Back Study](#))

Cullen K, Franche R-L, Clarke J, Irvin E. The role of organizational factors in workplace-based return to work interventions : A systematic review. Revise and resubmit: Disability and Rehabilitation. ([Project 142: RTW Lit Review](#))

Culyer AJ. Rationing health care - Alan Williams' decision-maker, the authority, and Pareto. Forthcoming: Be Reasonable: Following the Williams Way, Proceedings of a Conference to Celebrate the Work of Alan Williams, London: Office of Health Economics. (Generic)

Furlan AD, Tomlinson G, Jadad A, Bombardier C. Methodological quality and homogeneity influenced agreement between randomized trials and non-randomized studies of the same intervention for back pain. In press: J Clin Epi (Generic)

Gilkey D, Herron R, Bigelow P, Keefe T, Hautaluoma J, Darragh A, Stanley S, and Ennins T. Risk perception and back injury among residential construction workers. Submitted: J Appl Chiropr (generic)

Hayden JA, Côté P, Steenstra IA, Bombardier C. A framework for understanding prognosis. Submitted: Ann Intern Med ([Project 130: LBP Predictive Factors](#))

Hayden JA, Chou R, Hogg-Johnson S, Bombardier C. Systematic review of reviews: Low back pain prognosis. Submitted: JAMA ([Project 130: LBP Predictive Factors](#))

Keown K, Van Eerd D, Irvin E. Stakeholder engagement opportunities in systematic reviews: Knowledge transfer for policy and practice. In press: Journal of Continuing Education in the Health Professions. (Generic)

Kosny A, Eakin J. The hazards of helping: Work, mission and risk in non-profit social service organizations. Submitted: Health Risk Soc ([Project 219: Are Non-Profit Organizations Healthy Workplaces?](#))

Kosny A, MacEachen E. Gendered, invisible work in non-profit social service organizations: Implications for worker health and safety. Submitted: Gend Work Organ ([Project 219: Are Non-Profit Organizations Healthy Workplaces?](#))

Kristman VL, Côté P, Vidmar M, Van Eerd D, Hogg-Johnson S, Wennberg, RA, Cassidy JD. The burden of disability associated with mild traumatic brain injury in Ontario workers: a prospective cohort study. Submitted: J Rehab Med ([Project 165: Occupational Mild Traumatic Brain Injury](#))

Lim J, Manuel D, Mustard CA. Population impact of breast cancer risk reduction strategies in Canadian women. Submitted: Am J Epidemiol (Generic)

Manuel DG, Kwong K, Tanuseputro P, Lim J, Mustard CA, Anderson GM, Ardal S, Alter DA, Laupacis A. Which country's statin treatment guidelines avoid the most deaths? In press: CMAJ ([Project 476: Methods for Research Allocation](#))

Martino R, Beaton DE, Diamant NE. Patients', caregivers' and clinicians' views about medical consequences related to oropharyngeal dysphagia. Submitted: J Rehab Med (Generic)

Nichol K, Bigelow P, O'Brien-Pallas L, McGeer A, Manno M, Holness DL. The individual, environmental and organizational factors that influence nurses' use of facial protection to prevent occupational transmission of communicable respiratory illness in acute care hospitals. In press: Am J Infect Control (Generic)

Pascuale SA, Frazer MB, Wells RP, Cole DC. Mechanical exposure and musculoskeletal disorder risk at the production level: A framework and application. In Press: Hum Factors Ergon Manuf (Generic)

Pole JD, Mustard CA, To T, Beyene J, Allen AC. Longitudinal steroids and asthma. Submitted: Am J Epi (Generic)

Pole JD, Mustard CA, To T, Beyene J, Allen AC. Antenatal steroid therapy and childhood asthma: Is there a possible link? In press: Medical Hypothesis (Generic)

Rivilis I, Van Eerd D, Cullen K, Cole DC, Irvin E, Tyson J, Mahood Q. Effectiveness of participatory ergonomic interventions: A systematic review. In press: Appl Ergon ([Project 950: SR-Participatory Ergonomics Effectiveness](#)) [IWH WP #300]

Rosella LC, Manuel DG, Burchill C, Stukel TA, PHIAT-DM Team members Roos L, Mustard CA, Anderson G, Lix L, Choi B, Boot G, Hux J, Maaten S. A population based prediction algorithm for the development of physician diagnosed diabetes mellitus: Development and validation of the diabetes population risk tool (DPoRT). Submitted: J Am Med Assoc

Shrier I, Boivin JF, Steele RJ, Platt RW, Furlan AD, Kazuma R, Brophy J, Rossignol M. Should meta-analyses of interventions include observational studies in addition to randomized controlled trials? A critical examination of the underlying principles. In press: *Am J Epi* 2007 (Generic)

Swift M. Comparison of confidence intervals for a Poisson Mean – further considerations. Submitted: *Communications in Statistics* (Generic)

Tubach F, Ravaud P, Beaton DE, Boers M, Bombardier C, Felson D, van der Heijde D, Wells G, Dougados M. Minimal clinically important improvement and patient acceptable symptom state for subjective outcome measures in the rheumatic disorders. OMERACT 8 Special Interest Group. In press: *J Rheumatol* (Generic)

Turner D, Otley AR, Mack D, Hyams J, Bruijne J, Uusoue K, Walters T, Zachos M, Mamula P, Beaton DE, Steinhart AH, Griffiths AM. (2007) Development, validation and evaluation of a Pediatric Ulcerative Colitis Activity Index (PUCAI): A prospective multicenter study. In press: *Gastroenterology* (Generic)

van der Velde G, Hogg-Johnson S, Bayoumi A, Cassidy JD, Cote P, Boyle E, Llewellyn-Thomas H, Chan S, Subrata P, Hoving J, Bombardier C, Krahn M. Identifying the best treatment among common non-surgical neck pain treatments: A decision analysis. Submitted: *Spine* (Project 122/123: Cost analysis for neck pain)

Ward S, Laughren J, Escott B, Elliot-Gibson V, Bogoch E, Beaton DE. A program with a dedicated coordinator improved chart documentation after fragility fracture. In press: *Osteop Int* (Generic)

Wijeyesundera HC, Austin PC, Mustard CA, Alter DA. Evaluating the impact of age-social stratification on income-mortality associations among patients with and without coronary artery disease. In press: *J Clin Epidemiol* (Generic)

Contributions to Books

Culyer AJ. Need - an instrumental view. In: Ashcroft R, Dawson A, Draper H, McMillan J, (Eds). *Principles of Health Care Ethics*, 2nd Edition, Chichester: Wiley, 2007, 231-238.

Culyer AJ. Merit goods and the welfare economics of coercion. In: Wilfried Ver Eecke (Ed.) *Anthology Regarding Merit Goods. The Unfinished Ethical Revolution in Economic Theory*. West Lafayette: Purdue University Press, 2007, p. 174-200 (reprinted from *Public Finance*, 1971, 26: 546-572).

Mustard CA, Etches J, Tompa E. The effects of deficits in health status in childhood and adolescence on human capital development in early adulthood. In: Picot G, Saunders R, Sweetman A (Eds) *Fulfilling potential, creating success: Perspectives on human capital development*. Queen's University, School of Policy Studies: McGill-Queen's University Press; 2007. p.13-36 ([Project 438: Human Capital Development](#))

Contributions to Books and Other Monographs: Forthcoming

Amick B, Bigelow P, Cole DC. Workplace-researcher relationship: Early research strategy and avoiding the “data dearth”. In: Tompa E, Culyer AJ, Dolinschi R (Eds) *Economic Evaluation of Interventions for Occupational Health and Safety: Developing Good Practice*. (Forthcoming 2008)

Beaton DE, Boers M, Tugwell P. Health outcomes assessment. *Kelley's Rheumatology*, 8th edition. (In press)

Culyer AJ, Amick B, Laporte A. What is a little more health and safety worth? In: Tompa E, Culyer AJ, Dolinschi R (Eds) Economic Evaluation of Interventions for Occupational Health and Safety: Developing Good Practice. (Forthcoming 2008)

Culyer AJ, Sculpher M. Lessons from health technology assessment. In: Tompa E, Culyer AJ, Dolinschi R (Eds) Economic Evaluation of Interventions for Occupational Health and Safety: Developing Good Practice. (Forthcoming 2008)

Culyer AJ, Tompa E. Equity in economic evaluation. In: Tompa E, Culyer AJ, Dolinschi R (Eds) Economic Evaluation of Interventions for Occupational Health and Safety: Developing Good Practice. (Forthcoming 2008)

Gnam W, Grignon M, Dolinschi R. Time preference and uncertainty. In: Tompa E, Culyer AJ, Dolinschi R (Eds) Economic Evaluation of Interventions for Occupational Health and Safety: Developing Good Practice. (Forthcoming 2008)

Gnam W, Robson L, Kohstall T. Study design. In: Tompa E, Culyer A and Dolinschi R. (Eds) Economic Evaluation of Workplace Interventions for Health and Safety: Developing Good Practice. Oxford University Press. (Forthcoming 2008)

Gray GC. About criminals: A view of the offender's world. Pogrebin M. (Ed.) Sage Publications. Forthcoming: Criminal Justice Review.

Kramer D, Bigelow P, Vi P, Garritano E, Carlan N, Wells R. Trying new things to reduce MSDs: A case study of the adoption of an innovation in the construction sector. Submitted: Knowledge Translation Casebook, Canadian Institutes of Health Research, Ottawa, ON.

Hotopp U, Mendeloff J, Pinilla Garcia J, Koeper B, Sinclair S, Tompa E, Clayton A, Eltard D. The institutional and regulatory settings for occupational health and safety: An international survey. In: Tompa E, Culyer AJ, Dolinschi R (Eds) Economic Evaluation of Interventions for Occupational Health and Safety: Developing Good Practice. (Forthcoming 2008)

Laporte A, Dolinschi R, Tompa E. Costs. In: Tompa E, Culyer AJ, Dolinschi R (Eds) Economic Evaluation of Interventions for Occupational Health and Safety: Developing Good Practice. (Forthcoming 2008)

Mustard CA. Economic incentives in occupational health and safety prevention. In: Liber Amicorum: Quality of Working Life. Prevent: Institute for Occupational Safety and Health, Belgium. Fall 2007. (Generic)

Mustard CA. The broad conceptualization of work and health. In: Tompa E, Culyer AJ, Dolinschi R (Eds) Economic Evaluation of Interventions for Occupational Health and Safety: Developing Good Practice. (Forthcoming 2008)

Tompa E, Culyer AJ, Dolinschi R. Suggestions for a reference case. In: Tompa E, Culyer AJ, Dolinschi R (Eds) Economic Evaluation of Interventions for Occupational Health and Safety: Developing Good Practice. (Forthcoming 2008)

Tompa E, Dolinschi R, de Oliveira C. Consequences. In: Tompa E, Culyer AJ, Dolinschi R (Eds) Economic Evaluation of Interventions for Occupational Health and Safety: Developing Good Practice. (Forthcoming 2008)

Tompa E, Dolinschi R, Niven K, de Oliveira C. A critical review of the application of economic evaluation methodologies in occupational health and safety. In: Tompa E, Culyer AJ, Dolinschi R (Eds) Economic Evaluation of Interventions for Occupational Health and Safety: Developing Good Practice. (Forthcoming 2008)

Turner N, Gray GC. Guest Editors, Special issue on Socially Constructing Safety Forthcoming: Human Relations.

Other Papers, Unpublished Reports and Reviews

Brewer S, Irvin E, Mahood Q, King E, Amick B, Delclos G, Spear J, Lee L, Lewis C, Tetrick L, Williams R. Methodological issues in conducting systematic reviews of the prevention literature. Toronto: IWH 2007.

Brewer S, King E, Amick B, Delclos G, Spear J, Irvin E, Mahood Q, Lee L, Lewis C, Tetrick L, Gimeno D, Williams R. A systematic review of injury/illness and loss control programs. Toronto: IWH 2007.

Brewer S, King E, Delclos G, Irvin E, Lee L, Lewis C, Mahood Q, Spear J, Tetrick L, Williams R, Amick B. Workplace injury/illness and loss control program measurement tools. Toronto: IWH 2007.

Van Eerd D, Villiage J, Clarke J, Cole DC, Cullen K, Irvin E, Keown K, Mahood Q, St. Vincent M, Theberge N. Participatory ergonomics interventions: Implementation and process, a systematic review. Toronto, IWH 2007.

Conference Proceedings

Carlan N, Kramer D, Wells R, Bigelow P, Vi P, Garritano E. Applied research: A vehicle for knowledge dissemination. 14-17 Oct 2007; Proceedings of the Association of Canadian Ergonomists 38th Annual Conference. ([Project 262: MSD in Construction](#))

Kramer D, Hogan K., Wells RP, Diacur M, Bigelow P. Launching a research study on MSD prevention in the transportation sector. 14-17 Oct 2007; Proceedings of the Association of Canadian Ergonomists 38th Annual Conference

Vi P, Garritano E, Kramer D, Wells R, Bigelow P, Carlan N. A pilot study investigating manual material handling of ladders from construction service vans. 14-17 Oct 2007; Proceedings of the Association of Canadian Ergonomists 38th Annual Conference ([Project 262: MSD in Construction](#))

Abstracts

Brown JA, Shannon HS, McDonough P, Mustard C. Social and economic consequences of workplace injury. *Occup Environ Med* 2007; 64:e35. (Generic)

Escott B, Beaton DE, Waddell J, Campbell RA, Galet D, Schemitsch E. Monitoring the impact of efficiency initiatives on health outcomes in total hip arthroplasty. GTA Rehabilitation Network, Mar 2007. (Generic)

Griffith L, Wells R, Shannon H, Walter S, Cole D, Hogg-Johnson S. Mechanical exposure information available in studies assessing the relationship between workplace factors and low back pain. *Occup Environ Med* 2007; 64:e35.

Langlois LE, Shannon HS, Griffith L, Haines T, Cortina LM, Geldart S. The effects of workplace incivility on psychological distress and health. *Occup Environ Med* 2007; 64:e24. (Generic)

Sander B, Elliot-Gibson V, Beaton DE, Bogoch ER, Maetzel A. The economics of targeting fragility fractures in an orthopaedic treatment unit. *American Academy Orthopaedic Surgeons* (Generic)

Shannon HS, Norman GR. Accounting for multi-level data – still a problem in occupational health? *Occup Environ Med* 2007; 64:e25. (Generic)

Shannon HS, Norman GR, Maracle S. Psychometric properties of generic and specific items used to measure safety climate. *Occup Environ Med* 2007; 64:e28. (Generic)

Media

MacEachen E. Interview with Stephen Strauss (to inform series of articles about pain to be mounted on a new health section of the MSN Sympatico website) about published paper: “The demise of repetition strain injury.” (Generic)

MacEachen E. Discussion with Jacques Hebert, Radio Canada, New Brunswick (hebertj@radio-canada.ca) about problems associated with injured workers with drawn out workers’ compensation claims. (Project 244: Complex Claims Experience)

Theses

Smith P. Examining the causal relationship between job control and health status in the Canadian working population. PhD Thesis. Institute of Medical Science, University of Toronto.

Working Papers

Keown K, Van Eerd D, Irvin E. Stakeholder engagement opportunities throughout the process of conducting a systematic review. (Project 951: Methodological Developments in Systematic) [IWH WP # 338]

Swift M. Comparison of confidence intervals for a Poisson Mean – further considerations. Submitted: *Communications in Statistics* [IWH WP #282]

External Scientific/Academic Presentations/Conferences

Given

Ammendolia C, Steenstra IA, Cassidy JD. Poster: Development of a workplace intervention to improve return to work in sub acute low-back pain: An intervention mapping approach. 4-6 Oct 2007; Palma de Mallorca, Spain: Programme and abstract book International Low Back Pain Forum IX.

Anema JR, Heymans MW, Hlobil H, Staal JB, Steenstra IA, van Mechelen W. Cost-effectiveness of return-to-work interventions for low back pain. Results of three Dutch randomised controlled trials. 29 Aug 2007; Boston, MA: Programme and abstract book PREMUS 2007. (Generic)

Astrakianakis G, Cvitkovich Y, Yu S, Tang T, Yassi A-L, Steinberg M, Bigelow P. Are blood and body fluid incidents in BC HealthCare under-reported — A structural equation model. 2-7 Jun 2007; Philadelphia, PA: American Industrial Hygiene Conference and Exposition. (Generic)

Bombardier C. Benefits and risk ratios for COXIBs. Invited Speaker. Canadian Association of Gastroenterology (CAG) Consensus on the Use of Cyclooxygenase-2 Inhibitors and Conventional NSAIDs. Banff, Alberta, Feb 20, 2007. (Generic)

Bombardier C. Lessons learned from a unique experience. Invited Speaker. American College of Rheumatology Innovative Therapies in Autoimmune Diseases Conference. Arlington, VA, 3 Mar 2007. (Generic)

Bombardier C. Targeted therapies: Efficacy versus effectiveness. Invited Speaker. Advances in Targeted Therapies Meeting. Athens, Greece. April 18, 2007. (Generic)

Bombardier C. Systematic literature review: Finding the evidence. Invited Speaker & Mentor. 3E Initiative. Chantilly, France April 27, 2007. (Generic)

Bombardier C. The evolution and revolution of quality of life research . Keynote Speaker. International Society for Quality of Life Research (ISOQOL), Conference Theme: From Measurement to Understanding. Toronto, Oct 11, 2007. (Generic)

Bombardier C. Assuring safety and effectiveness for anti-rheumatic drugs. Invited Speaker. Pre-conference Clinical Session, Drug Policy & Regulation, - Pharmacotherapy in Rheumatic Disease: Assessing the Safety, Effectiveness and Value. American College of Rheumatology (ACR) Meeting. Boston, MA. Nov 6, 2007 (Generic)

Bombardier C. The NSAIDs Research Report. Invited Speaker. The Bone and Joint Decade 2000-2010 Task Force on Neck Pain and Its Associated Disorders (NPTF) Meeting. Regina, Saskatchewan, Nov 16 2007. (Generic)

Brown JA, Shannon HS, McDonough P, Mustard CA. Social and economic consequences of workplace injury. Oct 2007; Banff, AB: 19th International Symposium on Epidemiology in Occupational Health, EPICOH. (Generic)

Carlan N, Kramer D, Wells R, Bigelow P, Vi P, Garritano E. Applied research: A vehicle for knowledge dissemination. 14-17 Oct 2007: Association of Canadian Ergonomists 38th Annual Conference. ([Project 262: MSD in Construction](#))

Carroll LJ, Ibrahim S, Phillips L, Cassidy JD, Côté P. Disentangling the causal direction between coping and pain. 4-6 Oct 2007; Palma de Mallorca, Spain: IX International Forum on Primary Care Research on Low Back Pain. (Generic)

Cole DC. Canadian experience in MSD interventions. 5-9 Sep 2007; Mexico City: 19th Conference of the International Society for Environmental Epidemiology (ISEE). (Generic)

Côté P, Ibrahim S, Carroll L, Beaton DE, Cassidy JD, Hogg-Johnson S, Kristman V. The path to recovery from whiplash injuries: A road with many turns! 16 Feb 2007; Toronto, ON: Musculoskeletal Health and Arthritis Program Rounds, Toronto Western Hospital.

Escott B, Beaton DE, Waddell J, Campbell RA, Galet D, Schemitsch E. Monitoring the impact of efficiency initiatives on health outcomes in total hip arthroplasty. Jun 2007; Halifax, NS: Canadian Orthopaedic Association Annual Meeting. (Generic)

Escott, B. Bukczynski J, Katz J, Bessette L, Beaton DE. Comparison of measures of utility in patients undergoing total shoulder arthroplasty. Jun 2007; Halifax, NS: Canadian Orthopaedic Association Annual Meeting. (Generic)

Etches J, Mustard CA. Income dynamics and mortality in Canada and the United States. 12-14 Sep 2007; Cork, Ireland: SSM/IEQ Joint Meeting. (Generic)

Etches J, Mustard CA. Work-related motor vehicle collisions in Ontario. 9-12 Oct 2007: EPICOH 2007 Conference, Banff, AB. (Project 464: Motor Vehicle Collisions)

Frache R-L, Corbière P, Côté P, Coutu M-F, Guzman J, Imbeau D, Larivière C, Lippel K, Loisel P, MacEachen E. Developing a RTW/SAW recovery model of episodic health conditions: Building an integrated cross-jurisdiction cohort of healthcare workers. Aug 2007; Toronto, ON: Centre of Research Expertise in Improved Disability Outcomes (CRE-IDO) (Project 131: Exploring Multimorbidity)

Griffith L, Wells R, Shannon HS, Walter S, Cole DC, Hogg-Johnson S. Mechanical exposure information available in studies assessing the relationship between workplace factors and low back pain. Aug 2007; Boston, MA: PREMUS 2007 – 6th International Scientific Conference on Prevention of Work-Related Musculoskeletal Disorders. (Generic)

Griffith L, Shannon HS, Walter S, Cole DC, Hogg-Johnson S, Wells RP. Poster: Obstacles to collecting data for an individual participant data meta-analysis of workplace factors and low back pain. Aug 2007; Boston, MA: PREMUS 2007 – 6th International Scientific Conference on Prevention of Work-Related Musculoskeletal Disorders. (Generic)

Griffith L, Shannon HS, Wells R, Cole DC, Hogg-Johnson S. Individual participant data (IPD) meta-analysis of workplace mechanical exposures and low back pain. 9-12 Oct 2007; Banff, AB: 19th International Conference on Epidemiology in Occupational Health (Generic)

Kennedy CA, Beaton DE (Presenter), Haines T. Predictors of disability in soft-tissue disorders of the shoulder: A comparison of prognostic models when the dependent outcome is formatted in three different ways. Sep 2007; Brazil: 10th International Congress of Shoulder & Elbow Surgery and 2nd International Congress of Shoulder Therapists.

Kosny A, Eakin J. The hazards of helping: Work, mission and risk in non-profit social service organizations. Mar 2007; Queens' College; Cambridge Risk and Rationalities Conference. ([Project 219: Are Non-Profit Organizations Healthy Workplaces?](#))

Kosny A. Invisible, expanding and seemingly endless: Gendered work and restructuring in non-profit social service organizations. Jul 2007; Granada, Spain: Interdisciplinary Social Sciences Conference ([Project 219: Are Non-Profit Organizations Healthy Workplaces?](#))

Kramer D, Hogan K, Wells R, Diacur M, Bigelow P. Launching a research study on MSD prevention in the transportation sector. Oct 2007; Toronto, ON: Association of Canadian Ergonomists 38th Annual Conference. (generic)

Kristman VL, Côté P, Cassidy JD, Hogg-Johnson S, Wennberg R, Rezai M, Vidmar M, Van Eerd D. The administrative course of occupational mild traumatic brain injury in Ontario, Canada. 28-31 May 2007; Calgary, Alberta: Canadian Society for Epidemiology and Biostatistics (CSEB) 2007 Biennial Meeting.

LaMontagne AD, Keegal T, Vallance D, Louie AM, Ostry A, Wolfe R, Smith P. Low paid work, occupational hazards, and health. Low Paid Work in Australia: Realities and Responses. 17 Oct 2007: Centre for Public Policy, University of Melbourne, Australia. (Generic)

Langlois LE, Shannon HS, Griffith L, Haines T, Cortina LM, Geldart S. The effects of workplace incivility on psychological distress and health. Oct 2007; Banff, AB: 19th International Symposium on Epidemiology in Occupational Health, EPICOH. (Generic)

MacEachen E, Kosny A, Ferrier S, Chambers L. A hollowed shell of what I used to be”: A qualitative study of injured worker mental health and implications for return to work. May 2007; Vancouver, BC: Symposium on Mental Health of Injured Workers. Canadian Congress on Research on Mental Health and Addiction in the Workplace. (Project 244: Complex Claims)

Mustard CA. Protecting the health of the health care workforce. 26 Apr 2007; Sydney, Nova Scotia: Cape Breton Health Research Symposium. (Generic)

Rosella L, Manuel D, Stukel T, Burchill C, Roos L, Mustard CA. Validation of a population-based risk algorithm for the development of physician diagnosed diabetes. 16-19 Sep 2007; Ottawa, ON: Canadian Public Health Association Conference. (Generic)

Shannon HS, Norman GR. Poster: Accounting for multi-level data – still a problem in occupational health? Oct 2007; Banff, AB: 19th International Symposium on Epidemiology in Occupational Health, EPICOH. (Generic)

Shannon HS, Norman GR, Maracle S. Poster: Psychometric properties of generic and specific items used to measure safety climate. Oct 2007; Banff, AB: 19th International Symposium on Epidemiology in Occupational Health, EPICOH. (Generic)

Smith P. Examining the causal relationship between job control, health behaviours, psychological distress and health status in the Canadian working population. University of Melbourne, Australia: Centre for Health & Society. (Project

Smith P. Examining the risk of work-related injuries and compensation after injury among Canadian immigrants. 9 Oct 2007; Melbourne, Australia: 12th International Metropolis Conference. (Project 413: Immigrant Workers)

Tompa E, Trevithick S, McLeod C. A systematic review of the prevention incentives of insurance and regulatory mechanisms for occupational health and safety. 19 Apr 2007; Toronto, ON: International Association of Labour Inspection 2007 Conference. ([Project 860: Disability Literature Review](#))

van der Velde G, Hogg-Johnson S, Bayoumi A, Cassidy JD, Côté P, Chan S, Subrata P, Hoving JL, Bombardier C, Krahn M. A decision analysis of non-invasive neck pain treatments. 20-24 Oct 2007; Pittsburgh, USA. Society for Medical Decision Making Annual Meeting. (Project 122\123: Occupational Neck Pain)

van der Velde G, Llewellyn-Thomas H, Hogg-Johnson S, Hurwitz E, Cassidy JD, Côté P, Krahn M. Neck pain patients' preferences for their current health state. 4-6 Oct 2007, Palma de Mallorca, Spain. Palma International Forum IX Primary Care Research on Low Back Pain. (Project 122\123: Occupational Neck Pain)

van der Velde G, Llewellyn-Thomas H, Hogg-Johnson S, Hurwitz E, Cassidy JD, Côté P, Krahn M. Neck pain patients' evaluative scores for their current health state. 10-13 Oct 2007; Toronto, ON: 14th Annual Conference of the International Society for Quality of Life Research. (Project 122\123: Occupational Neck Pain)

van der Velde G, Llewellyn-Thomas H, Hogg-Johnson S, Hurwitz E, Cassidy JD, Côté P, Krahn M. Neck pain patients' evaluative scores for their current health state. 17-20 Oct 2007; Atlanta, GA: 26th Annual meeting of the Society for Medical Decision Making. (Project 122\123: Occupational Neck Pain)

van der Velde G, Llewellyn-Thomas H, Hogg-Johnson S, Hurwitz E, Cassidy JC, Côté P, Krahn M. Neck pain patients' evaluative scores for their current health state. 20-24 Oct 2007; Pittsburgh, USA. Society for Medical Decision Making Annual Meeting. (Project 122\123: Occupational Neck Pain)

Van Eerd D, Beaton DE, Subrata P. Factors associated with problematic pain in workers. 10-13 Oct 2007; Toronto, ON: 14th Annual Conference of the International Society for Quality of Life Research. (Generic)

Van Eerd D, Côté P, Kristman V, Rezai M, Hogg-Johnson S, Vidmar M, Beaton DE. The administrative course of injured workers with compensated neck pain. 4-6 Oct 2007; Palma de Malorca, Spain. IX International Forum on Primary Care Research on Low Back Pain. (Project 122\123: Occupational Neck Pain)

Vi P, Garritano E, Kramer D, Wells R, Bigelow P, Carlan N. A pilot study investigating manual material handling of ladders from construction service vans. Oct 2007; Toronto, ON: Association of Canadian Ergonomists 38th Annual Conference. ([Project 262: MSD in Construction](#))

Educational, Professional, Policy and other Presentations and Consultations

Local and Provincial

Beaton DE. Update on culture of discovery. Jan 2007; Toronto, ON: St. Michael's Hospital Population Research Rounds. (Generic)

Beaton DE. How to do research when you don't have time. Apr 2007; Toronto, ON: UHN Allied Health Rounds. (Generic)

Beaton DE. Predictive index for injured workers. May 2007; Toronto, ON: ICES-CEU Rounds, Sunnybrook Health Sciences Centre.

Bombardier C. Purpose/Conceptual Framework of A Measure. Guest Professor. University of Toronto, MSc, HAD 5302: Measurement in Clinical Research. Toronto, Jan 17, 2007.

Bombardier C. Lessons learned from a unique experience. Invited Speaker. Toronto General Hospital – Clinical Epidemiology Noon Rounds Toronto, Jan 29, 2007.

Bombardier C. Sensibility of a measure. Guest Professor. University of Toronto, MSc, HAD 5302: Measurement in Clinical Research. Toronto, Feb 7, 2007

Bombardier C. Supporting evidence-based clinical practice. Invited Speaker. IWH Five Year Review. Toronto, March 22, 2007

Bombardier C. Medic alert: What it can do for your patients (and also your Research). Invited Speaker. The Rebecca McDonald Centre for Arthritis and Autoimmune Diseases. (RMCAAD) Noon Rounds. Toronto, March 27, 2007.

Bombardier C. Clinical back exam. Speaker/Organizer. Special Outcomes Session for Rheumatology Training Program, Toronto, March 28, 2007.

Bombardier C. Review of Reviews: including summary of OTC Analgesics and the Cardiovascular Risks” Chair, Organizer and Speaker. Bayer Advisory Panel Meeting. Toronto, March 30, 2007.

Bombardier C. “Evidence Based Medicine, Systematic Reviews and the Cochrane Collaboration” Invited Speaker/Organizer. IWH Systematic Review Workshop. Toronto, May 16, 2007.

Bombardier C. “Lessons Learned from a Unique Experience: the Interface between the Clinical Investigator, the Pharmaceutical Company, the Media and the Legal System.” Gender Issues at High Tea at Windsor Arms Hotel. Toronto, May 29, 2007.

Bombardier, C. “Randomized Clinical Trials”. Invited Speaker. “Clinical Epidemiology Institute”. Toronto, Nov 13, 2007.

Bombardier C. “Evidence Based Medicine, Systematic Reviews and the Cochrane Collaboration” Invited Speaker/Organizer. Institute for Work & Health Systematic Review Workshop. Toronto, Nov 21, 2007.

Bombardier C. “ACR2007 update-New RA guidelines-Highlights”. Invited Speaker. University of Toronto, Division of Rheumatology, Intracity Conference (ICC) Rounds. Toronto, Nov 27, 2007.

Carnide N, Franche R-L, Hogg-Johnson S, Côté P, Breslin FC, Bultmann U, Severin CS, Krause N. Course, diagnosis, and treatment of depressive symptomatology in workers following a workplace injury: A prospective cohort study. 8 Jun 2007; Toronto, ON: Research Action Alliance on the Consequences of Work Injury – Team Meeting. (Project 341: Readiness for RTW)

Furlan AD. Opioids, driving and cognitive performance in patients with chronic pain. 21 Jun 2007. Toronto Rehabilitation Institute Research Network. (Generic)

Gibson J. KTE: How are we doing? 29 Mar 2007. SHRTN Annual Assembly Linking Caregivers & Policy Makers Conference. (Generic)

Gibson J. HPME Research Day Expert Panel. 2 May 2007.

Gibson J, Reardon R. Knowledge transfer using a peer-selected opinion leader network. 22-25 Aug 2007; Toronto, ON: G-I-N Conference.

Gibson J. KTE how does it impact on how research is planned and implemented? 18 Sep 2007; Toronto: Aphasia Think Tank. (Generic)

Irvin E. Centre for Reviews and Dissemination (CRD). 6 Feb 2007; University of York, York, UK.

Irvin E. Policy and Publishing Group (PPG) Conference. 7-8 Feb 2007; Oxford, UK.

Jeffs L, Beaton DE, Clark J, Kohn M, Evans T. A culture of discovery at St. Michael's Hospital. May 2007; Toronto, ON: Celebrating Innovations in Health Care Expo. (Generic)

Keown K. Stakeholder engagement opportunities within the IWH Systematic Review Program. 26 Oct 2007; Toronto, ON: Centre for Research on Inner City Health.

Keown K, Irvin E, Van Eerd D. Stakeholder involvement within the Institute for Work & Health Systematic Review Program. 2007; Ottawa, ON: Proceedings of the Canadian Agency for Drugs and Technologies in Health Invitational Symposium.

Kramer D, Wells R, Bigelow P, Skinner M, Maracle S, Boyle C. Safety system partners collaborating with researchers – Telling the stories. 16-18 Apr 2007; Toronto, ON: Industrial Accident Prevention Association (IAPA) Conference. (Generic)

Langlois LE, Shannon HS, Griffith L, Haines T, Cortina LM, Geldart S. The effects of workplace incivility on psychological distress and health. Oct 2007: Occupational Health Rounds. (Generic)

Langlois LE, Shannon HS, Griffith L, Haines T, Cortina LM, Geldart S. The effects of workplace incivility on psychological distress and health. Nov 2007: CE&B Research Day. (Generic)

MacEachen E, Franche R-L, Clarke J and the Systematic Review on Workplace-Based Return to Work Research Team. Workplace-based return to work: Findings from a systematic review of the research literature. 23 Jan 2007; Toronto, ON: Office of the Employer Advisor Annual Meeting. (Project 142: SR-Workplace-Based RTW Interventions)

Robson LS, Bigelow P, et al. Meetings with evaluation group for the MSD Prevention Strategy for Ontario CRE-MSD Steering Group Meetings. (Generic)

Tompa E, Dolinschi R, de Oliveira C, Irvin E, Keown K. Economic evaluation of workplace interventions for health and safety. Oct 2007; Mississauga, ON. Centre for Health & Safety Innovation. (Project 218R: Economic Evaluation)

Tompa E, Dolinschi R, de Oliveira C, Irvin E, Keown K. Economic evaluation of workplace interventions for health and safety. Nov 2007; Toronto, ON: Workplace Safety & Insurance Board of Ontario's Plenary Series. (Project 218R: Economic Evaluation)

van der Velde G. Managing neck conditions - Report of the Findings of the Bone & Joint Decade 2000-2010 Task Force on Neck Pain and its Associated Disorders: Report on a Decision Analysis of Common Neck Pain Treatments. 15-16 Nov 2007; Regina, SK (Project 550: Neck Pain Task Force)

van der Velde G, Mazumder A, Beaton DE, Hogg-Johnson S, Hurwitz E, Bronfort G, Evans R. Item-response theory analysis of the Neck Disability Index. 2 May 2007; Toronto, ON: Abstract #P12, Department of Health Policy, Management and Evaluation's Research Day, University of Toronto. (Project 122\123: Cost analysis for neck pain)

Wells R, Kramer D, Bigelow P, Hogan K, Skinner M. Ergonomics in the transportation sector: A one-day international conference. 12 Apr 2007; Mississauga, ON. (Generic)

National

Bega S, Beaton DE, Escott B, Schemitsch E, Gignac M. Return to work after fractures: Is Yes/No good enough? Jun 2007, Halifax, NS: Canadian Orthopaedic Association Annual Meeting. (Generic)

Bombardier, C. "Knowledge Translation and Best Practices in the Health Sciences" Invited Speaker. Journée Scientifique REPAR/FRSQ: L'échange des connaissances dans les sciences de la réadaptation Knowledge Translation (KT) in the Rehabilitation Sciences. Québec City, PQ. May 18th 2007.

Bombardier C. "The Cox-2 Story: Beyond the Canary in the coal mine?" Invited Speaker. Grand Rounds, Leaders in Rheumatology Seminiar Series, Women's & Brigham Hospital. Boston, MA, Dec 4, 2007.

Franche R-L. Addressing mental health in integrated work disability prevention – A review of the evidence base. Jan 2007, Vancouver, BC: OHSAH PEARS Provincial Meeting. (Generic)

Furlan AD. Challenging the taxonomy of study design. Assessing the validity and reliability of assigning study design labels. Feb 2007. Ottawa, ON. 5th Canadian Cochrane Symposium.

Irvin E. Centre for Reviews and Dissemination (CRD). 6 Feb 2007; University of York, York, UK.

Irvin E. Policy and Publishing Group (PPG) Conference, 7-8 Feb 2007; Oxford, UK.

Jeffs L, Beaton DE, Clark J, Kohn M, Evans T. A culture of discovery at St. Michael's Hospital. May 2007; Toronto, ON: Celebrating Innovations in Health Care Expo. (Generic)

Keown K, Irvin E, Van Eerd D. Informing policy, influencing practice, improving health. 23-24 Apr 2007; Ottawa, ON: Workshop on stakeholder involvement within the Institute for Work & Health Systematic Review Program. 2007 CADTH Invitational Symposium. (Generic)

Pennick V, Kennedy-Yee C, Wang A, Widdrington H, Sinclair S, Irvin E, Mahood Q, Guzman J. Using the GRADE approach to summarize the evidence from systematic reviews and clinical practice guidelines in chronic low back pain. 12-13 Feb 2007; Ottawa, ON: 5th Canadian Cochrane Symposium. ([Project 965: WSIB Chronic Pain Update](#))

Shannon HS, Langlois LE, Griffith L, Haines T, Cortina LM, Geldart S. The effects of workplace incivility on psychological distress and health. Sep 2007; Ottawa, ON: Canada Post Corporation and Canadian Union of Postal Workers.

Shannon HS, Langlois LE, Griffith L, Haines T, Cortina LM, Geldart S. The effects of workplace incivility on psychological distress and health. Oct 2007; Ottawa, ON: Canadian Union of Postal Workers National Health and Safety Committee.

Shannon HS, Maracle S, Norman GR. Measuring safety climate and applying it to the workplace. 2007; Toronto, ON: Health & Safety Canada National Conference.

Tompa E, Dolinschi R, de Oliveira C, Irvin E. Economic evaluation of workplace interventions for health and safety. Oct 2007; Vancouver, BC: Occupational Health and Safety Association for Healthcare.

Tompa E, Dolinschi R, de Oliveira C, Irvin E. Economic evaluation of workplace interventions for health and safety. Nov 2007; Vancouver, BC: 4th Provincial PEARS meeting.

International

Bombardier C. "Joint Clinician/Patient Objective Setting and Assessment of Treatment Outcome" Invited Speaker and Workshop Moderator. Wyeth European Summit. Munich, Germany, March 16, 2007

Bombardier C. "How to Determine if there is a Benefit of COX-2 Inhibition". Invited Speaker. International Cox-2 Study Group/OARSI Meeting. New York, March 24, 2007

Bombardier C. "Registries in Rheumatic Disease". Invited Speaker. CORRONA Board of Directors. Chicago, April 6, 2007.

Mustard CA. Cooperation between insurance and prevention. 13-15 Jul 2007; 3rd International Workers' Compensation Symposium. Munich, Germany.

Shannon HS. Senior management commitment to workplace health and safety: Barriers and incentives. Oct 2007; Barcelona, Spain: INMAS Forum.

Siert A, Woods S, Blehm K, Beaulieu H, Bigelow P. Welding fume exposures in electric power generation. 2-7 Jun 2007; Philadelphia, PA: American Industrial Hygiene Conference and Exposition. (Generic)

Tompa E. Insurance and regulatory incentives for firm-level injury and illness prevention. Dec 2007; Bilbao, Spain: Workshop on Economic Incentives to Improve Occupational Safety and Health.

van der Velde G. The Bone and Joint Decade 2000-2010 Task Force on Neck Pain and Its Associated Disorders Translates its Findings into Clinical Practice: Should We Change the Way We Look at Neck Pain? [1] Is the risk of stroke following chiropractic visits greater than the risk of stroke following primary care physician visits? Results of the Canadian Stroke Study; 2) What is the impact of the risks and benefits of neck pain treatments on patients' health? Results of a decision analysis comparing common

neck pain treatments]. 18 Aug 2007; St. Gaithersburg, Florida. Florida Chiropractic Association Annual General Meeting.

IWH Plenaries

Work is good for you? Some paradoxes in current UK policies on health and safety and well-being at work. Presenter: David Walters, Professor of Work Environment, Cardiff University, UK (Dec 14, 2007)

Surfing the demographic tsunami: preparing for new needs and new roles in the age of social networks. Presenter: Alex Jadad, Center for Global eHealth Innovation November

Physicians' role in the workers' compensation system: Examining inter-system practices and processes contributing to claim complexity and duration. Presenter: Agnieszka Kosny, Ellen MacEachen (PI), Sue Ferrier, Lori Chambers, IWH (November 27, 2007)

Examining management to participatory ergonomic interventions: Observations from field studies in three sites. Presenter: Nancy Theberge et al, University of Waterloo (November 20, 2007)

Non-randomized studies: An evaluation of search strategies, taxonomy and comparative effectiveness with randomized trials in the field of low-back pain. Presenter: Andrea Furlan, IWH (November 13, 2007)

Workplace Safety & Insurance Board (WSIB) Claim Coding. Presenters: Linda Kacur and Mary Ottorino, Statistical Services, WSIB (November 6, 2007)

Development of a performance measurement report for the Ontario Prevention System. Presenters: Lynda Robson, IWH and John Speers, Industrial Accident Prevention Association (October 30, 2007)

Work and cancer: Cancer specific patterns. Presenter: Michael Feuerstein, Uniformed Services University of the Health Sciences, Bethesda, MD and Georgetown University Medical Centre, Washington, USA (October 18, 2007).

Parallel Lines do Intersect: Interaction between the Workers' Compensation and Provincial Publicly Financed Health Care Systems in Canada. Presenter: Jerry Hurley et al, McMaster University (October 9, 2007)

Assessing the impact of the WSIB's Accreditation Pilot Program. Presenters: Ben Amick, Jane Gibson, Lynda Robson, IWH; Business Council on Occupational Safety and Health, Construction Safety Association of Ontario, WSIB Best Practices and Prevention Services Branch (October 2, 2007)

A world-class human resource management database in the making: Workplace health research laboratory, Brock University. Presenter: John Yardley, Ph.D., Managing Director, WHRL& MokhtarNoka, Research Analyst and Database Manager, Metrics@Work (Sept 25, 2007)

Health concerns, health care and compensation: Challenges and hopes for Mexican and Caribbean seasonal agricultural workers in Ontario. Presenter: Janet McLaughlin, Doctoral Candidate Medical Anthropology, University of Toronto Syme Research Training Fellow, IWH (2006-2007) (Sept 18, 2007)

Research Action Alliance on the Consequences of Work Injury: Challenges Workshop. Presenters: Emile Tompa, IWH; Steve Mantis et al, Injured Workers' Group (September 11, 2007)

Knowledge transfer, evidence based decision making and achieving research impact: “Australian perspectives and approaches”. Presenter: Fiona Clay, Cabrini Institute, Monash University, WDP-CIHR Scholar (June 26, 2007).

Illness in the workplace: Social determinants of (under) reporting. Presenter: Dana Howse, Syme Fellow, IWH. (May 29, 2007)

Development of a workplace intervention to improve RTW in occupational LBP: An intervention mapping approach. Presenter: Carlo Ammendolia & Intervention Mapping Team, CREIDO. (May 22, 2007)

Good jobs, bad jobs, toxic jobs: Precarious employment and workers' health. Presenter: Wayne Lewchuk, McMaster University, Marlea Clarke, McMaster University, Alice de Wolff, McMaster University. (May 1, 2007)

An overview of the Fair Practices Commission, the Ontario Workplace Safety & Insurance Board's new Ombudsman. Presenter: Laura Bradbury and Tom Irvine, Fair Practices Commission of the Workplace Safety & Insurance Board (April 24, 2007)

Work organization, socioeconomic position and cardiovascular disease. Presenter: Paul Landsbergis, PhD, MPH ((April 3, 2007)

“You are free to set your own time: The flip side of flexibility and health in the new economy. Presenters: Ellen MacEachen, Jessica Polzer, Judy Clarke, IWH (March 27, 2007)

How many Canadian employees receive safety training during their first year of a new job? Presenters: Peter Smith and Cam Mustard, IWH (March 6, 2007)

Return to work of workers with mental health problems. Presenter: K. Nieuwenhuijsen, Coronel Institute of Occupational, Health, AMC, Amsterdam Netherlands Center of Occupational diseases. (Mar 1, 2007)

Safety Climate Monitoring - WSIB RAC. Presenters: Philip Bigelow, Sheilah Hogg-Johnson, Lynda Robson, IWH (February 6, 2007)

Examining the causal relationship between job control and health status in the Canadian working population. Presenter: Peter Smith, IWH (January 30, 2007)

Ergonomics research to determine acceptable limits for hand intensive tasks in automotive manufacturing. Presenter: Jim Potvin, Mc Master University (January 23, 2007)

Other

Mahood Q. Canadian Health Libraries Association 2007 Conference. 28 May-1 Jun 2007; Ottawa, ON.

Van Eerd D, Keown K. HSA Research exchange series for participatory ergonomics. Part 2. 27 Nov 2007; Toronto, ON.

Stakeholder Engagement in Systematic Reviews:

Amick B, Irvin E, Gibson J, Sinclair S, Culyer AJ, Keown K. Evidence and quality...saying what works clearly. Stakeholder Workshop (WSIB, CSAO, OSACH, OSSA, MHSAO, USW, WHSC, EUSA, IAPA, CHRM, CCO, LOOK, OPG, OSHB MOL and CREIDO). 21 Sept 2007; Toronto, ON. Project: 951

MacEachen E, Franche R-L, Clarke J and the Systematic Review on Workplace-Based Return to Work Research Team. Workplace-based return to work: Findings from a systematic review of the research literature. 23 Jan 2007; Toronto, ON: Office of the Employer Advisor Annual Meeting. Project: 142

Research Project Funding - Awarded

Bigelow P, Stuewe D, Zohar D. To determine what increase Manitoba's CEOs and other top management commitment to workplace safety. Manitoba WCB: 2007-2008 (\$93,258) Project: 257

Breslin FC, Wood M, Mustard CA. Bridging the safety gap for vulnerable young workers using employment centres. WSIB RAC-Bridging the Gap: 2007-2008 (\$60,000) Project: 423

Côté P, Kristman V, Hogg-Johnson S, Cassidy JD, Wennberg R, Tator CH. Occupational mild traumatic brain injury in Ontario: Identification, prognosis and health care utilization. Ontario Neurotrauma Foundation: 2005-2007 (\$76,625) Project: 165

Hogg-Johnson S, Hayden J, Wasiak R. Characterizing outcomes used for low back pain in the literature: Is the recurrent/episodic nature accounted for. CREIDO: 2007-2008 (\$9,990) Project: 308

Kosny A, MacEachen E, Smith P, Shields J. Immigrant workers' experiences after work-related injury and illness. WSIB RAC: 2007-2009 (\$164,971) Project: 273

MacEachen E, Kosny A. Development of a green light and red flag toolkit for persistent claims. WSIB RAC: 2007-2008 (\$39,916) Project: 253

Mustard CA, Rued S, Lavis JN, Bayoumi A, Raboud J, Rourke S. Effects of return-to-work on health related quality of life in HIV/AIDS: a prospective cohort study. CIHR: 2003-2007 (\$116,678)

Mustard CA, Tompa E, Manuel D. Canadian trends in socio-economic inequalities in avoidable mortality: 1985-2002. CIHR: 2005-2007 (\$180,000)

Van Eerd D, Steenstra I, Cole DC, Bigelow P, Amick B, Beaton DE. Refining exposure measurements in VDU workers: Comparison of four methods. CRE-MSD: 2007-2008 (\$10,000) Project: 129

Non-IWH Research Project Funding - Awarded

Ammendolia C, Steenstra I, Bombardier C. Bridging the Gap: Involving stakeholders in the planning of a workplace intervention to improve return to work: Putting what we know into action using an intervention mapping approach. WSIB RAC: 2007-2008 (\$60,000)

Beaton DE, Bogoch ER, et al. Evaluation of an osteoporosis screening program for fragility fracture patients. MoH-LTC: 2007 (\$255,000)

Beaton DE, Bogoch ER, et al. Initial evaluation of the osteoporosis screening program for fragility fracture patients: Setting up data collection system and initial focus groups. MoH-LTC: 2007-2008 (\$111,303)

Bigelow P. British Columbia workplace safety leadership development. WorkSafe BC: 2008-2009 (\$29,981)

Corbière M, Coutu M-F, Franche R-L, Durand M-J, Choinière M. La validation de l'Inventaire de Dépression de Beck II auprès de personnes ayant une douleur originaire de troubles musculosquelettiques. REPAR (Quebec): 2007-2008 (\$19,953)

Franche R-L, Guzmán J, Koehoorn M. Exploring multi-morbidity: Identifying the most prevalent persistent health conditions, their co-occurrence, and their relationship with work absence and work limitations in healthcare workers. CREIDO: 2007-2008 (\$10,000) Project: 131

Loisel P, Baril R, Corbière M, Coté P, Coutu M-F, Delisle A, Durand M-J, Franche R-L, Gagnon D, Imbeau D, Larivière C, Lippel K, Plamondon A, Rainville P, Sullivan MJL, Vézina N. Équipe en prévention d'incapacité au travail. REPAR (Quebec): 2007 (\$23,000)

Loisel P, Baril P, Corbière M, Côté P, Coutu M-F, Delisle A, Durand M-J, Franche R-L, Gagnon D, Imbeau D, Larivière C, Lippel K, Plamondon A, Rainville P, Sullivan MJL, Vézina N. Bringing evidence-based tools to stakeholders and decision-makers for work disability prevention. CIHR: 2007 (\$10,000)

Loisel P, Baril R, Durand M-J, Franche R-L, Gagnon D, Larivière C, Rainville P, Sullivan M, Vézina N. Développer, évaluer et implanter des modes de prise en charge pour le retour et maintien au travail des personnes ayant des troubles musculo-squelettiques. Fonds de la recherche en santé du Québec : 2004-2008 (\$800,000)

Loisel P, Franche R-L, et al. Work disability prevention CIHR Strategic Training Program. CIHR: 2002-2007 (\$1,800,000)

Macdermid J, Beaton DE. TEAM WORK: Targeted evaluation and management of work, orthopedics, rehabilitation and knowledge-translation. Institute of Musculoskeletal Health and Arthritis (IMHA-CIHR): 2007-2008 (\$100,000)

Smith P. Examining changes in injuries submitted as no-lost-time claims in Ontario between 1991-2005. WSIB RAC: 2007-2009 (\$204,650)

Administered Externally

Beaton DE, MacDermid J, Richards R, Franche R-L, Côté P, Hogg-Johnson S, Bombardier C, Pagura S. Managing the “tail of the curve”: The course, predictive factors and work-related outcomes of injured workers one year after attending the WSIB specialty clinics for upper limb disorders. WSIB RAC: \$287,332 (2005-2007) (Administered at St. Michael’s Hospital) Project: 113

Beaton DE, Richards RR, Hogg-Johnson S. The validation of a classification system for work-related disorders of the shoulder and elbow. WSIB RAC: 2003-2007 (\$159,556) (Administered at St. Michael’s Hospital) Project: 124

Bigelow P, Wells R. Ergonomic intervention with transportation safety group. WSIB RAC: 2006-2007 (\$307,465) (Administered at University of Waterloo)

Davis A, Badley E, Beaton DE, Côté P, Flannery J, Gignac M, Hogg-Johnson S, et al. Outcome measurement: The importance of time. CIHR: 2005-2009 (\$624,224) (Administered at Toronto Western Hospital Research Institute)

Hertzman C, Barer M, Black C, Evans R, Frank JW, Mustard CA, et al. Population health observatory: A resource to improve health, quality of life and productivity in Canada. Canadian Foundation for Innovation: 2004-2007 (\$2,938,069) (Administered at the University of British Columbia)

Koehoorn M, Barer M, Côté P, Hogg-Johnson S, McGrail K, McLeod C. Investigating outcomes for musculoskeletal surgeries among injured workers in BC. WorkSafe BC: 2006-2007 (\$178,836) (Administered at the University of BC)

Koehoorn M, Barer M, Côté P, Hogg-Johnson S, McGrail K, McLeod C. Disability outcomes among injured workers: Does surgical setting or expedited payment make a difference? CIHR: 2007-2010 (\$350,085) (Administered at University of BC)

Salmoni A, Bigelow P. Bridging the Gap: Simultaneous exposure measurement of noise, hand-arm vibration and musculoskeletal loads in boilermakers. WSIB RAC: 2006-2007 (\$60,000) (Administered Externally)

Wells R, McGill S, Frazer M, Green H, Theberge N, Ranney D, Cole DC, Kerr MS, et al. Centre of Research Expertise for an Action Centre for the Prevention of Work-related Musculoskeletal Disorders (CRE-MSD). WSIB RAC: 2003-2008 (\$2,035,000) (Administered at University of Waterloo)

Research Grants Pending or Approved for 2008

Amick B, Robson L. Assessing the impact of the WSIB's accreditation pilot program. WSIB-RAC-Bridging the Gap: 2007-2008 (\$59,885)

Beaton DE. Treatment recommendations perceived by fracture patients identified through an osteoporosis screening program. Arthritis Health Professionals Association: 2008 (\$5,000 requested)

Beaton DE, Kennedy C, Franche R-L. Prescription for education: A pilot study of the effectiveness of an education program for adults with inflammatory arthritis. Arthritis Society: 2008-2009 (\$5,000)

Beaton DE, Tang K. I'm at work: but it's hurting: An evaluation of the measurement of at-work disability amongst persons with arthritis across Canada. Arthritis Health Professionals Association: 2008 (\$5,500 requested)

Hogg-Johnson S, Cole DC, Bigelow P, Tompa E, Robson L, Smith P, Amick B. A randomized controlled study of targeted occupational health & safety education, training and consultation in Ontario workplaces. WSIB RAC-Bridging the Gap: 2007-2008 (\$59,700 requested)

Kapoor K, Bigelow P, Zhao Y, Murray PJ. Improving safety climate measurement and creating a tool for Ontario manufacturers. WSIB RAC-Bridging the Gap: 2008 (\$59,515 requested)

Kennedy C, Shupak R, Beaton DE, Franche R-L. Prescription for education: A pilot study of the effectiveness of an education program for adults with inflammatory arthritis. Arthritis Health Professionals Association: 2008-2009 (\$5,000 requested)

Kosny A, MacEachen E, Smith P, Shields J. Immigrant workers' experiences after work-related injury in BC: Identifying key questions and building research capacity. WorkSafe BC: 2008 (\$30,042)

Kramer D, Bigelow P, Wells R, Vi P, Garritano E. Encouraging adoption of innovations: An examination of whether the intensity of knowledge transfer techniques has an influence over construction companies' decisions to adopt innovations to reduce the risk of MSDs. WSIB-RAC: 2008 (\$200,000)

Kramer D, Bigelow P, Vi P, Garritano E, Wells R. In search of innovations: Identifying new tools and processes to prevent MSDs in the construction sector. WSIB RAC-Bridging the Gap: 2008-2009 (\$59,639 requested) Project: 233

Kramer D, Gibson J, Brown J, Ammendolia C. Framework for evaluating the effectiveness of stakeholder networks as a knowledge transfer and exchange strategy for Ontario OHS research. WSIB RAC-Bridging the Gap: 2008-2009 (\$52,512 requested)

Loisel P, Corbiere M, Duranc M-J, Franche R-L, Lariviere C, Briand C, Côté P, Coutu M-F, Delisle A, Gagnon D, Guzman J, Imbeau D, Lippel K, MacEachen E, Plamondon A, Rainville P, Sullivan M, Vezina N. CIHR Team in Work Disability Prevention. CIHR: 2008-2013 (\$5,638,551 requested) Project: 131

Mustard CA. Work, health, economic security and disability. MoH-LTC. Project: 427

Pagell M, Tompa E, Biehl M, Johnston D, Klassen R, Veltri A, Hogg-Johnson S, Robson L, Amick B. The safety case over business: A multi-stakeholder examination of best practices and health and safety outcomes. WSIB-RAC: 2008-2011 (\$430,300)

Robson L, Bigelow P, Amick B, Gray G, Hogg-Johnson S, Pagell M, Shannon HS, Tompa E. Factors in breakthrough change in workplace OHS performance. WSIB RAC: 2008-2011 (\$309,056)

Sale J, Beaton DE, Bogoch E. Treatment recommendations perceived by fracture patients identified through an osteoporosis screening program. Arthritis Health Professionals Association: 2008-2009 (\$5,000 requested)

Sale J, Beaton DE, Bogoch E, Gignac M, Hawker G, Meadows L. Bridging the gap between identified need and adherence to osteoporosis care after a fragility fracture. CIHR: 2008-2009 (\$88,193)

Shannon HS, MacEachen E, Geldart S, Baba V. What are the conditions that promote management commitment and action on workplace health and safety? CIHR: 2008 (\$162,200)

Steenstra I, Van Eerd D, Amick B, Cole DC, Bigelow P. The effectiveness of input devices on upper extremity complaints in office workers: A randomized controlled trial. WSIB-RAC: 2008-2011 (\$400,000)

Tompa E, Amick B, Hogg-Johnson S, Robson L. The behavioural incentives of experience rating: An investigation into the health and safety consequences of the new experimental experience rating program in Ontario. WSIB-RAC: 2008-2011 (\$162,016)

Research Personnel Funding & Other Awards

BOMBARDIER, Claire

CIHR Research Chair; CIHR Senior Scientist Award 2003-2010 – Administered at University Health Network

MACEACHEN, Ellen

Robin Badgley Award for Excellence in Teaching (Early Career). Faculty Award, Department of Public Health Sciences, Faculty of Medicine, University of Toronto. March 2007.

RIVILIS, Irina

CIHR-IPPH Doctoral Fellowship Award, Public Health Agency of Canada: 2006-2009

SCOTT-MARSHALL, Heather

SSHRC Post-doctoral Fellowship Award: 2005-2007

STEENSTRA, Ivan

Mustard Fellowship Award: 2006-2008

VAN DER VELDE, Gabrielle

CIHR Fellowship Award: 2007-2010

Institute of Health Services and Policy Research, Toronto Western Research Institute

IWH Staff - 2007

Research

Amick, Ben; PhD, Scientific Director

Antal, Joan; BA, Manager Research Administration

Beaton, Dorcas; PhD, BScOT, MSc, Scientist

Bhattacharyya, Sudipa; BSc, Administrative and Research Assistant

Bielecky, Amber; Research Assistant, MSc Student (graduated Oct 2005)

Bigelow, Philip; PhD, Scientist

Bombardier, Claire; MD, FRCP(C) Senior Scientist

Breslin, Curtis; PhD, Scientist

Cai, Noah; BA, Systems Support

Cale, Virginia; RN, Field Research Associate

Carnide, Nancy; MSc Epidemiology, Research Associate

Chambers, Lori; BA, BSW Social Work, Administrative and Research Assistant

Chan, Stella; MSc, Research Associate, Analyst

Chen, Cynthia; MSc, Research Associate, Analyst

Clarke, Judy; BScPsych, MA (Anthropology), Research Associate

Cole, Donald; MD, DOHS, MSc, FRCPC(C) Senior Scientist

Côté, Pierre; DC, MSc, FCCSC, PhD, Scientist

Couban, Rachel; MA MIS Library Sciences, Library Technician

Cullen, Kim; BSc Kin, MSc, Research Associate

Culyer, Anthony; CBE, BA, Hon.D.Econ, Hon FRCP, FRSA, FMedSci

de Oliveira, Claire; MSc, Research Associate

Dolinschi, Roman; MSc, Research Associate, Analyst

Etches, Jacob; MSc, Research Associate, PhD Student

Fang, Miao; MSc, Research Associate, Analyst

Farrell, Janet; RN, Field Research Associate

Franche, Renée-Louise; PhD, MA (Clinical Psychology), BA (Psychology), Scientist

Frank, John; MD, MSc, Senior Scientist

Furlan, Andrea; MD (Brazil), Physical Medicine/Rehabilitation Specialist (Brazil), PhD student

Gentles, Brenda; RN, Field Research Associate

Gnam, William; MD, PhD, Scientist

Gray, Garry; MSc, Len Syme Fellow, PhD Student

Harlowe, Linda; Research Operations Administrative Coordinator

Heath, Charmaine; Dip. Business Administration. Administrative Assistant

Hirani, Tazim; QAA, Administrative Assistant

Hogg-Johnson, Sheilah; PhD, Scientist, Program Chair, Data & Information Systems Program

Ibrahim, Selahadin; MSc, Research Associate, Statistician

Irvin, Emma; BA, Manager, Systematic Review Program and Information Systems and Library

Jafri, Gul Joya; MA, Social Anthropology, Research Associate

Kalcevich, Christina; MA Economics, Research Associate

Kelly, Allison; Dip. S.T. Administrative Editorial Assistant

Kennedy, Carol; BScPT, MSc, Research Associate

Kosny, Iggy; MSc, PhD, Associate Scientist

Krepostman, Suzan; BA, MA (Environmental Psychology) Program Coordinator

Kyle, Natasha; MSc, Project Coordinator, Systematic Reviews

Lee, Hyunmi; MSc, Programmer Analyst

Macdonald, Sara; QEHS Management Diploma, Research Associate

MacEachen, Ellen; PhD, Mustard Fellow in Work Environment and Health, Co-chair, Workplace Studies Program

Mahood, Quenby; BA, Library Technician

Mansurova, Lyudmila, BSc, Administrative Assistant

Maselli, Paolo; Network Administrator/Systems Analyst

Morassaei, Sara; BA, Administrative and Research Assistant

Pennick, Victoria; RN, BScN, MHSc, Senior Clinical Research Project Manager, Cochrane Back Review Group Coordinator

Raktoe, Shanti; BSc, Administrative Assistant

Rivilis, Irina; MSc, PhD Student

Robson, Lynda; PhD, Associate Scientist

Scott-Dixon, Krista; PhD, Research Associate

Scott-Marshall, Heather; PhD, Research Associate

Severin, Colette; MSc, Research Associate

Shannon, Dan, Library Assistant (part-time)

Sinclair, Sandra; Dip.P&OT, MSc, Associate Scientist, Director Operations

Smith, Peter; MPH, PhD, Scientist, Programmer/Analyst

Steenstra, Ivan; PhD, Post-Doctoral Mustard Fellow

Subrata, Peter; MSc, Research Associate

Swift, Michael; MSc, Research Associate, Data Manager/Programmer

Tompa, Emile; MBA, PhD, Scientist

van der Velde, Gabrielle; DC, PhD Student

Van Eerd, Dwayne; BSc (Kin), MSc (Kin), Research Associate

Vidmar, Marjan; MD (Macedonia), MSc, Research Associate, WSIB Data Specialist

Walibhai, Nisha; RN, BScN, MSHc (HA), Project Manager, OPLES

Wang, Anna; RN, Research Associate

Webb, Alison; BA, Administrative Coordinator, Office of the President

Widdrington, Heather; MSc, Cochrane Research Assistant

Yao, Grant; Network Administrator/Systems Analyst

Staff - Knowledge Transfer & Exchange

Brenneman Gibson, Jane; MCIsc, Director, Knowledge Transfer & Exchange

Buccat, Kristina; Dip. Radio and Television Production, Administrative Assistant

Dubey, Anita; BSc Biology, BAA Journalism, KTE Associate

Holland, Carol; A.O.C.A., Graphic Designer and Production Coordinator

Keown, Kiera; MSc Biomechanics, KTE Associate

Kiff, Philip; MA, Communications Associate

Keown, Kiera; MSc, KTE Associate

Kramer, Dee; MES, MSc, PhD, Knowledge Transfer Associate

MacDonald, Kathy; MA MIS Library Sciences, BSc Human Kinetics, Dip/BA Massage Therapy

Palloo, Greer; BSc, Information & Events Coordinator

Russo, Katherine; Dip. Journalism, Communications Associate

Staff - Corporate Services

Cicinelli, Mary; BA, CHRP, Manager Human Resources & Corporate Services

Maccarone, Dylan; Accounting Clerk

McPherson, Kerry-Ann; Dip. Business Accounting, Accounting Clerk

Mustard, Cameron; ScD, President

Prole, Marilyn; CGA, Accountant

Sir, Cathy; CMA, Accountant (Maternity Leave)

Research/Professional Collaborations and Networks, Appointments and Offices

AMICK, Benjamin

Member, International Research Scientist Development Award Review Panel (2006-present) Fogarty/NIH
Member, Centre for Workforce Excellence Special Review Panel (2005-present) CDC/NIOSH
Ad-Hoc Reviewer, Workers Compensation Board, British Columbia (2001-present)
Ad-Hoc Reviewer, Workers Compensation Research Advisory Committee (2001-present)
Ad-Hoc Reviewer, Workers Compensation Board, Saskatchewan (2007-present)

AMMENDOLIA, Carlo

Member, Research Fund Allocating Committee, Canadian Chiropractic Research Foundation
Member, Canadian Chiropractic Association
Member, Ontario Chiropractic Association
Member, Canadian Memorial Chiropractic College
Member, College of Chiropractors in Ontario
Member, Ontario Council of Acupuncture

BEATON, Dorcas

Canadian Representative, Scientific Committee, International Federation of Societies of Hand Therapy
Canadian Delegate, Council of the International Federation of Societies of Hand Therapy
Chair, Research Committee, American Society of Elbow Therapists
Member, American Society of Shoulder and Elbow Therapists, Member of Research Committee 1995-
Member, Canadian Association of Occupational Therapists
Member, College of Occupational Therapists of Ontario
Founding Member, Canadian Society of Hand Therapists
Member, Upper Extremity Collaborative Group (Institute for Work & Health, American Academy of Orthopaedic Surgeons)
Member, Canadian Arthritis Network
Member, Allied Health Panel, CIHR
Member, International Society of Quality of Life Research
Member, Advisory Committee, The Bone & Joint Decade 2000-2010 Task Force on Neck Pain and its Associated Disorders

BIELECKY, Amber

Member, Canadian Academy of Psychiatric Epidemiology

BIGELOW, Philip

Member, Society for Epidemiologic Research
Member, American Board of Industrial Hygiene
Member, American Academy of Industrial Hygiene
Member, Canadian Registration Board of Occupational Hygienists
Sub committee co-chair, Threshold Limit Values Committee, American Conference of Governmental Industrial Hygienists
Member, Academic-Community-Agency Network for Environmental Justice (ACA-NET)
Member, Mustard Fellowship Committee

BOMBARDIER, Claire

Fellow, Royal College of Physicians of Canada F.R.C.P.(C)
Co-Chair, Health Canada (Working Group), Food and Drug Act, Schedule A
Member, Canadian Institutes of Health Research (CIHR) High Risk, Teams, Inventions (HTI) Peer Review Committee

Member, AMGEN Global Advisory Board in Inflammation
Member, AMGEN - Kineret Registry Steering Committee, 2002 to present
Member, Merck -Etoricoxib Outcomes Study Steering Committee, 2002 to present
Member, Merck - Worldwide Arthritis Advisory Board (WAAB), 2002 to present
Member, Merck Frosst Rheumatology Medical Advisory Council (MEDAC), 2002 to present
Member, Canadian Arthritis Network, 2001 to present
Member, Advisory Board, SONORA Study, Abbott Pharmaceutical Company, 2000 to present
Member, Advisory Board, WHO International Task Force on Neck Pain, 1999 to present
Member, American Federation for Clinical Research (AFCR)
Member, Canadian Society for Clinical Investigation (CSCI)
Member, Society for Medical Decision Making (SMDM)
Member, Canadian Rheumatism Society (CRS)
Member, American Public Health Association (APHA)
Member, American Rheumatism Association (ARA)
Member, Canadian Medical Association (CMA)

BRENNEMAN GIBSON, Jane

Chair, Ontario KTE Community of Practice
Chair, HSA Liaison Committee
Chair, KTE Hub Steering Committee
Member, Advisory Committee GTA Rehab Network Best Practices Day
Member, College of Speech Language Pathology and Audiology
Member, IAPA Conference Advisory Committee
Member, GTA Rehab Best Practices Conference Advisory Committee

BRESLIN, Curtis

Member, Ontario College of Psychologists
Member, American Public Health Association
Member, Canadian Psychological Association
Member, Population Health – B review panel, CIHR
Member, Young Worker Steering Committee, Ministry of Labour

COLE, Donald

Fellow, Royal College of Physicians and Surgeons of Canada, in Occupational Medicine and Community Medicine
Head, Agriculture and Human Health Division of the International Potato Center
Member, Canadian Association for Research on Work & Health
Member, Canadian & Ontario Public Health Associations
Member, Canadian Society of International Health
Member, Centre for the Environmental Steering Committee
Member, International Society for Environmental Epidemiology

CÔTÉ, Pierre

Member, Consortium for Chiropractic Research Centers, 1997 - present
Member, Scientific Advisory Planning Committee, Canadian Memorial Chiropractic College, August 2000 - present
Member, University of Toronto Epidemiology Executive Committee, 2003 - present
Member, Scientific Secretariat, Bone and Joint Decade International Task Force on Neck Pain and its Associated Disorders, 2001 - present

FRANCHE, Renée-Louise
Member, Ontario College of Psychologists
Member, Canadian Psychological Association

FRANK, John
Scientific Director, Canadian Institutes of Health Research -- Institute of Population and Public Health
Professor, Department of Public Health Sciences, Faculty of Medicine, University of Toronto
Senior Scientist, Institute for Work & Health, Toronto
Continuing Membership, Department of Community Health, Division IV (Life Sciences), School of Graduate Studies, University of Toronto
Member, Research Advisory Committee, WSIB
Chair, Advisory Council, PHAC – National Collaborating Centres on Public Health

FURLAN, Andrea
Member, Canadian Pain Society
Member, Editorial Board of the Cochrane Back Review Group
Member, Canadian Medical Association
Member, Ontario Medical Association
Member, Canadian Association of Physical Medicine and Rehabilitation

HOGG-JOHNSON, Sheilah
Member, Scientific Secretariat, 2000-2010 Bone and Joint Decade Task Force on Neck Pain and Its Associated Disorders
Accredited as Professional Statistician by the Statistical Society of Canada
Member, Statistical Society of Canada
Member, Accreditation Committee of Statistical Society of Canada

IBRAHIM, Selahadin
Member, Statistical Society of Canada
Professional Statistician, Statistical Society of Canada

IRVIN, Emma
Convenor, The Cochrane Library Users Group
Member, The Publishing Policy Group of the Cochrane Collaboration

KENNEDY, Carol
Member, College of Physiotherapists of Ontario

KOSNY, Agnieszka (Iggy)
Fellow, CIHR Strategic Training Program in the transdisciplinary approach to the health of marginalized populations
Member, Canadian Association for Research on Work and Health
Academic Partner, National Network of Environments and Women's Health (NNEWH)

MACEACHEN, Ellen
Member, Canadian Anthropology and Sociology Association
Member, British Sociological Association
Member, Canadian Association for Research on Work and Health,
Member, Selection Committee, University of Toronto PHS Social Science & Health Program
Assistant Professor (status only), University of Toronto Department of Public Health Sciences, Faculty of Medicine

Member, Strategic Planning Committee, Work Disability Prevention CIHR Strategic Training Program,
Universite de Sherbrooke, Longueuil
Facilitator: IWH Qualitative Journal Club.

MUSTARD, Cam

Member, Expert Advisory Committee, Canadian Health Examination Survey, Statistics Canada
Member, Editorial Advisory Board, Longwoods Review
Member, Wellesley Central Health Corporation
Member, Occupational Health and Safety Council of Ontario, 2002 to present
Member, Medical Advisory Board, Health News, University of Toronto, 2002 to present
Member, Passport to Safety Standards and Advisory Board, 2002 to present
Member, Research Advisory Council, WSIB of Ontario, July 2001 to present
Member, Steering Committee, Toronto Region Research Data Centre, September 2005 to present
Member, Canadian Arthritis Network Partnerships and Sustainability Committee, 2005-2009
Member, Task Force on the Implementation of the CIHR Research Agenda on Workplace Mental Health.
August 2004 – present

PENNICK, Victoria

Registered Nurses Association of Ontario

ROBSON, Lynda

Member, System Measurement Sub-Committee of the Occupational Health & Safety Council of Ontario
Member, Canadian Council on Health Services Accreditation Worklife Advisory Committee

SCOTT-MARSHALL, Heather

Member, Canadian Association for Research on Work and Health

SINCLAIR, Sandra

Member, Advisory Committee, Workers' Compensation Research Group
Member, Advisory Committee, Workers' Compensation Policy Review, School of Industrial Relations,
Rutgers University
Member, International Association of Industrial Accident Boards and Commissions

SMITH, Peter

Member, Public Health Association of Australia
Member, Special Interest Group on Injury Prevention

STEENSTRA, Ivan

Member, Workers' compensation research group
Member, Dutch Society of Epidemiology (VVE)
Member, Dutch Society for Human Movement Sciences (VvBN)
Member, Scientific Committee, 3rd ICOH International Conference on psychosocial factors at work; form
knowledge to action. 1-4 Sep 2008. Québec City, PQ.
Co-organizer, QUIPS Workshop on prognosis studies in low back pain and the workshop on return to
work measurement. Mallorca, Spain 2007 International Low Back Pain IX Forum.

TOMPA, Emile

Member, Canadian Association for Research on Work and Health
Member, Workers' Compensation Research Group
Member, International Health Economics Association
Member, Mustard Fellowship Committee

van der VELDE, Gabrielle

Member, Toronto Health Evaluation and Technology Assessment (THETA) Centre

Member, International Society of Quality of Life Research

Member, Society for Medical Decision Making

Member, Scientific Secretariat, the Bone and Joint Decade 2000-2010 Task Force on Neck Pain and its Associated Disorders

Member, Canadian Chiropractic Association

Member, Ontario Chiropractic Association

Member, Canadian Memorial Chiropractic College Governors' Club

Teaching, Educational and Service Activities

AMICK, Ben

Teaching/Educational Role

Scientific Director, IWH

Professor, Behavioural Sciences, Epidemiology and Occupational Health and Safety, School of Public Health, University of Texas, 2007-present

Director, Occupational Injury Prevention Research Doctoral Training Program, University of Texas Health Science Centre, 2001-present

Director, Occupational Epidemiology Doctoral Training Program, University of Texas University of Texas Health Science Centre, 2004-present

Co-Director, Fogarty International Training Program in Injury and Trauma, University of Texas Health Science Centre, 2006-present

AMMENDOLIA, Carlo

Teaching/Educational Role

Canadian Memorial Chiropractic College, Department of Graduate Studies and Research, 1996 - current

Service Activities

Grant Committees: Canadian Chiropractic Research Foundation, Fund Allocating Committee

Journal Referee: Journal of the Canadian Chiropractic Association

BEATON, Dorcas

Teaching/Educational Role

Lecture, ACPAC (Advanced Care Program for Arthritis Health Care Professionals) program.

Course Coordinator: Measurement in Clinical Research, HPME Course, Winter, 2007

Assistant Professor: Occupational Therapy, University of Toronto, Oct 1995 - current

Graduate Appointments: Health Policy Management and Evaluation and Graduate Department of Rehabilitation Sciences

Course Coordinator: Measurement in Clinical Research, Health Policy, Management and Evaluation

Graduate Program, University of Toronto; Measurement Theory in the New Millennium - Graduate Department of Rehabilitation Sciences Outcome Measurement: Measurement Properties, University of Toronto

Lecturer: Occupational Therapy 1st year students on outcome measurement – October 2005.

Service Activities

Grant Committees: CIHR, The Arthritis Society, Hospital for Sick Children Foundation, SSHRC, WSIB Research Advisory Council

Journal Referee: Journal of Clinical Epidemiology, Medical Care, JAMA, International Journal of Epidemiology, Quality of Life Research, Spine, Journal of Rheumatology, Journal of Shoulder and Elbow Surgery, Journal of Bone and Joint Surgery

BIGELOW, Philip

Teaching/Educational Role

University of Toronto, Dept. of Public Health Sciences – CHL 5110H Theory and Practice of Programme Evaluation (Development of syllabus and teaching)

Sass-Kortsak A., Purdham J, Bigelow P. University of Toronto, Dept. of Public Health Sciences – CHL 5910F Introduction to Occupational Hygiene (teaching)

PhD Committee meetings:

Kathryn Nichol, Dept of Public Health Sciences (The Organizational, Environmental and Individual Factors that Influence Nurses' Decisions to use Facial Protection to Prevent Occupational Transmission of Infectious Respiratory Illness in Acute Care Hospitals)

Steven Thygeson, Dept of Environmental and Radiological Health Sciences, Colorado State University (Increasing Compliance with Respirator use Requirements through a Leadership-based Intervention)

Associate Professor: Department of Public Health Sciences, Faculty of Medicine, University of Toronto

Adjunct Professor: Department of Environmental and Radiological Health Sciences, Colorado State University

Adjunct Professor: Institute of Public Health, Florida A&M University

Adjunct Professor: Institute of Health Promotion Research, University of British Columbia

Course Co-coordinator (with Ted Myers) CHL 5110H - Theory and Practice of Program Evaluation, University of Toronto

Course Co-coordinator (with Andrea Sass-Kortsak and Jim Purdham) - CHL 5910F - Introduction to Occupational Hygiene, University of Toronto.

Lecturer: CVOH 221 -Topics in Occupational Health and Safety, (risk assessment, program evaluation) Ryerson University

Service Activities

Journal Referee: Journal of Agricultural Safety and Health; Environmental Health Perspectives, Journal of Occupational and Environmental Hygiene, Canadian Journal of Public Health

Reviewer: Journal of Occupational and Environmental Hygiene; American Journal of Industrial Medicine

Curriculum Reviewer: Dept of Public Health Sciences, Occupational and Environmental Health

BOMBARDIER, Claire

Teaching/Educational Role

Director: Division of Rheumatology, University of Toronto

Professor: Medicine/Health Administration, University of Toronto

Guest Professor: University of Toronto, MSc, HAD 5302: Measurement in Clinical Research

Synthesis Session to, Guest Lecturer, University of Toronto, Clinical Epidemiology Students - PhD Thesis Course

Instructor: IWH Systematic Reviews Workshop

MSc Thesis Supervisor: Shahin Walji, Bindu Nair, Joel Gagnier, Roselynn Chuong, Shanas Mohamed

PhD Thesis Supervisor: Linda Li, Andrea Furlan, Ruben Tavares, Jill Hayden, Carlo Ammendolia
Member of Committee: Hans Oh (PhD program)
Director: Clinical Decision Making and Health Care, Research Division, Toronto General Research Institute, Toronto General Hospital, University Health Network
Member: School of Graduate Studies, Division of Community Health, University of Toronto
Member: School of Graduate Studies, Institute of Medical Science (IMS), University of Toronto
Staff Physician: Rheumatic Disease Unit, Mount Sinai Hospital, Toronto

Service Activities

Chair, Abbott 3E Initiative in Rheumatology, April 2007 – March 2008
Chair, Aleve Advisory Board (Bayer), July 2006 - current
Chair, Bristol-Myers Squibb Canada, Canadian Advisory Panel on Health Outcomes/Health Economics in Rheumatoid Arthritis (RA) (05/2005-current)
Chair, Canadian Council of Academic Rheumatologists (CCAR) 11/2006-11/2008
Chair, Data Safety and Monitoring Board (DSMB) “Study to Prospectively Evaluate Reamed Intramedullary Nails in Tibial Shaft Fractures Trial” (SPRINT) - National Institute of Musculoskeletal and Skin Diseases (NIAMS), (May 2002-current)

Member, CORONA Board of Directors, 09/2007-current; Member, Combinatorx Incorporated Scientific Advisory Board (01/2007-current)
Member, Expert Task Force “Recommendations for the use of Biological Agents in the Treatment of Rheumatoid Arthritis” for American College of Rheumatology (ACR), 04/2006-current; Member, Medical Advisory Committee, Toronto Arthritis Society [as Canadian Council of Academic Rheumatologists (CCAR)] 11/2006-11/2008
Member, American Pain Society Clinical Guidelines Project – Low Back Pain Panel 07/2005-current
Member, Expert Task Force “Recommendations for the use of Biological Agents in the Treatment of Rheumatoid Arthritis” for American College of Rheumatology (ACR), 04/2006-current
Member, American Pain Society Clinical Guidelines Project – Low Back Pain Panel (07/2005-current)
Team Leader, Effectiveness Task Force (11/2004-current)
Member, COX-2 International Lifecycle Advisory Board (11/2004-current)
Member, Canadian Arthritis Network - Research Management Committee (04/2005-current)
Member, Journal of Clinical Epidemiology Advisory Board (01/2004-current)
Member, Pfizer - OSCARE Scientific Committee Meeting (04/2004-current)
Member, Canadian Council of Academic Rheumatologists (CCAR) [as Director, Division of Rheumatology, University of Toronto] 01/2003-Current
Member, Multidisciplinary Clinical Research Center in Musculoskeletal Diseases (MCRC) Scientific Advisory Board, Dartmouth Medical School, 02/2003-current
Member, AMGEN Global Advisory Board in Inflammation (07/2003-current)
Member, AMGEN - Kineret Registry Steering Committee, (04/2002-current)
Member, Merck -Etoricoxib Outcomes Study Steering Committee (07/2002-current)
Member, Merck - Worldwide Arthritis Advisory Board [WAAB] (01/2002-01/2008)
Member, Merck Frosst Rheumatology Medical Advisory Council [MEDAC] (01/2002-current)
Member, Advisory Board, SONORA Study, Abbott Pharmaceutical Company (2000-current)
Member, Advisory Board, WHO International Task Force on Neck Pain, (1999-current)

BRENNEMAN GIBSON, Jane

Teaching/Educational Role:

Host: Ministry of Labour students and Mary Grace Borges Strategic Planning Coordinator.
Mentor: Syme Fellow, Lubna Daraz who is working on a project to assist individuals to assess the quality of the health information they find on the web.

Service Activities:

Guest reviewer: CIHR panel to review Knowledge Syntheses Grant submissions. 13-14 Dec 2007.

BRESLIN, Curtis

Teaching/Educational Role

Assistant Professor: Department of Psychiatry, University of Toronto

Co-instructor: Health Behaviour Change, Dept of Public Health Sciences, University of Toronto, Fall Term.

Committee Member: Public, Community, and Population Health-B, CIHR, Nov 2007.

University Course: (CHL 5804H) Health Behaviour Change, Dept. of Public Health Sciences

Service Activities:

Reviewer: Social Science and Medicine, Jun 2007.

Journal Referee: Journal of Psychology of Addictive Behaviours

Guest reviewer: American Journal of Preventive Medicine

Guest reviewer: Work, Stress, and Health Conference

Ad hoc reviewer: Journal of Adolescence

Ad hoc reviewer: Journal of Health Economics

Thesis Committee Member: Cameron Norman, University of Toronto

COLE, Donald

Teaching/Educational Role

Associate Professor: Department of Public Health Sciences, University of Toronto, 2001- 2004

Associate Graduate Faculty: Department of Kinesiology, University of Waterloo, 1997 -

Full Member: School of Graduate Studies, University of Toronto, 2004-

Member: Doctoral and MHS Selection Committees, PHS Epidemiology Program

Member: Program Committee, Community Medicine Residency Program, University of Toronto, 2001-

Chair: Management Task Group, Public Health Sciences, University of Toronto, 2006-2007

Co-Instructor: Epidemiology II, University of Toronto, 2003 -

Lead Instructor: Global Health Research Methods, University of Toronto, 2003-

PhD Thesis Supervision (relevant): Irina Rivilis (2004-), Dwayne Van Eerd (2007-). Epidemiology, University of Toronto.

PhD Doctoral Committees (relevant): Lauren Griffith. Meta-analysis of biomechanical risk factors for back pain. Epidemiology, University of Toronto: 2003

Service Activities

Grant Committees: L'institut de recherche en santé et en sécurité du travail (IRSST) Québec; Fonds de Recherches en Santé du Québec (FRSQ); Canadian Institutes of Health Research (CIHR)

External Grant Reviews: CIHR, Michael Smith Foundation, Social Sciences and Humanities Research Council

Journal Referee: American Journal of Epidemiology; American Journal of Industrial Medicine; ;

American Journal of Preventive Medicine; Applied Ergonomics; Canadian Medical Association Journal;

Chronic Disease in Canada; Injury Prevention; International Archives of Occupational and Environmental Health; Journal of Occupational and Environmental Medicine; Occupational and Environmental

Medicine; Social Science and Medicine

CÔTÉ, Pierre

Teaching/Educational Role

Assistant Professor: Department of Public Health Sciences, University of Toronto, 2002 -

Adjunct Professor: Department of Graduate Studies and Research, Canadian Memorial, Chiropractic College, 1997 –

Member: Doctoral Program Renewal Working Group, Department of Public Health Sciences, Faculty of Medicine, University of Toronto

University Courses:

Laboratory in Epidemiologic Protocol Design (CHL 5408) Department of Public Health Sciences, University of Toronto; Non-experimental Design Course (HAD 5309) Department of Health Policy Management and Evaluation, University of Toronto

PhD Committee: Gabrielle van der Velde, University of Toronto, Esther Waugh, Clinical Epidemiology, University of Toronto

MSc Committee: Richard Foty, Epidemiology, University of Toronto; Mana Rezai, University of Toronto

Stephanie Vermulen, University of Alberta; Paul Nolet, Lakehead University; Xiao Qing Yang, University of Toronto

Thesis Examiner: Sujitha Ratnasingham, Master's in Epidemiology, University of Toronto.

Service Activities

Grant Committees: Canadian Institute for Health Research (grant proposal reviewer) 2000 – present; Institut de Recherche en Santé et Sécurité au Travail du Québec (IRSST) (grant proposal reviewer) 1998 - present

Reviewer: Medicine & Science in Sports & Exercise, 2003 -

Reviewer: Spine, 2003 -

Associate Editor: Journal of the Canadian Chiropractic Association, 2003 -

Reviewer: The Spine Journal, 2003 -

Advisory Board: Cochrane Back Review group, 2003 -

Editorial Board Member: Journal of Manipulative and Physiological Therapeutics, 2000 -

Reviewer: The Lancet, 1999 -

DOLINSCHI, Roman

Service Activities

Journal Referee: Journal of Applied Ergonomics

FRANCHE, Renée-Louise

Teaching/Educational Role

Professional Advisory Committee: CIHR Work Disability Training Program, Work Disability Prevention, Université de Sherbrooke, 2002 – present

Mentor: CIHR Work Disability Presentation Training Program, Université de Sherbrooke, 2003 - present

PhD Thesis Committee Member: Janet Parson, Institute of Medical Sciences, University of Toronto

Assistant Professor: University of Toronto, Faculty of Medicine, Department of Public Health Sciences and Graduate Department of Public Health Sciences, 2001 - present

Assistant Professor: Department of Psychiatry, Women's Mental Health Program, Faculty of Medicine, University of Toronto, 2000 - present

Associate Member: Women's Health Program, University Health Network, 2000 – present

Service Activities

Grant Committees: Canadian Institutes of Health Research (CIHR) Health Information & Promotion (HIP) Committee, Operating Grants Competition; Arthritis Society Scientific Review Panel - Epidemiology/Health Services; WSIB Research Advisory Committee; Fonds pour la Formation de Chercheurs et l' Aide B la Recherche and Canadian Innovation Funds
Journal Referee: Journal of Psychosomatic Obstetrics and Gynecology; Canadian Journal of Behavioural Sciences
Plenary Committee, IWH, 2004 -

FURLAN, Andrea

Teaching/Educational Role

Neuropathic Pain, practical aspects. Toronto Rehabilitation Institute, May 2007.

Service Activities

Journal Referee: Cochrane Collaboration Back Review Group

GRAY, Garry

Teaching/Educational Role

Course Instructor: Law & Society SOC323. (July-August) University of Toronto.
Teaching Assistant: SOC200 - Quantitative and Qualitative Research Methods; SOCB54H3 - Work and Industry; SOCB26H3 – Sociology of Education; SOC307H5 – Crime and Delinquency. University of Toronto

HOGG-JOHNSON, Sheilah

Teaching/Educational Role

Chair Mentor: CIHR Work Disability Program. 11-15 Jun 2007; Université de Sherbrooke, Longueuil, PQ.
Instructor: Research Methods in the CIHR Work Disability Program. 13-14 Jun 2007; Université de Sherbrooke, Longueuil, PQ.
Advanced Methods in Epidemiology - Survival Analysis. 2007. University of Toronto
Instructor: Privacy Policy Training Session, 4 Dec 2007; IWH.
Assistant Professor: Dept of Public Health Sciences, Faculty of Medicine, University of Toronto, 1995 –
Core Faculty Member: Graduate Program in Clinical Epidemiology and Health Services Research, University of Toronto, 1998 -
Assistant Professor: Dept of Health, Policy, Management and Evaluation, Faculty of Medicine, University of Toronto, 2001-
PhD Thesis (University of Toronto) Supervisor: G. van der Velde
PhD Thesis (University of Toronto) J Hayden, F Ahmad, L Griffith, I Rivilis, A-C Bedard, A Peruccio.
Committee Member: Anusha Raj

Service Activities

Grant Committees: External Reviewer for Workplace Safety & Insurance Board RAC
Journal Referee: Canadian Medical Association Journal, Scandinavian Journal of Work, Environment and Health, Occupational and Environmental Medicine, Chronic Diseases in Canada, Journal of Clinical Epidemiology, American Journal of Industrial Medicine
External Reviewer: Canadian Institutes of Health Research, Workplace Safety & Insurance Board Research Advisory Council

IBRAHIM, Selahadin

Teaching/Educational Role

Lecturer: Department of Public Health Sciences, Faculty of Medicine, University of Toronto, 2002 -

IRVIN, Emma

Teaching/Educational Role

Instructor: IWH Systematic Reviews Workshop

Instructor: Systematic Reviews Course. University of Toronto, Health Policy, Management and Evaluation Graduate Program Department.

Service Activities

Convenor: Cochrane Library User Group Meeting; Melbourne, Australia: XIII Cochrane Colloquium.

KALCEVICH, Christina

Teaching/Educational Role

Instructor: Privacy Policy Training Session, 4 Dec 2007.

KENNEDY, Carol

Teaching/Educational Role

Lecturer: Department of Physical Therapy, University of Toronto: 1996 –

KEOWN, Kiera

Service Activities

Joint Health & Safety Committee Certified Member, Part one training course. 13-14 Jun 2007.

KOSNY, Agnieszka (Iggy)

Teaching/Educational Role

Instructor, Women and Health. Institute for Gender Studies and Women's Studies, University of Toronto
Co-Instructor, Occupational Health and Safety, Labour Studies/Health Studies, McMaster University

MACEACHEN, Ellen

Teaching/Educational Role

Assistant Professor (Status), Dept of Public Health Sciences, University of Toronto

Chair Mentor: Work Disability Prevention CIHR Strategic Training Program, Universite de Sherbrooke, Longueuil, Quebec.

Mentor: Adam Cann, PhD (Candidate), CIHR Work Disability Prevention Program, Special Project and Training Practicum Proposals for WDP 951, 953, 921.

Mentor: Fiona Clay (PhD Candidate, Monash University, Australia) CIHR Work Disability Presentation Training Program. WDP 921 Topic: Canadian vs. Austrain experiences with knowledge transfer. Apr 2007-ongoing.

Mentor: Nicolette Carlan (PhD Candidate, University of Windsor). CIHR Work Disability Presentation Training Program. WDP 911 (Scientific Article). Topic: Occupational health knowledge creation and diffusion in the Ontario auto sector.” Jun 2007-ongoing.

Mentor: Janne Skakon (PhD Candidate, University of Copenhagen & The National Institute of Occupational Health, Denmark), CIHR Work Disability Presentation Training Program. WDP 953. Topic: "New economy" workplaces: An international comparison of labour relations & health in the IT sector. CIHR WDP Program Steering Committee Meeting, Univ. of Sherbrooke, Longueuil, 1 Oct 2007.
Instructor: Research Methods in the CIHR Work Disability Program. 13-14 Jun 2007; Université de Sherbrooke, Longueuil, PQ.

Service Activities

Reviewer: WorkSafe BC, October 2007
Reviewer: Safety Science; Health, Education and Behaviour
Ad Hoc Reviewer: Journal of Health Economics
Member: Strategic Planning Committee. Université de Sherbrooke, Longueuil, Quebec
Member: SSHRC Review Committee, Dept of Public Health Sciences, University of Toronto.
Instructor: CHL5122H. Qualitative methods in health research. Dept of Public Health Sciences, University of Toronto. Fall session.

MUSTARD, Cam

Teaching/Educational Role

Professor: Public Health Sciences, University of Toronto, July 2002 -
Review Panel Member: Comparative Program in Health and Society, Munk Centre for International Studies, University of Toronto

Service Activities

Reviewing Activity; Granting Agencies and Review Panels
Member: Scientific Visitors Advisory Board, Liberty Mutual Research Institute for Safety, July 2007.
Member: CIHR Michael Smith Prize in Health Research Review Committee, July 2007.
Member: Ontario Health Quality Council Performance Measurement Advisory Board, July 2007.
Member: Health Reports Editorial Board, Statistics Canada, July 2007.
Member: Fellowship Award Panel, Comparative Program on Health and Society, Munk Centre for International Studies, University of Toronto
Member: Research Committee, Association of Workers' Compensation Boards of Canada, Feb 2004 -
Journal Referee: Editorial Advisory Board, Longwoods Review; Journal of Epidemiology and Community Health; Health Services Research Journal; American Journal of Public Health; Social Science and Medicine; Medical Care; Injury Prevention; Journal of Psychosomatic Research
College of Reviewers, Canada Research Chairs Program

PENNICK, Vicki

Teaching/Educational Role

Member: Course Planning Committee, Determinants of Community Health Course, Faculty of Medicine, University of Toronto. 1992 - present
Tutor: Putting the person at the centre. University of Toronto Centre for the Study of Pain - Interfaculty Pain Curriculum. 2003 - present
Marking Student presentations: (Year 2) Determinants of Community Health Course, Faculty of Medicine, University of Toronto. 1992 - present

Service Activities

Scrutineer: Registered Nurses' Association of Ontario Annual General Meeting. 20 Apr 2007
Reviewer: Canadian Physiotherapy Association for Grants. April 2007

Consumer Referee: Guidelines for Indications for Diagnostic Imaging in Adults for the Lower Extremity, Upper Extremity and Spine. June 2007
ROBSON, Lynda

Service Activities

Member, System Measurement Subcommittee, Ontario Health and Safety Council of Ontario, 2000-present

Grant Reviewer: WorkSafe BC

Journal Referee: Safety Science

Working Paper Reviewer: IWH Working Paper Editorial Committee

SCOTT-MARSHALL, Heather

Service Activities

Journal Referee: Social Science and Medicine

SINCLAIR, Sandra

Teaching/Educational Role

Assistant Professor: McMaster University, School of Rehabilitation Sciences, 2002 -

Service Activities

Journal Referee: American Journal of Industrial Medicine

External Reviewer: WSIB Research Advisory Committee

Joint Health & Safety Committee Certified Member, Part one training course. Jun 2007.

STEENSTRA, Ivan

Service Activities

Reviewer: Spine and Occupational and Environmental Medicine, BioMed Central

Reviewer: RFP grants WCB Manitoba

Participant: CIHR Work Disability Program. Jun 2007; Université de Sherbrooke, Longueuil, PQ.

SMITH, Peter

Teaching/Educational Role

Co-teacher - Labour Studies 3D03E course: Occupational Health and Safety at McMaster University.

Department of Labour Studies, Faculty of Sociology

Course Coordinator: Measurement in Clinical Research, HPME Course, Winter 2008

Service Activities

Journal Referee: Injury Prevention; Public Health Nursing; Social Forces; Social Science & Medicine; Australian and New Zealand Journal of Public Health; The Journal of Epidemiology and Community Health; Chronobiology International; Preventing Chronic Disease

Abstract reviewer for 37th and 38th Public Health Association of Australia Conferences

TOMPA, Emile

Teaching/Educational Role

Adjunct Assistant Professor: Public Health Sciences, University of Toronto. May 2004 -
Adjunct Assistant Professor: Department of Economics, McMaster University: 2001 –
CIHR Work Disability Program. Introduction to health economics and its application in the evaluation of
measures to prevent work disabilities. Jun 2007; Université de Sherbrooke, Longueuil, PQ.
Guest Speaker: CHL5110 Theory and Practice of Programme Evaluation, Dept of Public Health Sciences,
University of Toronto, Fall Term.
Course Co-instructor: Advanced Topics in Health Economics (ECON 791)
Economic Evaluation of Workplace Interventions for Health and Safety, HSA Research Exchange, Oct
2007 & WSIB Workshop, Nov 2007.

Service Activities

Journal/Book Referee: Oxford University Press; Journal of Epidemiology and Community Health;
Arthritis Care and Research
External Grant Referee: Social Science and Humanities Research Council

VAN DER VELDE, Gabrielle

Teaching/Educational Role

Associate Professor; Division of Graduate Studies and Research, Canadian Memorial Chiropractic
College.
Instructor: Office Ergonomics in OHS-516 Economics. May 2007; Toronto, ON: School of Occupational
and Public Health, Ryerson University.

Service Activities

Editorial Board Member: Journal of the Canadian Chiropractic Association
Journal Referee: Advances in Physiotherapy; Journal of the Canadian Chiropractic Association

Adjunct Scientists

Dr. Carlo Ammendolia - Clinical Epidemiologist, Rehabilitation Solutions, University Health Network (since 2006)

Dr. Carlo Ammendolia has been a practicing chiropractor for the past 24 years. His clinical work has been in the area of assessment, treatment and rehabilitation of musculoskeletal disorders, primarily soft tissue injuries of the neck and back. He received his Master's degree in clinical epidemiology from the University of Toronto in 1999 and has just completed his PhD in clinical and evaluative studies at the Institute of Medical Sciences at the University of Toronto. He works as a clinical epidemiologist at Rehabilitation Solutions of the University Health Network and a scientific associate at the Division of Outcomes and Population Health at the Toronto Western Research Institute. He is also an adjunct scientist at the Institute for Work & Health. His research interests include the identification of gaps between evidence and clinical practice and the implementation of strategies to improve clinical outcomes. He also conducts work in the area of primary and secondary prevention of occupational injuries.

Dr. Peri Ballantyne - Assistant Professor, Department of Sociology, Trent University (since 2001)

Peri Ballantyne, a health sociologist, is Assistant Professor, Department of Sociology, Trent University. Her research interests include the sociology of aging and the life course, the sociology of work and health, gender as a determinant of health, and the sociology of pharmaceutical health care. In qualitative research, Dr. Ballantyne uses applied ethnography to examine the context and meaning of phenomenon such as illness, disability, health, work and non-work, poverty, social support, and medication use. Examples of recent work include examination of the experience and context of arthritis and its influence on patients' decision-making regarding treatment (sponsored by the Centre for Research in Women's Health), and the health trajectories of long-term injured workers from Ontario (sponsored by the Institute for Work & Health). She also conducts survey research, and is currently examining profiles and patterns of use of medicines among the elderly, using the National Population Health Survey. This is part of a developing program of research examining the use of medicines and medicine-use decision-making in response to perceptions of health, illness, risk, need, and entitlement in the middle-aging and elderly population.

Ute Bültmann - Associate Professor, Department of Health Sciences, University Medical Center Groningen, University of Groningen, The Netherlands (since 2007)

Dr. Ute Bültmann is an associate professor at the Department of Health Sciences, Section of Social Medicine/Work and Health of the University Medical Center in Groningen (UMCG). Dr. Bültmann holds a master's degree in Health Sciences and a PhD in Epidemiology from Maastricht University in The Netherlands.

Her research interests include the epidemiology of work and health, the impact of the psychosocial work environment on workers' health, including mental health, the interrelation between health and functioning at work, and the prevention of work disability. She has gained extensive international research experience in occupational health and is involved in collaboration projects on work and health in Denmark and Canada.

Bültmann has been the recipient of a Rosalind Franklin Research Fellowship of the UMCG, University of Groningen that focuses on "Mental health and work: Towards work disability prevention and sustainable work participation in workers with mental health problems" (2007-2012).

Dr. Linda J. Carroll - Associate Professor, Department of Public Health Sciences, University of Alberta, Canada (since 2004)

Dr. Linda Carroll is an associate professor of epidemiology in the Department of Public Health Sciences at the University of Alberta and holds a Health Scholar Award from the Alberta Heritage Foundation for Medical Research. She is also an adjunct professor at the University of Saskatchewan and an associated scientist at the Alberta Centre for Injury Prevention and Research. Her clinical background is in health psychology, and her research focuses on psychological aspects of musculoskeletal disorders, with an emphasis on examining the interface between depression, coping, chronic pain disability and recovery from soft tissue injuries. Carroll was a member of the scientific secretariat an international task force, the WHO Collaborating Centre on Neurotrauma's Task Force on Mild Traumatic Brain Injury, which recently published a Journal of Rehabilitation Medicine supplement reporting their findings from a systematic review of the world literature on mild traumatic brain injury. She is currently a principal investigator and member of the administrative committee and the scientific secretariat of the Bone and Joint Decade 2000-2010 Task Force on Neck Pain and its Associated Disorders.

Dr. David Cassidy - Senior Scientist, Division of Outcomes and Population Health, Toronto Western Hospital Research Institute (since 2001)

Dr. David Cassidy is a senior scientist in the Division of Outcomes and Population Health at the Toronto Western Hospital Research Institute and holds the new endowed Chair in Artists' Health within the University of Toronto's Health Network. He is formerly an associate professor in epidemiology and medicine at the University of Alberta and is currently an adjunct professor in the Department of Public Health Sciences at the University of Alberta. He is also a guest research professor at the Section for Personal Injury Prevention at Karolinska Institute in Stockholm, Sweden. Dr. Cassidy holds a Bachelor's degree in Anatomy, a Master of Science in Surgery and a Doctorate in Pathology from the College of Medicine at the University of Saskatchewan. He has graduate training in epidemiology and biostatistics from Tuft's University in Boston, the Johns Hopkins School of Public Health in Baltimore and from Erasmus University in Rotterdam. Dr. Cassidy's research interests include musculoskeletal and injury epidemiology. He is the scientific secretary for the World Health Organization's Collaborating Centre Task Force on Mild Traumatic Brain Injury and the Decade of the Bone and Joint 2000-2010 Task Force on Neck Pain. He is also a member of the expert working group on mild traumatic brain injury at the Centers for Disease Control and Prevention in the United States..

Dr. Anthony (Tony) Culyer – Ontario Chair in Health Policy and System Design, HPME, University of Toronto (since 2007)

Dr. Tony Culyer, an internationally renowned health economist, has lectured or taught at more than a dozen universities around the world. He is currently an Ontario Chair in Health Policy and System Design in the Department of Health Policy, Management and Evaluation at University of Toronto. He also holds an honorary doctorate in economics from the Stockholm School of Economics. Culyer is currently a co-editor of the international Journal of Health Economics, and has served on many journal editorial boards in the diverse fields of health economics, medicine, medical ethics, social science and medical law. To date, he has published over 200 articles in various publications and scholarly journals, and his work also appears in more than two dozen books. Culyer was a vice-chair for Britain's National Institute for Clinical Excellence (NICE). This authority, established in 1999, advises the National Health Service in England and Wales on the appropriate use of health-care technologies and also develops clinical practice guidelines, based on systematic reviews of both clinical and cost-effectiveness evidence.

Dr. Joan Eakin – Professor, Department of Public Health Sciences, Faculty of Medicine
University of Toronto (since 2001)

Joan M. Eakin is Professor in the Department of Public Health Sciences in the Faculty of Medicine at the University of Toronto. With a disciplinary background in the social sciences (PhD Sociology McGill University), her research, teaching and graduate research supervision focus on the social dimensions of work and health, and on qualitative research methodology. Her research program in the work/health arena has been directed in particular to issues of health and prevention in very small workplaces where she has studied workers, employers, and the work environment in relation to the workplace determinants of health and illness, the social relations of work, prevention and health promotion, and, more recently the impact of institutional practices and policies of return to work and work-related disability. She is currently engaged in a study of frontline prevention and claims management work in Ontario's Workplace Safety and Insurance Board. She teaches graduate-level courses in qualitative analysis and has lectured widely on qualitative methodology. She founded and directs QUIG (Qualitative Inquiry Group), a collective of qualitative researchers, and hosts a lecture series and forum for leading edge cross disciplinary advancement of qualitative method. She recently organized and hosted an invitational national workshop on the teaching of qualitative method in the health sciences.

Dr. Monique Gignac - Scientist, Division of Outcomes & Population Health, Toronto Western Hospital
(since 2003)

Dr. Monique Gignac is a Scientist with the Division of Outcomes and Population Health and a research investigator with the Arthritis Community Research and Evaluation Unit at the University Health Network (UHN). She is also an Assistant Professor in the Department of Public Health Sciences at the University of Toronto. Dr. Gignac is a social psychologist who studies coping and adaptation to chronic stress, especially chronic illness and disability. With funding from CIHR and the Canadian Arthritis Network (CAN) she is currently examining longitudinally the coping efforts and adaptations that individuals with arthritis disability use to manage their condition and remain employed. This work will provide information about behaviours that enhance or create risks to health and can be applied to interventions aimed at minimizing the impact of chronic disabling health conditions. It is part of an ongoing program of research to investigate factors associated with the independence of people with arthritis and their families in different domains of life. Dr. Gignac's other research includes examining the coping and adaptation of older adults with osteoarthritis and osteoporosis and relating these efforts to changes in adults' health status, disability, and independence, as well as research examining the provision of care to people with arthritis in the community. She is also involved in research examining early osteoarthritis and changes in the trajectory of OA over time, shifts in the meaning of illness, interventions to helping people with arthritis maintain or regain greater independence, and biopsychosocial factors affecting pain, fatigue, and decision-making.

Dr. Michel Grignon - Assistant Professor, Departments of Gerontology and Economics, McMaster
University (since 2005)

Dr. Michel Grignon is a professor in the Department of Economics and the Gerontology Studies Program at McMaster University. He has Master's equivalent from the National School for Statistics and Economics, France, and a Ph. D. in Economic History from Ecole des Hautes Etudes en Sciences Sociales, Paris, France. His research interests include issues related to health care financing, such as the impact of supplemental health care insurance on welfare, equity in financing, and regulation of universal coverage for the poor. He also does research on the economics of health care distribution and delivery, including determinants and patterns of health care consumption across income and age groups. Dr,

Grignon has also undertaken econometric analysis of the impact of taxes on tobacco consumption in France.

Dr. Jaime Guzman - Scientific and Medical Director for Disability Prevention, Occupational Health & Safety Agency for Healthcare in BC (since 2006)

Dr. Jaime Guzman is Scientific and Medical Director, Disability Prevention for the Occupational Health and Safety Agency for Healthcare in British Columbia and Assistant Clinical Professor of Medicine at UBC. Dr. Guzman has a long history of collaboration with the Institute for Work & Health, most recently as Associate Scientist for three years. Currently he collaborates on two Institute-related initiatives: The Centre for research Expertise on Improved Disability Outcomes and the Community University Research Alliance on the Consequences of Work Injury. He has published more than 25 research papers and book chapters. His medical practice involves assessment and rehabilitation of people with musculoskeletal injuries and diseases, and his current research interests relate to preventing disability in people with musculoskeletal injuries. His most recent publications deal with how to obtain sustainable disability prevention through collaborative action research and how to best integrate the perspectives of different stakeholders. He received his MD and specialties in Internal Medicine and Rheumatology in Mexico, he also holds Master of Science from the University of Toronto and is a Royal College Specialist in Physical Medicine and Rehabilitation.

Jill Hayden - Scientist, Outcome Measures & Research Program, and Centre for Research Expertise in Improved Disability Outcomes (CREIDO) (since 2007)

Dr. Jill Hayden is Scientist at the Centre of Research Expertise in Improved Disability Outcomes (CREIDO), Toronto Western Hospital, University Health Network and Scientific Associate at the Division of Outcomes and Population Health, Toronto Western Research Institute. Hayden has a background in chiropractic. In 2007 she completed her PhD in Clinical Epidemiology at the University of Toronto, specifically on the methods of systematic review of prognosis. Hayden's research experience and expertise includes prognostic research, systematic review methods and musculoskeletal health, specifically low back pain. She has been the recipient of several training and achievement awards and holds a Canadian Institutes of Health Research/ Canadian Chiropractic Research Foundation New Investigator Award (2007-2012). Her work at CREIDO focuses on using prognostic information, models and clinical prediction rules to improve disability outcomes in injured workers.

Dr. C. Gail Hepburn - Assistant Professor, Department of Psychology, University of Lethbridge (since 2004)

Dr. C. Gail Hepburn is an Assistant Professor in the Department of Psychology at University of Lethbridge She holds a BSc. from Trent University and an MA and PhD from Queen's University. Her area of specialization is organizational psychology. Hepburn's research interests include the impact of workplace factors - such as perceptions of justice or fairness, safety climate, workplace aggression, and work-family balance - on employee well-being. A scientist at the Institute For Work & Health from 2000, Hepburn accepted a position at the University of Lethbridge in the fall of 2004.

Dr. Linn Holness – Director, Gage Occupational and Environmental Health Unit (since 2001)

Dr Linn Holness is the Director of the Gage Occupational and Environmental Health Unit, a collaborative program of the University of Toronto and St Michael's Hospital. She is an Associate Professor in the Departments of Public Health Science, Medicine and Health Policy, Management and Evaluation and the Centre for Industrial Relations at the University of Toronto and Chief of the Department of Occupational and Environmental Health at St Michael's Hospital. Dr Holness is the Director of the Centre for Research Expertise in Occupational Disease, established with funding from the Ontario Workplace Safety and Insurance Board. Her main research interest has been occupational skin and lung disease, occupational health services program delivery and workplace health and safety issues in inner city.

Dr. William Johnson - Professor of Economics, School of Health Administration & Policy and Department of Economics, Arizona State University (since 2003)

William G. Johnson, Ph.D., is a Professor of Economics in the School of Health Management & Policy and the Department of Economics in the W. P. Carey School of Business at ASU where he teaches graduate courses on health and managerial economics and health care outcomes. He has previously held appointments at the medical schools of Rutgers University, the State University of New York and the University of Arizona. He authored the first empirical studies of labor market discrimination against persons with disabilities and is the author or co-author of nearly every subsequent empirical study of the problem. He also completed the first interview study of the families of the victims of asbestos related death and disease in the United States and Canada. In regards to workers' compensation, Professor Johnson was Principal Investigator or co-investigator on the first studies of workers' compensation health care costs in the United States; the first interview study of injured men and women in the United States and the largest interview study of injured workers (conducted in Ontario). He is one of the principal authors of the Harvard Medical Practice Study, the largest study to date of medical malpractice. His current research focuses on access to care, occupational illness and injury, the effects of health on work and other activities, health care outcomes and the development of health information systems for use in research. He has a number of professional affiliations, including the National Academy of Social Insurance, the Collegium Ramazzini (Carpi, Italy), the NIH Review Panel for Health Services Research, the National Academy of Science, the National Disability Research Institute and the World Health Organization Collaborating Center Task Force on Neck Pain.

Dr. Bonnie Kirsh - Associate Professor, Dept of Occupational Therapy, University of Toronto (since 2006)

Bonnie Kirsh is an Associate Professor in the Department of Occupational Science and Occupational Therapy at the University of Toronto, with cross appointments to the Graduate Department of Rehabilitation Science and the Department of Psychiatry. She conducts research in the areas of community mental health and employment, and has investigated Canadian principles and practices in work integration for persons with mental illness. She has addressed best practice for vocational programs working with persons with mental illnesses and is currently researching essential characteristics of supported employment in Canada. Dr. Kirsh has conducted participatory research with injured workers and is currently studying the mental health and well being of injured workers in Ontario.

Dr. Mieke Koehoorn - Assistant Professor, Department of Health Care & Epidemiology, University of British Columbia (since 2004)

Dr. Koehoorn is an Assistant Professor with the Department of Health Care & Epidemiology, University of British Columbia and a Michael Smith Foundation for Health Research Scholar. She also holds an appointment with the School of Occupational and Environmental Hygiene, University of British Columbia. Her research interests focus on the epidemiology of work-related musculoskeletal injuries, in particular back injuries among health care workers, school custodians and workers in heavy industries. Koehoorn also conducts research on the relationship between work organization and mental disorders among health-care workers, and the epidemiology of injuries among young workers.

Dee Kramer - Associate Director, Networks & KTE, Centre for Research Expertise in Musculoskeletal Disorders (CRE-MSD), University of Waterloo (since 2005)

Dr. Dee Kramer is the Manager of Research and Knowledge Transfer at the Centre of Research Expertise in Musculoskeletal Disorders (CRE-MSD) at the University of Waterloo. She is also an adjunct professor in the School of Occupational and Public Health at Ryerson University. Her research interest is in knowledge transfer. She focuses on creating knowledge-broker networks with researchers and safety, employer and labour organizations in order to facilitate the adoption of research. She works with stakeholder groups to enhance the applicability of the research to workplaces and the uptake of the research messages. She also evaluates the effectiveness of knowledge transfer with workplace parties, using network theory and community-based research as her conceptual framework. Kramer holds a bachelor's degree in psychology and a master's degree in environmental studies from York University. She also completed her master's in public health sciences and her PhD in adult education from the University of Toronto. Kramer is a former technical writer and journalist. She has written for over 35 different publications and organizations, including Canadian Occupational Safety Magazine, OHS Canada, the Canadian Centre for Occupational Health and Safety, and the HIV Ontario Observation Database. She was also a staff writer for Supplylink Magazine, an industrial safety trade magazine. Her writing focused on occupational health and safety, but she was also published in medical, business, agricultural, and engineering publications.

Dr. Niklas Krause - Assistant Professor of Medicine, Division of Occupational & Environmental Medicine, University of California at San Francisco (2003-2007)

Dr. Niklas Krause is an Assistant Professor of Medicine at the University of California at San Francisco. His research focus has been the epidemiology and prevention of work-related musculoskeletal and cardiovascular diseases and disability. He is co-principal investigator on a new IWH study investigating predictors of return to work after low-back injury among WCB claimants. Dr. Krause is also investigating the effects of job stress, social support, and work organizational and ergonomic factors (including interventions) on health and disability in various populations including hotel workers, public transit operators, engineers, graphic designers, call center service workers, and California workers' compensation claimants.

Dr. Heather Laschinger - Professor and Associate Director Nursing Research (2004-2007)

Dr. Heather K. Spence Laschinger is Professor, and Associate Director Nursing Research at the University of Western Ontario, School of Nursing, Faculty of Health Sciences in London, Ontario. Since 1992 she has been Principal Investigator of a program of research designed to investigate the impact of

nursing work environments on nurses' workplace health and work behaviours using Rosabeth Moss Kanter's organizational empowerment theory. Publications of this work have attracted considerable interest from researchers, managers, and graduate students from both nursing and other disciplines around the world. In 2003, in recognition of her extraordinary excellence in nursing research Heather was awarded the Sigma Theta Tau International Founders Award for Excellence in Research. The Canadian Institutes of Health Research recently listed her as one of Canada's most productive researchers in mental health in the workplace during 1991 to 2002. Currently, she is Co-Principal investigator on a national study "A Profile of the Structure and Impact of Nursing Management in Canadian Hospitals". This study will profile nursing leadership/management structures in teaching and non-teaching hospitals across the country. During year 2003, she has been a consultant for several national initiatives examining strategies to measure quality indicators of nurses' worklife. She is also Chair of the Leadership Panel in the Registered Nurses Association of Ontario's Best Practice Guidelines for Healthy Workplace Environments.

Dr. Louise Lemieux-Charles – Associate Professor and Chair, Department of Health Policy, Management & Evaluation, University of Toronto (since 2000)

Dr. Louise Lemieux-Charles has research interests in the areas of performance management, health human resource management, organizational learning, knowledge transfer and organization of health systems. She holds a master's degree in psychiatry and community health, and a PhD in organizational theory and management as applied to health care both from the University of Toronto. She has a number of research grants examining issues of evidence and decision-making in health-care organizations and management of organizational performance.

Dr. Katherine Lippel - Chair on Occupational Health and Safety Law, Law Faculty, University of Ottawa (since 2006)

Katherine Lippel is a full professor of law at the Faculty of Law (Civil Law Section) at the University of Ottawa and holds the Canada Research Chair in Occupational Health and Safety Law. She is also a full professor at the law faculty of the Université du Québec à Montréal, where she has been teaching since 1982, and a member of the Quebec Bar. She specialises in legal issues relating to occupational health and safety and workers' compensation and is the author of several articles and books in the field. Her research interests include the following themes: Work and mental health; health effects of compensation systems; policy, precarious employment and occupational health; interactions between law and medicine in the field of occupational health and safety; women's occupational health; regulatory issues in occupational health and safety. In 2005, she received a prize for academic excellence from the Canadian association of law teachers (CALT), a prize awarded yearly to a Canadian law professor for excellence in teaching and research. Recent publications include two books on workers' compensation law and several articles on psychological harassment, therapeutic jurisprudence in the field of workers' compensation, precarious employment and occupational health and safety regulation and gender based analysis of compensation systems.

Dr. Anne Moore - Assistant Professor, School of Kinesiology and Health Science, York University (since 2004)

Dr. Anne Moore is an Assistant Professor in the School of Kinesiology and Health Science at York University, Toronto. She has a BSc in Mechanical Engineering from Queen's University, and is a professional engineer (PEng). She obtained both her MSc and PhD in Kinesiology from the University of

Waterloo specializing in Occupational Biomechanics/Ergonomics. Her research interests include physical exposure assessment for Work Related Musculoskeletal Disorders of the Upper Limb, Occupational EMG assessment, and modeling of the upper limb during repetitive manual tasks. She is particularly interested in work rest cycles and has used psychophysical adjustment approaches to assess acceptable demands on the hands during manual tasks.

Dr. Carles Muntaner - Chair in Psychiatry and Addictions Nursing Research, Social Policy and Prevention Research Department, CAMH (since 2004)

Dr. Muntaner is currently a the Chair in Psychiatry and Addictions Nursing Research, Social Policy and Prevention Research Department at the Centre for Addictions and Mental Health (CAMH) and Professor at the Faculty of Nursing and cross-appointed to the Department of Public Health Sciences, Faculty of Medicine, University of Toronto. He has a diverse educational background with BSc in Mathematics and Natural Sciences from Lycée Francais, an M.D. from the University of Barcelona, Internships in Neurology and Psychiatry, a Ph.D. in Social Psychology, an MHS in Psychiatric Epidemiology and post-doctoral training at the National Institute on Drug Abuse Addiction Research Center in Baltimore, Maryland, and the National Institute of Mental Health. Dr. Muntaner is an internationally renowned leader in the literature on the social determinants of health with more than 120 publications in professional journals, and over 35 book chapters, monographs, and reports. In addition, Dr. Muntaner has expertise in basic and applied research via his collaborations with European Union researchers and international labor organizations. He has conducted research in disadvantaged communities in the U.S., the European Union, Latin America and Western Africa and has provided intellectual leadership for public health with his pioneering work in areas of health disparities and social inequalities in health. The recipient of many peer reviewed grants, he has also conducted research and collaborated with investigators in Canada, Spain, Sweden, Mali, Mexico, and Chile and worked with labor unions in the U.S., Sweden and Spain. He is currently an Advisor on social determinants of health to the Minister of Health of the Bolivarian Republic of Venezuela. An active and dedicated scholar in social epidemiology for many years, Dr. Muntaner has contributed many policy resolutions on social determinants of health to the APHA including a study of community violence; expansion of OSHA regulations over home work places; and elimination of racism in maternal and child health. He presented, organized, or chaired more than 100 sessions on social determinants of health. His awards include one in Behavioral Pharmacology and Toxicology from the Association for Behavioral Analysis, the Fleming Award (Oxford University), a Fulbright/Ministry of Health and Consumer Affairs Fellowship and the Wade Hampton Frost Award from the American Public Health Association.

Dr. Patrick Neumann - Associate Professor, Department of Mechanical and Industrial Engineering, Ryerson University (since 2006)

Dr. W. Patrick Neumann is an Assistant Professor in the Department of Mechanical and Industrial Engineering at Ryerson University in Canada. Patrick graduated in Design Sciences at Lund Technical University while based at Sweden's National Institute for Working Life in Gothenburg where he conducted his PhD work. Formerly Executive Coordinator of the Ergonomics Initiative in Injury Prevention in the Faculty of Applied Health Science at the University of Waterloo in Canada, Patrick has been engaged in both epidemiological studies of low back pain in the auto sector and ergonomics intervention research. Patrick's research now focuses on the design of work systems that are effective and sustainable from both human and technical perspectives.

Aleck Ostry – Tier 2 Canada Research Chair in the Social Determinants of Community Health, University of Victoria (since 2003)

Dr. Ostry was a Canadian Institute for Health Research new investigator scholar from 2000 to 2005 and is currently a Michael Smith Foundation for Health Research scholar and holds a Tier 2 Canada Research Chair in the Social Determinants of Community Health. He is an Associate Professor in the Faculty of Human and Social Development at the University of Victoria. He has an MSc. in Health Service Planning, an MA in history (specializing in the history of public health), and a PhD. in epidemiology. He conducts a broad research and teaching program on the social determinants of health within an historical framework.

Dr. Glenn Pransky – Director, Center for Disability Research, Liberty Mutual Research Center for Safety & Health (since 2001)

Dr. Glenn Pransky directs the Centre for Disability Research, and holds appointments at the University of Massachusetts Medical School and School of Public Health, as well as the Harvard School of Public Health, Department of Occupational and Environmental Health. His research interests are in the areas of disability and outcome measurement particularly for work-related musculoskeletal disorders. Pransky holds an MD from Tufts University and a master's degree in occupational health from the Harvard School of Public Health in Massachusetts.

Dr. Susan Rappolt - Associate Professor, Rehabilitation Sciences Building, University of Toronto (since 2004)

Susan Rappolt is an occupational therapist and sociologist who studies models to promote research utilization in clinical practices and to enhance organizational capacity to support evidence-based professional practices. She is also studying the effectiveness of occupational therapy for re-engagement work roles following illness or injury. Dr. Rappolt holds appointments in the Department of Occupational Therapy, the Graduate Department of Rehabilitation Science, Public Health Sciences, and the Knowledge Translation Program at the University of Toronto, and is a Senior Scientist at the Toronto Rehabilitation Institute

Dr. Robert Reville – Director, RAND Institute for Civil Justice (ICJ) (since 2003)

Robert Reville is the Director of the RAND Institute for Civil Justice (ICJ) and the Co-Director of the RAND Center for Terrorism Risk Management Policy (CTRMP). He was appointed Director of the ICJ in October 2002, after serving as research director for three years. As a labor economist, Dr. Reville focuses on compensation policy, and has a national reputation in workplace injury compensation policy and the impact of disability on employment. He was recently appointed to the Board of Scientific Counselors of the National Institute for Occupational Safety and Health (NIOSH), Centers for Disease Control and Prevention. He also serves on the Workers' Compensation Steering Committee of the National Academy of Social Insurance. As Director of the Institute for Civil Justice, Dr. Reville leads a highly-respected research organization within RAND that provides empirical research to inform policy decision making on class actions and mass torts, jury verdicts, administration of justice, workers' compensation and other civil justice issues. As a founding Co-Director of the Center for Terrorism Risk Management Policy, Dr. Reville has built a new center within RAND to address policy issues related to terrorism victims' compensation, liability, risk management, risk modeling and insurance. Dr. Reville received his Ph.D. in economics from Brown University

Dr. Judith Shamian – President and CEO, Victorian Order of Nurses (2001-2007)

Dr. Judith Shamian is the president and chief executive officer of the Victorian Order of Nurses. Previously, Shamian was the executive director, Office of Nursing Policy, Health Policy & Communications Branch, Health Canada. Her work has focused on the areas of leadership, health-system outcomes, healthy workplaces and healthy workforce issues. Shamian is a co-investigator on the International Hospital Outcomes Consortium, for which she recently led the Ontario arm of the study. Dr. Shamian attended Concordia University in Montreal, New York University and earned her PhD from Case Western University in Ohio. She is currently a Professor at the University of Toronto, Faculty of Nursing, and maintains an active research portfolio as a Principal Investigator, Co-Investigator and Decision-maker. Her work has focuses in the areas of leadership, health system outcomes, healthy workplaces and healthy workforce issues. Widely published internationally, her work has taken her to every Canadian province and territory, as well as throughout the Americas, Eastern Europe, China, Israel, Africa and the Caribbean. She has collaborated on a number of IWH studies examining the health of health-care workers.

Dr. Harry Shannon - Professor, Program in Occupational Health and Environmental Medicine, McMaster University (since 2004)

Harry Shannon is a full Professor in the Department of Clinical Epidemiology and Biostatistics and was the Acting Chair of the department for a year in 1997-8. In 1999, he was appointed the Director of McMaster's Program in Occupational Health and Environmental Medicine, a position he still holds. In 1991 Dr Shannon was seconded part-time as a Senior Scientist to the Institute for Work & Health in Toronto, and in 2004 was appointed as Adjunct Scientist. Dr Shannon's research interests have concentrated on work and health. His PhD thesis examined occupational accidents at a large automobile plant. He then conducted a series of mortality and cancer morbidity studies on workers in nickel mining and processing, glass fibre production, lamp manufacturing, etc. For the last decade, he has returned to research on occupational injuries. Several major studies include: a case-control study of low back pain at a large General Motors complex; a study of upper extremity disorders at the Toronto Star; and examination of the role of organizational factors in workplace safety. The back pain study led to his being a co-recipient of the Clinical Biomechanics award of the International Society of Biomechanics. His interest in organizational factors continues, as does his work in understanding how to create safer and healthier workplaces. Overall he has published nearly 100 papers in peer-reviewed journals, as well as numerous other reports and book chapters. Dr Shannon has been involved in the founding of the Canadian Association for Research on Work and Health (CARWH) and was the President of the Association for 2003-2004.

Dr. Nancy Theberge – Professor, Department of Kinesiology, University of Waterloo (since 2003)

Dr. Nancy Theberge is a Professor with a joint appointment in the Departments of Kinesiology and Sociology at the University of Waterloo. Her areas of teaching expertise are the sociology of health, with a particular focus on social aspects of injuries, and gender relations. Dr. Theberge is engaged in research on participatory ergonomics. Some of the main issues addressed in this research are the impact of different forms of involvement on reported outcomes, the process of implementing participatory programs, and the factors that affect the long term sustainability of workplace interventions. Dr. Theberge is currently the Associate Chair for Graduate Studies in the Department of Kinesiology at the University of Waterloo.

Dr. Maurits van Tulder – Epidemiologist, Institute for Research in Extramural Medicine and Vrije Universiteit Medical Centre, The Netherlands (since 2003)

Dr. Maurits van Tulder is an epidemiologist at the Institute for Research in Extramural Medicine of the VU University Medical Centre and the Institute for Health Sciences of the Vrije University in Amsterdam. He is the author of numerous scientific papers in peer-reviewed scientific journals and has written several book chapters and was editor of three books on conservative management for low-back pain. He is also chairman of the European Guidelines for the Management of Low Back Pain (EC project COST B13) and member of the editorial board of the Cochrane Back Review Group. Dr. van Tulder also lectures in courses on systematic reviews, evidence-based medicine and health technology assessment. His current interest includes economic evaluations of therapeutic interventions for musculoskeletal disorders. He recently spent one year at IWH as a visiting scientist.

Dr. Leah F. Vosko - Canada Research Chair, School of Social Sciences (Political Science) Atkinson Faculty of Liberal and Professional Studies, York University (2005-2007)

Leah F. Vosko is Canada Research Chair and Associate Professor, School of Social Sciences, Atkinson Faculty, York University. Professor Vosko is the author of *Temporary Work: The Gendered Rise of a Precarious Employment Relationship* and co-author of *Self-Employed Workers Organize: Law, Policy and Unions*. She is also co-editor of *Changing Canada: Political Economy as Transformation and Challenging the Market: The Struggle to Regulate Work and Income*. Her work has appeared in a range of scholarly journals and edited collections. Professor Vosko is the Principal Investigator of a Community University Research Alliance on Contingent Work, Director of the Gender and Work Database project, and she was the Virtual-Scholar-in-Residence at the Law Commission of Canada in 2003/2004. She is currently writing a book on globalization, gender, and the changing nature of the employment relationship and editing a book titled *Precarious Employment: Understanding Labour Market Insecurity in Canada*.

Dr. Richard Wells – Professor, Department of Kinesiology, University of Waterloo (since 2001)

Richard Wells is a Professor in the Department of Kinesiology, Faculty of Applied Health Sciences, University of Waterloo. He was educated as a Mechanical Engineer at the University of Manchester, England and McMaster University, Canada where he specialized in Applied Mechanics with application to human function and injury; head injury in boxing and description of human gait using assistive devices. Since joining the Department of Kinesiology, University of Waterloo, Richard has pursued similar work concerning seat belt loads and neck injury in head-first impacts. For the last decade his main research and teaching interests have been work related musculoskeletal disorders of the upper extremity and low back in industrial and office settings. His interests are in work-related musculoskeletal disorders of the back and upper limbs; their causes, pathophysiology and prevention. He address these issues using anatomical and functional anatomical studies in cadavers and volunteer, by biomechanical modeling of the structures affected, by development of measurement, recording and processing approaches to document exposure at work, by participating in epidemiological studies to assess the work-relatedness of various workplace exposures and by the development of workplace processes to implement changes to prevent musculoskeletal disorders and monitor their health effects.

Dr. Kathryn Woodcock - Associate Professor, School of Occupational and Public Health, Ryerson University (since 2001)

Dr. Kathryn Woodcock is an Associate Professor, School of Occupational and Public Health, Ryerson University. She has a PhD in Engineering from the University of Toronto. Her research interests cover a range of topics in health and safety and injury prevention. They include hazard perception and human error, safety inspection and accident investigation practices and tools, professional development of safety specialists and safety program decision-making and management, achieving safety through design, and health, safety and ergonomic implications of deafness and assistive technology.

Dr. Dov Zohar – Professor, Faculty of Management, Technion Institute of Technology, Israel (since 2005)

Dr. Dov Zohar is a Professor at the Faculty of Management, Israel Institute of Technology. In 2003-2005 he was a Visiting Scientist at the Institute for Work & Health. Dr. Zohar has a background in Industrial/Organizational Psychology and worked for over two decades on behavioral and managerial factors influencing occupational safety. His work is based on the assumption that, although some accidents are caused by human error, most accidents are caused by unsafe behavior intentionally performed in order to save time or effort. Since management can affect the costs involved in performing unsafely, Dr. Zohar's research focuses on management practices which have an impact in this direction. These practices are clustered under the concept of Safety Climate which he developed in 1980. The research program incorporates two major themes, i.e. climate measurement and climate improvement through intervention. Two recent developments include a multilevel measurement scale (i.e. organization-level and group-level climates), and a cross-level intervention model (selected as Best Intervention Research, NOIRS, 2003).

Glossary

A	AACAP	American Academy of Child and Adolescent Psychiatry	
	ACE	Association of Canadian Ergonomists	
	ACR	American College of Rheumatology	
	AHCPR	Agency for Health Care Policy and Research	
	AHFMR	Alberta Heritage Foundation for Medical Research	
	AHRQ	Agency for Healthcare Research & Quality	
	AJPH	American Journal of Public Health	
	AJIM	American Journal of Industrial Medicine	
	ALBP	Acute Low Back Pain	
	AMA	American Medical Association	
	APA	American Psychological Association	
	AWCBC	Association of Workers' Compensation Boards of Canada	
	B	BMJ	British Medical Journal
		BRG	Cochrane Back Review Group (a.k.a. CCBRG or Cochrane Collaboration Back Review Group)
C	CACAP	Canadian Academy of Child and Adolescent Psychiatry	
	CACHE	Canadian Association for Continuing Health Education	
	CAHSPR	Canadian Association for Health Services and Policy Research	
	CAMH	Centre for Addiction & Mental Health	
	CANOSH	Canada's National Occupational Safety & Health Information Centre	
	CARP	Canadian Association of Rehabilitation Professionals	
	CARWH	Canadian Association for Research on Work and Health	
	CAW	Canadian Auto Workers	
	CCA	Canadian Chiropractic Association	
	CCDP	Centre for Chronic Disease Prevention	
	CCOHS	Canadian Centre for Occupational Health and Safety	
	CCOHTA	Canadian Coordinating Office for Health Technology Assessment	
	CCS	Canadian Cancer Society	
	CCFP	Canadian College of Family Physicians	
	CDIA	Canadian Drug Information Association	
	CEFRIO	Centre francophone d'informatisation des organisations	
	CERF	Canadian Employment Research Forum	
	CES	Centre for Epidemiological Studies	
	CFI	Canada Foundation for Innovation	
	CFIB	Canadian Federation of Independent Business	
	CHEPA	Centre for Health Economics and Policy Analysis	
	CHERA	Canadian Health Economics Research Association (now CAHSPR)	
	CHSRF	Canadian Health Services Research Foundation	

	CIAR	Canadian Institute for Advanced Research
	CIHI	Canadian Institute of Health Information
	CIHR	Canadian Institutes of Health Research
	CIWA	Canadian Injured Workers Alliance
	CJPH	Canadian Journal of Public Health
	CLUG	Cochrane Library Users' Group
	CMA	Canadian Medical Association
	CMAJ	Canadian Medical Association Journal
	CMCC	Canadian Memorial Chiropractic College
	CMPA	Canadian Medical Protective Association
	CNO	College of Nurses of Ontario
	COA	Canadian Orthopaedic Association
	CPA	Canadian Physiotherapy Association
	CPHA	Canadian Public Health Association
	CPHI	Canadian Population Health Initiative
	CPRN	Canadian Research Policy Networks
	CPSA	Canadian Political Science Association
	CPSO	College of Physicians and Surgeons of Ontario
	CRE-OD	Centre for Research Excellence – Occupational Disease
	CRE-MSD	Centre for Research Excellence – Musculoskeletal Disorders
	CRTN	Canadian Research Transfer Network
	CSAO	Construction Safety Association of Ontario
	CSEB	Canadian Society for Epidemiology and Biostatistics
	CSIH	Canadian Society for International Health
	CSST	Commission de la santé et de la Sécurité du travail
	CURA	Community-University Research Alliance
D	DASH	Disabilities of the Arm, Shoulder and Hand
E	EBP	Evidence-based Practice
	EI	Educational Influential
	EPICOH	Epidemiology in Occupational Health
	ERI	Effort-reward Imbalance
	ESAO	Education Safety Association of Ontario
	EUSA	Electrical & Utilities Safety Association
F	FSA	Farm Safety Association
G	GLADnet	Global Applied Disability Research and Information Network on Employment & Training
H	HCHSA	Health Care Health & Safety Association

	HCP	Health Care Provider
	HIRU	Health Information Research Unit
	HMOs	Health Maintenance Organizations
	HRDC	Human Resources Development of Canada
	HSALC	Health and Safety Association Liaison Committee
	HSAs	Health and Safety Associations
	HWP	Healthy Workplace
	HWW	Health Work & Wellness Conference
I	IAB	Institute Advisory Board (IAPH)
	IAIABC	International Association of Industrial Accident Boards & Commissions
	IAPA	Industrial Accident Prevention Association
	IAPH	Institute of Aboriginal Peoples' Health
	ICES	Institute for Clinical Evaluative Sciences
	ICN	International Council of Nurses
	ICOH	International Commission of Occupational Health
	IHPM	Institute for Health and Productivity Management
	IHSPR	Institute of Health Services and Policy Research
	ILO	International Labour Organization
	INCLEN	International Clinical Epidemiology Network
	IPPH	Institute of Population and Public Health (CIHR)
	IRSST	L'institut de recherche Robert Sauvé en santé et en sécurité du travail
J	JAMA	Journal of the American Medical Association
	JCQ	Job Content Questionnaire
	JHSC	Joint Health and Safety Committee
K	KTE	Knowledge, Transfer & Exchange
	KTEAC	Knowledge, Transfer & Exchange Advisory Committee
	KTE C of P	KTE Community of Practice
L	LAD	Longitudinal Administrative Databank
	LBP	Low-back pain
	LFDI	Listening for Direction on Injury (CIHR Advisory Committee)
	LTD	Long Term Disability
M	MASHA	Mines and Aggregates Safety and Health Association
	MDD	Major Depressive Disorder
	MHSAO	Municipal Health and Safety Association of Ontario
	MOL	Ministry of Labour
	MSHA	Municipal Health and Safety Association
	MSK	Musculoskeletal

N	NCE	Networks of Centres of Excellence
	NEJM	New England Journal of Medicine
	NHS	National Health Service
	NIH	The National Institutes of Health
	NICE	National Institute for Clinical Excellence
	NICHD	National Institute for Child Health and Development
	NIOSH	National Institute for Occupational Safety and Health (USA)
	NOIRS	National Occupational Injury Research Symposium (USA)
	NORA	National Occupational Research Agenda
NPHS	National Population Health Survey	
O	OCHS	Ontario Child Health Study
	OEA	Office of the Employer Adviser
	OEMAC	Occupational & Environmental Medical Association of Canada
	OFL	Ontario Federation of Labour
	OFSWA	Ontario Forestry Safe Workplace Association
	OHA	Ontario Hospital Association
	OHCOW	Occupational Health Clinic for Ontario Workers
	OHIP	Ontario Health Insurance Plan
	OHN	Occupational Health Nurse
	OKA	Ontario Kinesiology Association
	ONA	Ontario Nurses Association
	OOHNA	Ontario Occupational Health Nurses Association
	OSACH	Ontario Safety Association for Community and Healthcare
	OSHA	Occupational Safety and Health Administration (USA)
OSSA	Ontario Service Safety Alliance	
P	PHS	Public Health Sciences, University of Toronto
	POCKET	Physicians of Ontario Collaborating for Knowledge Exchange & Transfer
	PPHSA	Pulp & Paper Health and Safety Association
Q	QOLR	Quality of Life Research
R	RAC	Research Advisory Council (WSIB)
	RFP	Request for Proposals
	RNAO	Registered Nurses Association of Ontario
	RPNAO	Registered Practical Nurses Association of Ontario
	RSI	Repetitive Strain Injury
	RTW	Return-to-work
S	SAC	Scientific Advisory Committee

	SARS	Severe Acute Respiratory Syndrome
	SER	Society for Epidemiologic Research
	SHARP	Safety and Health Assessment and Research for Prevention (Washington State)
	SIS	Single Item Staging Scale
	SMDM	Society for Medical Decision Making
	SR	Systematic Review
	SRC	Systems Review Committee
	SRDC	Social Research and Demonstration Corporation
	SSHRC	Social Sciences and Humanities Research Council of Canada
	Star/SONG	Star/Southern Ontario Newspaper Guild
T	TDHC	Toronto District Health Council
	TENS	Transcutaneous electrical nerve stimulation
	TSAO	Transportation Safety Association of Ontario
U	UE	Upper Extremity
	UHN	University Health Network
	UNITE	Union of Needle Trades, Industrial & Textile Employees
	URICA	University of Rhode Island Change Assessment
	USWA	United Steelworkers of America
W	WCB	Workers' Compensation Board
	WHSC	Workers' Health & Safety Centre
	WHSCC	Workplace Health, Safety & Compensation Commission of Newfoundland & Labrador
	WHO	World Health Organization
	WMSDs	Work-related Musculoskeletal Disorders
	WSIB	Workplace Safety & Insurance Board
	WSIB/RAC	Workplace Safety & Insurance Board Research Advisory Council

