

Institute for Work & Health Accomplishments Report 2013



Institute
for Work &
Health

Research Excellence
Advancing Employee
Health



Institute
for Work &
Health

2013 Accomplishments Report

Highlights of our 2013 Accomplishments

50 active research projects

86 staff

110 publications

80 presentations to academic, professional or policy forums



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2013 ACCOMPLISHMENTS REPORT

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Introduction

The mission of the Institute for Work & Health is to conduct research to promote, protect and improve the health of working people in Ontario. The Institute is also committed to provide knowledge transfer and exchange services to improve access to and application of research evidence among agencies in the Ontario prevention system, workplace parties, occupational health and safety professionals, clinicians, and policy makers to support improved outcomes in the prevention of work-related injury and illness and the prevention of work disability.

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. The Institute has core competencies in the areas of work-related musculoskeletal, labour market experiences, population health, and disability compensation systems.

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 our stakeholders. We also provide evidence to support the policy development processes of federal and provincial institutions, including workers' compensation boards 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.

Research at the Institute

A summary of our 2013 progress and accomplishments are described below in the areas of Primary Prevention of Work Related Injury and Illness research; Prevention and Management of Work Disability research; and our three Foundation Programs which support this research portfolio: Data and Information Services, Measurement of Health and Function; and Systematic Reviews.

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 2013 are presented in a separate KTE section that 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 2013 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 2013, as well as IWH adjunct scientists who have contributed to our activities in the past year.

Prevention of Work Related Injury and Illness

Our research on the primary prevention of workplace injury and illness spans a wide range of methodologies and issues. 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 effects 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 workplace. 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 and workplace parties, such as developing pictograms for the hotel and motel sector and evaluating kitchen preparation pictograms.

2013 Quick Statistics

Completed projects (8)

Ongoing projects (18)

Papers published or in press (12)

Papers submitted (9)

Presentations of results (22)

External grants held (28)

Prevention of Work Related Injury and Illness

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Vulnerable Workers

For the past several years, new and young workers have been a key population of interest to IWH researchers. These workers are most at risk of injury during the first month on a job. Another population that may be considered vulnerable to workplace injury or illness are immigrants, who make 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 Canada using a number of secondary data sources originally collected by Statistics Canada. This project compared immigrant workers' risk of workplace injury with Canadian-born workers. IWH researchers investigated the nature of these risks or protective factors relating to immigrant workers, including characteristics related to workers themselves (e.g., ethnicity, gender), type of occupations (physical demand), and organizational factors (workplace size, industry).

Assessing the Feasibility of an Occupational Health and Safety Training Program that would Embed Curriculum for Enhancing Literacy and Other Essential Skills (1225)

Project Status: Completed

Introduction: This project examined the feasibility of developing, implementing and evaluating a training program that would improve literacy and other essential skills (LES) as part of occupational health and safety (OHS) training. Research has shown that as little as 10 to 40 hours of training in areas such as oral communications, using documents or basic numeracy functions can improve skills. However, there is little or no research on whether adding literacy curriculum to OHS training would make it more effective.

Objectives:

- To identify an OHS training program where essential skills challenges have arisen and the risk of work injury is relatively high.
- To modify the curriculum of an OHS training program to enhance literacy and essential skills.
- To explore the feasibility of developing and evaluating a pilot program, in consultation with OHS trainers, LES trainers, Health and Safety Associations (HSAs) and key stakeholders.
- To pilot the modified program and compare its effectiveness with that of the original program.

Methods: We consulted with organizations involved in delivery of OHS training in Ontario and with an LES expert. We reviewed curriculum materials for selected OHS training programs (where there are LES issues). A literature search and a review of workers' compensation claims data was conducted. We developed selection criteria to identify the program most suitable for the proposed intervention, an outline of proposed changes to the curriculum, and an outline of an evaluation plan.

Status: All feasibility criteria established at the outset of the study were met, namely: identification of a suitable target population; identification of existing OHS training program that could be extended to include literacy-enhancing curriculum; availability of partner with strong track record in OHS training; availability of partner with strong track record in LES training; availability of sites willing to participate; and achievement of consensus on outline of program model and evaluation model. The report to the funder (WSIB RAC) was submitted on May 16, 2013 and was provided to the Prevention Office and a staff member of the Training and Safety Programs Branch was briefed on it.

Researchers: Ron Saunders (Principal Investigator), Curtis Breslin, Siobhan Cardoso, Lynda Robson, Karen Myers (Social Research and Demonstration Corporation)

Collaborations and Partnerships: Stakeholders included the Workplace Safety & Prevention Services, the Workers Health & Safety Centre, LES training providers, the Canadian Manufacturers & Exporters. The final stages also involved the Infrastructure Health and Safety Association, the Operating Engineers Training Institute, and the training centre of local 506 of Labourers International Union of North America.

Potential Audiences and Significance: A pilot program with beneficial effects on OHS outcomes could have wide-ranging interest from training providers, employers, labour organizations, and policy-makers.

Presentation:

Saunders R. Developing an occupational health and safety training program that addresses essential skills deficits. 7-11 July 2013; Busan, South Korea: International Conference on the Prevention of Work-related Musculoskeletal Disorders (PREMUS).

Funding:

Saunders R, Myers K, Robson LS, Breslin FC. Assessing the feasibility of developing, implementing and evaluating an occupational health and safety training program that would embed curriculum for enhancing literacy and other essential skills. WSIB RAC: \$29,100 (2012-2013)

Saunders R, Breslin FC, Myers K. Enhancing essential skills through OHS training: a pilot study. Submitted to MOL Research Opportunities Program: Requesting \$200,336 over 2 years.

Developing a Conceptual Framework for Understanding and Measuring Occupational Health and Safety Vulnerability (1240)

Project Status: Ongoing

Introduction: Vulnerability is defined as the potential openness to attack, or physical or emotional wounding. In the area of occupational health and safety (OHS) vulnerability can be defined as an increased risk of experiencing a work-related injury or illness compared to some reference standard. Often subgroups of labour market participants, for example younger workers, new workers, immigrants or visible minorities are labelled as vulnerable. Yet, this categorization of workers does not identify the specific characteristics that place these workers at higher risk of experiencing a work-related injury. The purpose of this project is to build a conceptual framework of OHS vulnerability to generate set of domains and pool of potential items within each domain that can form a feasible measure of OHS vulnerability.

Objectives:

- To develop a measure of OHS vulnerability that moves beyond demographic worker characteristics towards factors that are more proximal to risk of injury or illness at the worker level
- To refine a measure of OHS vulnerability that can be used for public health surveillance purposes

Methods: The development of the measure of OHS vulnerability was conducted over two phases. The first phase included a review of existing measures. This involved a systematic search of the existing literature and extracting potential items from existing measures. A concurrent second phase involved conducting a series of focus groups with employees, employers and policy makers to discuss our conceptual framework and get feedback on potential items that should be included as part of a measure. In early 2014, we will pilot test a 64-item measure in a sample of approximately 300 workers, with a goal of reducing the number of questions that consist our measure to approximately 30 items.

Status: Throughout 2013, we developed a list of 64 items that will be included in a questionnaire to 300 respondents in early 2014. Using the responses from the 300 workers, we will reduce our measure to approximately 30 items and this measure will be implemented in a sample of approximately 1,500 workers in the first half of 2014. We also submitted a grant to the Ontario Ministry of Labour Research Opportunities Program, to conduct multiple cross-sectional follow-up surveys to evaluate the impact of mandatory awareness training that will be implemented in the province of Ontario mid-2014.

Researchers: Peter Smith (Principal Investigator), Curtis Breslin, Marni Lifshen, Ron Saunders, Emile Tompa, A Lamontagne (University of Melbourne)

Collaboration and Partnerships: This project is supported by Occupational Health Clinics for Ontario Workers, Workplace Safety & Prevention Services, and the Public Services Health & Safety Association.

Potential Audiences and Significance: This project will allow new knowledge to be generated about factors relevant to OHS primary prevention, as well as the reduction in inequalities, of work injuries in Canada. The results will be of interest to prevention authorities, workers' compensation authorities, health and safety practitioners, and researchers.

Presentation:

Saunders R, Lifshen M. Developing a Framework for Understanding and Measuring OHS Vulnerability. 11 June 2013; Toronto, Canada: Vulnerable Workers Task Group, Ontario Ministry of Labour.

Funding:

Smith PM, Breslin FC, LaMontagne A, Saunders R, Tompa E. Developing a conceptual framework for understanding and measuring occupational health and safety vulnerability. CIHR: \$173,975 (2012-2015)

Smith PM, Saunders R, Lamontagne A, Breslin FC, Tompa E. A Survey tool for measuring OHS vulnerability. Submitted to the MOL Research Opportunities Program: Requesting \$201,088 for 2 years.

Examining Work and Occupational Health and Safety Among 12 to 14 Year Olds in Ontario: Listening First to Parents (1275)

Project Status: Ongoing

Introduction: A surprising number of 12 to 14 year olds in North America work for pay outside their homes. Our school-based survey in Ontario found that just over half of 12 to 14 year olds in 2003 reported working for pay during the school year. Boys in Ontario tended to hold jobs in more formal work settings (i.e., food service, retail, offices, or construction), while girls were more likely to work odd jobs such as babysitting. Both boys and girls worked about 8 hours per week during the school year. In the Ontario school survey, 5 to 6 % of 12 to 14 year old workers indicated a medically-attended work injury in the past year. Evidence suggests that parents exhibit significant involvement in many aspects of their teens' work (i.e. finding a job, allowing them to work) and may influence perceptions of work safety, yet few studies have explored this phenomenon from a qualitative perspective with parents of working 12 to 14 year olds. This project focuses on parental attitudes and perceptions of work safety based on focus groups conducted with urban Canadian parents of young teens who work for pay. There is a need to characterize perceived benefits and risks that underlie 12 to 14 year olds' and their parents' understanding of work and work safety.

Objectives:

- To characterize the perceived costs and benefits of youth work from the parent perspective.
- To examine parent understandings about work hazards and safety training in youth's workplace.
- To explore gender differences in the understanding of health and safety issues (e.g., whether parents conceive of injury risk differently for sons compared to daughters).
- To describe parent-youth interactions about safety in the workplace and how parents advise youth on handling any safety issues that arise at work.

Methods: Four focus groups were conducted with parents who had a 12 to 14 year old currently working for pay. A total of 34 parents participated in this study and discussed the work situations of 36 children. 12 to 14 year olds held a range of jobs, both formal and informal, with the most common being newspaper/ flyer delivery, babysitting, and yard work. Transcripts of the focus groups were analyzed thematically using a modified grounded theory approach

Status: All focus groups have been conducted. Data has been transcribed, analysed, and thematically coded. A final report to the Ministry of Labour has been prepared including full results, implications, key messages, and recommended next steps. A journal article on a portion of the findings is currently being prepared by the research team, to be submitted for publication by May 2014.

Researchers: Curtis Breslin (Principal Investigator), Ellen MacEachen, Amelia Usher, Imelda Wong, M Koehoorn (University of British Columbia), L Laberge (IRSST), M Laberge (University of Quebec), E Ledoux (IRSST), C Runyan (University of North Carolina)

Collaborations and Partnerships: Partners in this project include the Safe Communities Foundation.

Potential Audiences and Significance: This project will provide some of the most detailed information on the earliest part of the work life trajectory to date. To protect the health and educational opportunities of 12 to 14 year olds, we need to find out from youth and parents what benefits and risks they perceive at work. This project is relevant to OHS system priorities by providing an understanding of the socialization of workplace safety at this early stage in work life. It will also provide evidenced-based information to support future policy/legislative changes and monitoring/surveillance of work safety for this age group.

Funding:

Breslin FC, MacEachen E, Laberge M, Koehoorn M, Ledoux E, Laberge L, Runyan C. Examining Work and Occupational Health & Safety among 12 to 14 Year Olds in Ontario: Listening First to Parents. Ministry of Labour Supplemental Funding: \$58,000 (2013-2014)

Preventing Musculoskeletal Disorders

These research projects will assess the effectiveness of approaches to the prevention of non-traumatic musculoskeletal disorders in two economic sectors. For example, we will aim to produce new knowledge about the effectiveness of in-person training programs compared with computer-based training programs for workers in seated office environments.

A Randomized Controlled Trial of the Effectiveness of Two Office Ergonomic Training Approaches for Seated Environments: Comparing an In-person to Computer-based Training (0261)

Project Status: Completed

Introduction: The Ministry of Labour Expert Advisory Panel identified improvements in training as key to improving the health and safety of Ontario workers. As the Canadian economy shifts to a service industry base, questions about how to reduce musculoskeletal injuries among knowledge workers become more important. Numerous studies have documented limitations of low engagement OHS training in improving workplace health. More research is needed on the effectiveness of high-engagement versus low engagement training in improving health. Furthermore, while many companies offer computer-based training there is little evidence on the effectiveness of computer-based training compared to in-person training. This research addresses both of these issues.

Objectives:

- To study the effectiveness of in person as compared with computer-based training programs.
- To study the effectiveness of high versus low engagement training in seated environments.
- To contribute to the nascent intervention effectiveness literature in office environments by identifying key pathways for reducing MSK injury risk and demonstrate economic benefits.
- To provide evidence to support Ontario workplaces in reducing injuries and illnesses.
- To add to evidence on effectiveness of worker health and safety training in office ergonomics.

Methods: To test the primary health and lost productivity outcome hypotheses, the research team will conduct a longitudinal study at Ontario Power Generation (OPG) where groups will be randomly assigned to either intervention or control. Cluster randomization will be used to avoid contamination.

Status: The data collection was completed and analyses underway. The team have provided feedback to the workplaces and participants.

Researchers: Ben Amick (Principal Investigator), Trevor King, Ivan Steenstra, Karen Turner, Dwayne Van Eerd, M Robertson (Liberty Mutual Research Institute for Safety)

Collaborations and Partnerships: Partners include Liberty Mutual, Public Services Health & Safety Association, Infrastructure Health & Safety Association, and the Workplace Safety & Prevention Services.

Potential Audiences and Significance: The results of this project will be relevant to the Ministry of Labour, the Workplace Safety & Insurance Board, the HSAs, employers, labour, and training companies.

Presentations:

King T, Turner K, Ibrahim S, Van Eerd D, Steenstra I, Robson L, Robertson M, Amick BC. Office ergonomics training interventions: Outcomes from a quasi-experimental field trial. 8-10 October 2013; Whistler, Canada: 44th Annual Conference of the Association of Canadian Ergonomists.

Turner K, Ibrahim S, King T, Van Eerd D, Steenstra I, Robertson M, Amick BC. Inter-rater reliability study of office ergonomic tools. 8-10 October 2013; Whistler, Canada: 44th Annual Conference of the Association of Canadian Ergonomists.

Van Eerd D, King T, Turner K, Robinson M, Robson L, Steenstra I, Ibrahim S, Amick BC. Training for office ergonomics: A field study. 8-10 October 2013; Whistler, Canada: 44th Annual Conference of the Association of Canadian Ergonomists.

Funding:

Amick BC, Van Eerd D, Steenstra I, Smith PM, Cole DC, Ibrahim S, Tompa E, Bigelow P, Robertson M, Beaton DE. A RCT of the effectiveness of two office ergonomic training approaches for seated environments: Comparing an in-person to computer-based training. WSIB-RAC: \$235,047 (2008-2010)

Development and Evaluation of a Computer-based Training Program to Prevent and Manage Musculoskeletal Injuries in Computer-based Work Environments (1150)

Project Status: Completed

Introduction: Ontario's growing knowledge and service industries are driven by computing and communication technologies. Consequently, more workers will be exposed to computer-based health and safety hazards. Conducting in-person training (IPT) as a prevention action is time and cost intensive. Computer-based training (CBT) has been shown to be just as effective as IPT in knowledge transfer/acquisition and changing behaviours. CBTs can be delivered quickly with minimal cost. With changing office work environments, however, it is important for office ergonomic training to be as up-to-date as possible with science and standards (e.g. CSA, ANSI and ISO). An office ergonomic expert panel will be convened to ensure the CBT is standard-compliant and comports with recent evidence. Instructional system design theory and usability assessment methods will guide the CBT design and development. The final product will be an evidence-based/ standards-compliant office ergonomics CBT program that can be used by workplace parties in combination with other office ergonomic hazard control methods.

Objectives:

- To develop an evidence-based/standard compliant office ergonomics CBT program.
- To test the program's effectiveness in transferring the knowledge and skills required to reduce musculoskeletal disorder symptoms/injuries.

Methods: The research team will conduct a longitudinal study at the Centre of Addiction and Mental health (CAMH), where a group of 50-60 workers will be followed over time. Data will be collected using internet-based self-administered questionnaires to assess health and self-efficacy, in-person self-administered knowledge test before and after the training, observational data to assess ergonomic risk and appropriate ergonomic adjustment. To develop the CBT we will conduct a preliminary assessment of whether the CBT is designed based on the current standards and the scientific evidence using an expert panel of ergonomists. We will conduct two formative user assessments with one focus group of the expert panel and two focus groups of CAMH employees. The CBT will be based on successful in-person office ergonomics training.

Status: We have begun work on drafting several manuscripts for submission summarizing the results of this project.

Researchers: Ben Amick (Principal Investigator), Trevor King, Lynda Robson, Ivan Steenstra, Dwayne Van Eerd, M Fernley (Centre for Addiction & Mental Health), M Robertson (Liberty Mutual Research Institute for Safety)

Collaborations and Partnerships: This is a program development initiative so stakeholder involvement is limited. The final program will be shared and discussed with various stakeholders.

Potential Audiences and Significance: The results of this project will be relevant to ergonomists, clinicians, external researchers, and employers.

Publication:

Robertson M, Amick BC, Fossel AH, Coley CM, Hupert N, Jenkins M, Tullar JM, Katz JN. Undergraduate students' ergonomics knowledge of appropriate computer workstation design and work habits: The emerging young knowledge workforce. In press: *Work: A Journal of Prevention, Assessment and Rehabilitation*.

Funding:

Amick BC, Dondertman B, Robertson M, Robson LS, Steenstra I, Van Eerd D. Development and evaluation of a computer-based training program to prevent and manage musculoskeletal injuries in computer-based work environments. WSIB BTG: \$56,680 (2010-2011)

Randomized Controlled Trial of the Employee Participation in Change Program in the Ontario Long Term Care Sector (1280)

Project Status: Ongoing

Introduction: Slips, trips and falls are a major source of work disability in Ontario and a substantial portion of the injuries experienced in health care. The Public Services Health & Safety Association (PSHSA) has developed a novel program to work with organizations in the long-term care sector to reduce slips, trips and falls. The proposed research is a randomized controlled field trial of the Employee Participation in Change Program (EPIC). EPIC seeks to develop both leadership and employee change teams to support broad-based organizational change and quality improvement focused on the prevention of slips, trips and falls – both an employee safety and older adult safety issue. A primary program focus is to change the internal responsibility system.

Objectives:

- To assess effectiveness of EPIC on the reduction of severe injuries related to slips, trips and falls.
- To assess whether EPIC results in changes to the internal responsibility system.
- To assess the economic benefits and costs of the EPIC Program.

Methods: Our study started with eight facilities (four intervention sites, four controls) and was subsequently reduced to six sites after one intervention site dropped out due to circumstances unrelated to the research program. Two of the participating intervention sites focused on reducing musculoskeletal disorders and the other on slips, trips, and falls.

Status: The research study was a pilot quasi-randomized field experiment. Baseline data was collected in June and program implementation began in July. We are currently in the final stages of collecting follow up data. Analysis is underway and some preliminary results are available.

Researchers: Ben Amick (Co-Principal Investigator), Dwayne Van Eerd (Co-Principal Investigator), Sheilah Hogg-Johnson, Trevor King, Cameron Mustard, Lynda Robson, Emile Tompa

Collaborations and Partnerships: This project involves an active collaboration with Extendicare Long Term Care Services, PSHSA and with the Ontario Long-Term Care Association who will help with recruitment and dissemination of results. We also will work with the Workplace Safety and Insurance Board (WSIB) and the Ontario Ministry of Labour to obtain data to augment the survey data.

Potential Audiences and Significance: The results of this research are directly relevant to all stakeholders in Ontario. The question of how to change internal responsibilities is a major issue and to demonstrate a best practice will go a long way to support injury reduction broadly. Certainly a successful intervention will directly benefit the long-term care sector.

Funding:

Amick BC, Van Eerd D, Hogg-Johnson S, Mustard C, Robson L, Tompa E, King T. Randomized Controlled Trial of the Employee Participation in Change Program (EPIC) in the Ontario Long-Term Care Sector. MOL Supplemental Funding: \$79,500 (2013-2014)

Systematic Review Update: The Prevention of Musculoskeletal Disorders (1285)

Project Status: Ongoing

Introduction: The burden of disabling musculoskeletal pain and injuries arising from work-related causes in many Ontario workplaces is substantial. Inappropriate design of workplaces and work processes contributes significantly to the development of work-related musculoskeletal disorders (MSDs). The Institute has produced a series of systematic reviews on the prevention of MSDs. This proposed systematic review will build on the last five years of research in the field and the previous systematic reviews produced on this topic. We propose conducting this review in two stages; the first stage will review the evidence on the effectiveness of interventions to prevent MSDs; and the second stage will review the evidence on the implementation and processes used to prevent MSDs. Our research questions are: how effective are occupational health and safety interventions in the prevention of MSDs, and what approaches to implementation are employed.

Objectives:

- To engage prevention partners early and throughout research process to produce a relevant review.
- To conduct a systematic review to address the questions: how effective are occupational health and safety interventions in the prevention of MSDs, and what approaches to implementation are employed.

Methods: Systematic methodology includes literature search, paper screening for inclusion/exclusion criteria, data extraction of included studies, quality appraisal of included studies, and findings synthesis.

Status: The team held a stakeholder meeting to discuss the research question and search strategy. The following research question was developed in conjunction with stakeholders: 'What occupational health and safety (OHS) workplace interventions are effective in the prevention of upper extremity MSDs?' The team searched six electronic bibliographic databases, Medline (Ovid), EMBASE, Ergonomic Abstracts, CINAHL, CCIInfoWeb, Cochrane Library from 2008 to May 2013 for a total yield of non duplicate 9909 citations to review. The review team applied inclusion/exclusion criteria related to study design, intervention type, workplace setting, and outcomes for title and abstract review. The final number of included references was 33. The review team developed 20 quality questions based on previous work in this area (covering internal and external validity) and ensuring that the questions were comparable to the previous reviews that were being updated. Papers were also reviewed using the Cochrane risk of bias framework, which examines the following domains: selection bias, performance bias, detection bias, attrition bias, and reporting bias. During this step eight papers were combined with other studies because they described the same dataset. At the conclusion of this step there were 16 high quality studies, 17 medium quality studies, and 4 low quality studies. During the data extraction phase data was extracted on, among other things, the type and details of intervention, jurisdiction, Industry/sector/job titles, study design, outcome descriptive, and effect size. There were multiple intervention types, 16 countries, multiple industries/sectors/job titles, and four different study designs.

Researchers: Ben Amick (Co-Principal Investigator), Emma Irvin (Co-Principal Investigator), Dwayne Van Eerd (Co-Principal Investigator), Trevor King, Claire Munhall, Kathryn Skivington, S Brewer (University of Texas), J Dennerlein (Harvard School of Public Health), C Pinion (University of Texas), D Rempel (University of California), J Tullar (University of Texas), A Van der beek (VU University)

Collaborations and Partnerships: As is the usual practice with our Prevention Reviews, stakeholder meetings will be held throughout the review; to gather feedback from the relevant stakeholders about the detailed nature of the questions; to assist IWH in refining the search strategy for the literature review; and to gather feedback from stakeholders on the relevance and interpretation of the findings from the literature. The following stakeholders have been involved in this review: Melissa Kittmer (MOL); Jo-Anne Hurd (WSN), Richard Wells (CREMSD); Brenda Mallat (OHCOW); Chris McKean (IHSA); Lisa McCaskell (OPSEU).

Potential Audiences and Significance: The results of this review will be of interest to researchers and prevention partners. It will also be of interest to clinical practitioners, such as those working at WSIB Specialty Clinics, ergonomists, kinesiologists, occupational therapist, and those working in the disability management field.

Presentation:

Amick BC, Van Eerd D, King T, Irvin E, Munhall C. SR Update: Prevention of upper extremity MSDs review. 1 March 2013: Stakeholder Meeting.

Funding:

Van Eerd D, Amick BC, Irvin E, King T, Munhall C. Systematic Review Update: The Prevention of Musculoskeletal Disorders. Ministry of Labour Supplemental Funding: \$67,192 (2013-2014)

Van Eerd D, Irvin E, Hogg-Johnson S, Beaton D, Amick BC, Munhall C, Cullen K. Implementation of effective MSD prevention: A systematic review. Submitted to MOL Research Opportunities Program: Requesting \$59,530 for 1 year.

Effective Occupational Health and Safety Practice

IWH has initiated a number of research projects to refine the measurement of organizational policies and practices that support optimal workplace practices. In 2013, we continued to benchmark leading organizational indicators for the prevention and management of injuries and illnesses, in addition to, examining leading indicators from occupational health and safety audit data. In 2013, we also analyzed data already collected through an audit program in order to develop metrics predictive of later firm claim experience. This work made a unique contribution to the research literature by contributing information on the predictive validity of OHS management audit data. Another project sought to examine whether union construction firms perform better in terms of injury and illness experiences compared to non-union firms. We also continued our commitment to examining how non-standard work and risks facing vulnerable workers are identified specifically through the inspection process.

Effective Organizational Policies and Practices in Injury Prevention and Disability Management (0277/1265)

Project Status: Ongoing

Introduction: The Ministry of Labour Expert Advisory Panel identified leading indicators as a primary area in need of further research. This project extends the work of Renee Williams and Ben Amick on one leading indicator tool, The Organizational Policies and Practices Questionnaire. The tool assesses organizational policies and practices relevant for the prevention of injuries and illnesses and the management of disability. Data collected in 2001-2003 in the following sectors of the Ontario labour market: education, health care, hotel and entertainment will be linked to WSIB workers compensation data. The research will examine the relationship between seven organizational policies and practices (people-oriented culture, active safety leadership, safety training, safety diligence, ergonomics policies and practices, disability management and labour management climate) and injury rates to determine which leading indicators of organizational policy and practice, if any, predict injuries and illnesses.

Objectives:

- To describe the relationship between organizational policies and practices and future workers compensation claim rates.

Methods: The seven scales representing organizational policies and practices (OPPs) will be derived from the data collected from each of the firms in the study. Claims rates data have already been extracted and prepared for five years prior to and three years post collection of the OPPs. The relationship between these seven scales of OPPs and both past- and future- injury claims rate will be examined. The research team will examine the relationship between past injury and illness experiences as measured by claims rates over the previous five years and current operational policies and practices using multivariate linear regression. The relationship between current organizational practices and policies and future claims will be assessed using multiple Poisson regression or negative binomial regression as appropriate.

Status: In 2013, the firm data that was received in questionnaire form was entered in to a database, quality checked and cleaned. Preliminary WSIB administrative data was extracted from the WSIB including address and site name fields to facilitate the linkage. At this time, the OPP survey data was linked to the preliminary WSIB data. The linkage was analysed to ensure all fields were linked and complete. Once data management was completed using the preliminary data pull from the WSIB, the full dataset was extracted from the WSIB which included injury claims from 2001-2010 and linked to the survey data and analyses of the data began.

Researchers: Sheilah Hogg-Johnson (Institute Coordinator), Ben Amick, Cynthia Chen, Arold Davilmar, Peter Subrata, Michael Swift, Harry Shannon (McMaster University), Renee Williams (McMaster University)

Collaboration and Partnerships: Partners involved with this project include health and safety organizations, specifically the Workplace Safety & Prevention Services, the Public Services Health & Safety Association, and Workplace Safety North.

Potential Audiences and Significance: The results of this project will be relevant to the Workplace Safety & Insurance Board, the Ministry of Labour, and the health and safety associations, who are interested in trying to capture firm-level behaviour in a meaningful way and this will contribute valuable information to the on-going HSO Client Service Model initiative.

Funding:

Hogg-Johnson S, Amick BC, Robson L, Severin C, Swift M. Workplace OHS Policies and Practices in the Hotel/Motel, Education and Municipal Sectors. Ministry of Labour Supplemental Funding: \$44,500 (2013-2014)

The Safety Case for Business: A Multi-stakeholder Examination of Best Practices and Health and Safety Outcomes (0429)

Project Status: Completed

Introduction: By employing a multiple stakeholder perspective this study endeavours to provide empirical support for the safety case for business. Some literature suggests that practices that harm safety may also harm other business outcomes. Unfortunately, the comprehensive and compelling empirical research needed to reach conclusions as to the nature of the relationship between safety outcomes and economic outcomes is rare. The safety focused literature has assumed business outcomes, while the business literature has generally ignored safety outcomes. This study simultaneously examines best practices in safety and business operations and the effects of best practices on both economic and safety outcomes.

Objectives:

- To empirically explore key relationships between safety and other organizational outcomes.
- To examine the relationship between health and safety outcomes and other operational outcomes such as costs, operating revenues, innovation, quality, flexibility and delivery.
- To study how the best practices in operations affect health and safety outcomes.
- To study how best practices in health and safety affect operational outcomes.

Methods: This project has two phases. In Phase 1 workplace parties will be interviewed in about 10 plants/facilities in the manufacturing and transportation sectors in Ontario. The interviews will provide deep insights and a cross sectional view of organizations. The information from Phase 1 will be used to develop a questionnaire for surveying a larger number of organizations by telephone. In Phase 2, the survey will be administered by phone to over 250 plants/facilities across Ontario. In both Phases data will be collected from multiple respondents at each organization to get various stakeholder perspectives, specifically operating management, health and safety specialists and workers and/or their representatives. For Phase 2, health and safety outcomes will primarily be measured with WSIB data. Statistical modeling will be undertaken to estimate the impact of health and safety on operational outcomes, and the impact of operational outcomes on health and safety.

Status: For the final analysis we used data from a survey of organizations in the manufacturing sector in Ontario, Canada combined with administrative data from the provincial workers' compensation authority. A survey undertaken in 2011 was administered to both operations managers and OHS managers. Administrative records provided information on injury and illness outcomes. Robust regression models were estimated separately for OHS and operational outcome measures. The key explanatory variables were measures indicating the nature of operational and OHS practices. Our statistical modeling results indicate that organizations with joint management systems had similar operational outcomes as those that focused only on operations, and better outcomes than those that focused only on OHS. Plants with joint management systems had similar OHS outcomes as those that focused only on OHS, and in some cases, better outcomes than plants focusing exclusively on operations. Our findings suggest that joint management of OHS and operations does not result in a penalty for either type of outcome, whereas exclusive focus on one can have a penalty for outcomes of the other type.

Researchers: Mark Pagell (Principal Investigator, University of Dublin), Emile Tompa (Institute Coordinator), Ben Amick, Sheilah Hogg-Johnson, Sara Macdonald, Lynda Robson, Anna Sarnocinska-Hart, M Biehl and D Johnston (York University), R Klassen (University of Western Ontario), A Veltri (Oregon State University)

Collaborations and Partnerships: Partners supporting this project include a variety of labour associations, the Health and Safety Associations, and employer representatives.

Potential Audiences and Significance: The results of this project will be relevant to workplace parties (employers, workers, unions), and the Workplace Safety & Insurance Board.

Publications:

Klassen R, Pagell M. Is the relationship between operating a production system to be safe and operating a production system to be effective a dualism or a duality? Submitted: Academy of Management Journal.

Longoni A, Pagell M, Johnston D, Veltri A. When does lean hurt? – an exploration of lean practices and worker health and safety outcomes. *International Journal of Production Research* 2013; 51(11), 3300-3320.

Pagell M, Dibrell C, Veltri A, Maxwell E, Shah R. Is there a business case for safety? An exploration of operational best practices and worker safety outcomes. Submitted: *Management Science*

Pagell M, Johnston D, Veltri A, Klassen R, Biehl M. Is safe production an oxymoron? Exploring how firms manage safety and operations. In press: *Production and Operations Management*.

Pagell M, Johnston D, Veltri A, Robson L, Shevchenko A. Exploring the decision to manage operations and safety jointly. Submitted: *Decision Sciences Journal*.

Tompa E, Robson L, Sarnocinska-Hart A, Klassen R, Shevchenko A, Sharma S, Johnston D, Veltri A, Hogg-Johnson S, Amick III BC, Pagell M. Symbiosis or trade-off? An evaluation of the relationship between safety and operations in manufacturing. Submitted: *Scandinavian Journal of Work Environment and Health*.

Veltri A, Pagell M, Johnston D, Tompa E, Robson L, Amick BC, Hogg-Johnson S, Macdonald S. Understanding safety in the context of business operations: An exploratory study using case studies. *Safety Science* 2013; 55:119-134.

Funding:

Pagell M, Tompa E, Biehl M, Johnston D, Klassen R, Veltri A, Hogg-Johnson S, Robson LS, Amick BC. The safety case for business: A multi-stakeholder examination of best practices and health and safety outcomes. WSIB-RAC: \$387,300 (2008-2012)

High Risk Firm Initiative: Assessing the Impact of Targeted Prevention Consultation Services (0432)

Project Status: Ongoing

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 of staff in 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.

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.

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.

Status: In 2013, the team completed programming of five different algorithms, and ranking of the historical cohorts using these algorithms. They then extracted all of the necessary WSIB data and created all of the measures for the identified high risk cohorts and the historic cohorts.

Researchers: Sheilah Hogg-Johnson (Principal Investigator), Ben Amick, Donald Cole, Cameron Mustard, Peter Smith, Emile Tompa, Dwayne Van Eerd, P Bigelow (University of Waterloo)

Collaboration and Partnerships: The MOL and the Ontario Workplace Safety and Insurance Board (WSIB) continue to be involved with the project by providing data, and helping with interpretation of findings.

Potential Audiences and Significance: The results of this research project will have major and broad implications for policy makers interested in 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.

Presentation:

Robson LS, Hogg-Johnson S, Cole DC, Amick III BC, Tompa E, Smith PM, Van Eerd D, Mustard CA. An effectiveness evaluation within the Ontario occupational health and safety prevention system. 9-12 June 2013; Toronto, Canada: Canadian Evaluation Society Conference: Evaluation Across Boundaries.

Funding:

Hogg-Johnson S, Robson LS, Cole DC, Amick BC, Smith PM, Tompa E, Mustard CA. A randomized controlled study of targeted OHS education, training and consultation in Ontario workplaces - High Risk Firms. WSIB RAC: \$59,700 (2008-2010)

Hogg-Johnson S, Amick BC, Cole DC, Mustard CA, Robson LS, Smith PM, Tompa E, Van Eerd D. Firm selection algorithms-comparison over time. WSIB RAC: \$72,650 (2011-2013)

Benchmarking Leading Organizational Indicators for the Prevention and Management of Injuries and Illnesses (1160)

Project Status: Ongoing

Introduction: This study involves a cross-sectional survey of a series of organizational metrics considered important predictors of injury and illness rates and claims duration in a random sample of firms served by the following Health and Safety Associations (HSAs): IAPA, OSSA, FSA, ESAO, and OSACH; and a full enumeration of firms in MHSA and PPHSA. The total sample is expected to be 4,500-5,000 firms. The key organizational metrics will include 70 items collected from various measures. The firm-level survey data will be linked to five years of retrospective injury and illness claims data and one year of prospective injury and illness claims to determine which organizational metrics are related to injury and illness claims. We will use this information to describe what the most reliable and valid leading indicators are for use in benchmarking organizational and management behaviour in Ontario firms.

Objectives:

- To identify a reliable and valid set of firm level measures of organizational and management metrics relevant to OHS and usable by the OHS community.
- To examine the relationships between WSIB claim rates and organizational and management metrics.
- To demonstrate a scientifically-grounded procedure for collecting valid firm-level estimates of organizational metrics, aggregating the data and disseminating benchmarking information to all key stakeholders.

Methods: We will use a stratified sampling strategy with strata defined by a combination of sector/HSA affiliation, firm size (< 20 versus 20+ FTE), and geographic region. We will target all firms in all strata of the HSAs. Therefore we will be targeting 5,457 firms overall, allowing for some (between 500 and 1,000) to refuse participation or to have closed prior to the survey, while still maintaining our targeted sample size of 4,500 overall. We will also develop some post-sampling stratification weights for non-participation. In our nested studies, we plan to seek 60 firms for the test-retest and to determine who the best informant is. Data collection will follow a protocol used in an earlier study resulting in 70% firm-level response rate.

Status: In 2013, the team completed the psychometric analyses and the test-retest reliability analysis. Data linkage and analysis is currently in progress. We have conducted a preliminary analysis of the retrospective claims prediction of organizational metrics. We have built a benchmarking database and prepared an interim report for the HSAs. Benchmarking reports have been developed and distributed to participating firms; and a pilot employer evaluation of benchmarking reports has been conducted. The final report for the funder has been drafted. Preliminary results have been disseminated to the HSAs and papers and presentations have been developed; manuscript preparation is in progress.

Researchers: Ben Amick (Principal Investigator), Arold Davilmar, Sheilah Hogg-Johnson, Selahadin Ibrahim, Sara MacDonald, Cameron Mustard, Lynda Robson, Colette Severin, Peter Smith, Ivan Steenstra, Michael Swift, Emile Tompa

Collaborations and Partnerships: This is an active collaboration with three health and safety agencies: WSPS, PSHSA, and WSN.

Potential Audiences and Significance: The results of this research are directly relevant to all stakeholders in Ontario, including the WSIB, MOL, and the HSAs.

Presentations:

Hogg-Johnson S. Leading indicators – Changing the Way We Measure. 25 June 2013; Mississauga, Canada: Annual General Meeting, Workplace Safety & Prevention Services.

Severin C, Macdonald S. Benchmarking Leading Indicators of Workplace Injury Prevention. 2 May 2013; Mississauga, Canada: Partners in Prevention Conference.

Funding:

Amick BC, Hogg-Johnson S, Mustard CA, Smith PM, Tompa E, Robson LS, Steenstra I. Benchmarking leading organizational indicators for the prevention and management of injuries and illnesses. WSIB RAC: \$363,072 (2010-2013)

Amick BC, Hogg-Johnson S, Macdonald S, Mustard CA, Robson L, Severin C, Smith PM, Steenstra I, Tompa E. Benchmarking Leading Organizational Indicators in the Construction, Transportation, Electrical and Utilities Sectors. MOL Supplemental Funding: \$156,000 (2013-2014)

Leading Indicators from Occupational Health and Safety Audit Data (1190)

Project Status: Completed

Introduction: The development of leading occupational health and safety indicators for use across many workplaces is an ongoing challenge. This project will analyze data already collected through an audit program: the Workplace Safety & Insurance Board (WSIB) Workwell, in order to develop metrics predictive of later firm claim experience. This work will make a unique contribution to the research literature by contributing information on the predictive validity of OHS management audit data.

Objectives:

- To determine whether OHS management audit items naturally group together to form a single metric or multiple metrics.
- To determine how predictive audit metric(s) are of later firm claim experience.
- To make recommendations, based on data analyses and expert opinion, toward the development of a short version of the audit instrument.

Methods: Factor analyses will be used to analyze the structure of the audit data. Firm audit data will be linked with corresponding firm claims data and associations will be examined using multiple regression methods. Items will be reduced by considering the following: patterns of responses to items, results of factor analyses, the impact of removing items on internal consistency (KR-20 statistic), the correlation of items within scales, the results of applying the equidiscriminatory item-total correlation method and stakeholder input. The impact of reducing items on factor structure and prediction will be tested.

Status: Using confirmatory factor analysis, we confirmed the organization of items into 17 elements in the original instrument. We created a data set by linking claims data with audit data. We conducted regression analysis and found that variables based on audit data were not predictive of claims outcome. It was determined that some items within an element have high correlation, indicating the potential for future item reduction.

Researchers: Lynda Robson (Principal Investigator), Ben Amick, Sheilah Hogg-Johnson, Ivan Steenstra, Dwayne Van Eerd

Collaborations and Partnerships: Partners supporting this project include the Workplace Safety & Insurance Board Workwell program, the Occupational Health Clinics for Ontario Workers, the Public Services Health & Safety Association, and the Workplace Safety & Prevention Services,

Potential Audiences and Significance: The results of this project will be relevant to Ontario occupational health and safety prevention system, and occupational health and safety professionals.

Publication:

Robson L, Hogg-Johnson S, Amick III B, Steenstra I, Van Eerd D. Report to WSIB on Developing Leading Indicators from OHS Management Audit Data. Toronto, Canada: Institute for Work & Health. August 30, 2013.

Presentation:

Robson L, Ibrahim S, Amick III BC, Hogg-Johnson S, Subrata P, Steenstra IA, Van Eerd D. Establishing the factor structure and predictive validity of OHS management audit data. 1-2 June 2012; Vancouver, Canada: Canadian Association for Research on Work & Health Conference.

Funding:

Robson L, Hogg-Johnson S, Amick B, Van Eerd D, Steenstra I. Developing leading indicators from OHS management audit data. WSIB RAC: \$86,800 (2010-2012)

Repeat Workers' Compensation Claims (1195)

Project Status: Completed

Introduction: Many of the characteristics of workers that influence the risk of work-related disability are well-known. In most sectors, men have a higher rate of claims than women, younger workers than those over 45, workers recently hired than those with longer tenure, and those in lower rather than higher paid jobs. However, the characteristics of workers who have multiple workers' compensation claims in a defined period of time is less clearly understood. This project will estimate the incidence of repeat workers' compensation claims over a five year period for a cohort of Ontario workers filing a workers' compensation claim in the period 2000-2005. Components of this project will seek to replicate Ontario analyses on workers' compensation data from the Australian state of Victoria.

Objectives:

- To describe the incidence of repeat workers' compensation claims over a five year period, including measures of total health care expenditures, total wage replacement benefits and days of wage replacement benefits.
- To replicate Ontario analyses on workers' compensation data in the Australian state of Victoria.

Methods: This study will be based on two longitudinal cohorts of workers registering an accepted workers' compensation claim for lost-time wage replacement benefits in the period 2000-2005 in Ontario, Canada and Victoria, Australia, where each worker in the cohort will be followed over a five year period from the date of an initial claim to ascertain the registration of subsequent compensation claim(s). Measures will be derived from administrative records of compensation claims to describe the injury, characteristics of the accident, the duration of disability, wage replacement benefit expenditures, benefit expenditures for health care services, characteristics of the worker, characteristics of the employer and frequency of reopened claims. Analytic methods will include descriptive analyses of incidence of repeat compensation claims by gender and age, occupation and industry. Additional analyses will be conducted on workers with histories of repeat lost-time claims to determine if repeat injury arose from the same or different affliction, in the same or different bodily location, occurred while working in the same or different industry and the same or different occupation, or occurred while working with same or different employer.

Status: The total number of first lost-time claims was 423,856 in Ontario and 78,605 in Victoria. The probability of a second lost-time claim within 5 years of the date of the first accident was 0.23 in Ontario and 0.18 in Victoria. The probability of a second claim does not appear to be highly conditional on age, sex, nature of injury, occupation or industry. The distribution of characteristics of second injuries was very similar in Ontario and Victoria: for example in both jurisdictions there was low concordance between the first and second claims on the nature of injury and part of body. In both jurisdictions, the majority of second claims are with the same employer and in the same occupation. Claims lasting longer than 1 year are much less likely to be followed by another claim. Despite differences in scheme benefit policies, this study has found broadly similar patterns in the two settings.

Researchers: Cameron Mustard (Principal Investigator), Jacob Etches, Melanie Fortune

Collaborations and Partnerships: The project team will consult with representatives of the WSIB, the Ontario Ministry of Labour and representatives of health and safety associations in Ontario.

Potential Audiences and Significance: The results of this work are expected to identify characteristics that are associated with a higher risk of repeat workers' compensation claims. These findings will be of interest to prevention authorities. The results of this work estimating differences in benefit expenditures between initial and subsequent claims will be of interest to workers' compensation authorities.

Publication:

Etches J, Mustard CA, Ruseckaite R, Collie A. Repeat workers' compensation claims: A prospective analysis in Ontario, Canada and Victoria, Australia. Submitted: American Journal of Industrial Medicine.

Validation of an Ontario Prevention System Leading Indicator (1230)

Project Status: Ongoing

Introduction: In 2008, all Ontario Prevention System Partners (HSAs, MOL, WSIB and IWH) developed and piloted eight questions to quickly assess an organization's occupational health and safety performance. Using the eight questions, an organizational performance metric (OPM) was developed. In pilot work, the OPM predicted an employer's injury and illness claims rate in the last 4 years. The best employers, as rated by the OPM, had the lowest claim rates and the poorest performers the highest. This research builds the scientific evidence base for the OPM tool by answering methodological and practical questions raised in the pilot work by stakeholders.

Objectives:

- To examine whether the OPM tool predicts future injury and illness rates.
- To examine whether the OPM tool is responsive to changes in the organization.
- To study how different modes of administration may affect responses (i.e., telephone, online).
- To examine what responders are thinking when they answer the eight questions.
- To examine whether responses on OPM tool are reflected by workplace policies and practices.
- To link HSA audit tools to OPM tool scores.

Methods: We will collaborate with the HSAs to re-contact and re-survey the 630 participating firms from 2009 to assess current OPM scores and if significant organizational changes occurred that are related to OPM score changes. We will link the survey data to WSIB claims data to examine predictive validity. We will conduct a nested mode of administration study randomizing firms to one of four arms (on-line, in-person, internet and in meeting). We will conduct 30 cognitive interviews expected to last about 1 hour as we will also explore alternative response formats. We will also conduct a series of case studies of the 10 matched firm pairs (one rated high on the OPM metric and one rated low).

Status: The original project proposal envisioned a sample of eight firms that differ in their OPM scores (high vs. low) and matched on firm size and sector. Due to the low number of low-scoring firms in the sampling frame and the challenges faced in obtaining consent from senior management within these firms, the initial recruitment strategy was revised and firms in the middle OPM score category were identified for recruitment. Recruitment with middle OPM score firms was pursued irrespective of whether they could be matched with high scoring firms within the same sector. Recruitment was completed in December 2013 with five worksites that vary between medium (score range 28-30) and high (score range 38-40) OPM scores and across four sectors (agriculture, manufacturing, social services, transportation). A conceptual framework was developed based on research and practitioner literatures on organizational health and safety. The conceptual framework identified different levels (organizational, social, and individual) and focused on leadership, organizational culture, safety management system, communication, organizational learning, job demands and resources, and social support in the organization. An interview guide was developed based on the conceptual framework and OPM items. Two-day site visits by two researchers were completed between September 2013 and December 2013. At each work site, researchers conducted interviews, observations, and reviews of the organizations' main OHS documents. A total of 34 interviews were conducted with senior management, management, supervisors, and workers in the five worksites. All interviews were recorded and later transcribed verbatim. Within a four week window following the researcher visit, an OHS consultant from the appropriate sector-based HSA made a one-day visit to each firm and applied a standardized OHS assessment tool (such as a brief OHS management audit).

Researchers: Ben Amick (Co-Principal Investigator), Lynda Robson (Co-Principal Investigator), Sheilah Hogg-Johnson, Peter Smith, Karen Turner, Dwayne Van Eerd

Collaboration and Partnerships: The health and safety associations including: OHCOW, Workplace Safety & Prevention Services, Public Services Health & Safety Association, Infrastructure Health & Safety

Association, and Workplace Safety North, and the Ontario Ministry of Labour and the Workplace Safety and Insurance Board are all involved in this research project.

Potential Audiences and Significance: In addition to the HSAs, other groups who will be interested in the findings, including the WSIB, MOL, employer organizations, organized labour and researchers.

Funding:

Amick BC, Robson LS, Hogg-Johnson S, Van Eerd D, Smith PM. Validation of an Ontario prevention system leading indicator. WSIB RAC: \$249,982 (2012-2014)

Amick BC, Robson LS, Hogg-Johnson S, Smith PM, Van Eerd D, Swift M, Turner K. Validation of a Prevention System Leading Indicator. MOL Supplemental Funding: \$118,000 (2013-2014)

Occupational Health and Safety Performance in Unionized Construction (1255)

Project Status: Ongoing

Introduction: The Ontario Construction Secretariat (OCS) is comprised of twenty five organized building trade unions (workers) and the signatory contractors (employers) of Industrial, Commercial and Institutional (ICI) construction, along with representatives from the provincial government. Together, they form a tripartite organization intended to enhance the well-being of organized ICI construction in Ontario. With the Institute for Work & Health, they are working together to examine whether union construction firms perform better in terms of injury and illness experiences compared to non-union firms. The project has two phases. In Phase 1, we will link data from the Workplace Safety and Insurance Board (WSIB) with OCS data on unionization. Then we will engage in some data verification and management, and finally data analysis. In Phase II, we will seek to do a survey and case study work to explain what is happening in unionized firms that differ from non-unionized firms to explain the observed claims rate differences.

Objectives:

- To examine whether union construction firms perform better in terms of injury and illness experiences compared to non-union firms.

Methods: We obtained trade union lists from the Ontario Construction Secretariat, cleaned them up and linked to WSIB claims list and then analysed the relationship between union status and the claims.

Status: The data from the WSIB and the OCS was linked; it was then verified using information from the OLRB and through phone calls. The team met with the OCS to develop a conceptual model for why unions make a difference. The team also met with the OCS to discuss data quality and design. Data management, such as data coding, creation of variables and data exploration, was completed and then data analysis was initiated and completed. The team met with the OCS to write and submit a final report and present an executive briefing.

Researchers: Ben Amick (Principal Investigator), Sheilah Hogg-Johnson, Desiree Latour-Villamil, Ron Saunders

Collaboration and Partnerships: Partners in this project include the WSIB, the construction sector, various union organizations, and policy-makers.

Potential Audiences and Significance: The results of this research project will be relevant to the construction sector, unions, the Ministry of Labour, the WSIB, policymakers, and other prevention partners.

Funding:

Amick BC, Hogg-Johnson S (Co-PI), Saunders R, Demers P, McLeod C. Understanding the 'Union Safety Effect' in Construction. Submitted to MOL Research Opportunities Program: Requesting \$296,908 over 2 years.

Understanding the Occupational Health and Safety Inspection Process in a Changing Labour Market (1270)

Project Status: Ongoing

Introduction: The effectiveness of occupational health laws and policies depends on compliance with them. In the context of a changing labour market, where subcontracting, franchising, and third party management are increasingly common and non-standard forms of employment have grown, obtaining compliance with OHS law faces new challenges. There is a body of literature about OHS inspections that focuses mostly on effectiveness and on challenges of recent inspection mandates. However, studies of inspectors are often rather disembodied. That is, they rarely examine the processes that call an inspector into action (e.g. law, policy, bureaucracy), or the sequences of activities that follow an inspection (coroners, lawyers, fine collection processes). Overall, we know little about inspection as a process. While many studies are conducted 'about' inspectors, few directly tap frontline experiences and knowledge of inspectors and related front-line actors. An analytic priority of this study is how non-standard work and risks facing vulnerable workers are identified and handled in the inspection process.

Objectives:

- To conceptualise and map the inspection process in Ontario.
- To identify inspection process challenges and opportunities related to fissured work environment.
- To identify how the inspection process is and can be adapted to the needs of vulnerable workers.
- To identify issues in the inspection process that can be adapted to the fissured work environment.

Methods: This study is conceived in two stages. The first stage involves: data gathering about planning and enforcement aspects of the OHS inspection process; socio-legal analysis of inspector's orders and reprisals from a review of the cases that have been reported in the appeals process provided by the legislation; and transcribing and coding interview data. For Stage 2, we will prepare a research funding proposal. This stage involves full analysis of already collected data and further data collection and analysis, with a focus on gender dynamics in the OHS inspection process.

Status: Data analysis is under way.

Researchers: Ellen MacEachen (Principal Investigator), Lisa Redgrift, Sarah Sanford, Ron Saunders, Emile Tompa, K Lippel (University of Ottawa)

Collaborations and Partnerships: Advisory Committee members are Peter Augruso (Director, Northern Region, Operations Division, Ministry of Labour), John Bartolomeo (Lawyer, Toronto Workers' Health and Safety Legal Clinic), Alec Farquhar (Director, Office of the Worker Advisor), Steve Mantis (Research Liaison, Ontario Network of Injured Workers Groups), Lisa McCaskell (Senior Health and Safety Officer, Ontario Public Service Employees Union), Michael Zacks (Director, Office of the Employer Advisor).

Potential Audiences and Significance: These findings will direct OHS researchers to inspection issues that may not have previously been conceptualised and measured, and to comparative process studies. Findings will guide policy-makers as they adapt OHS inspection processes for current realities of work.

Funding:

MacEachen E, Saunders R, Tompa E, Lippel K. Understanding the Occupational Health & Safety Inspection Process in a Changing Labour Market. Ministry of Labour Supplemental Funding: \$94,500 (2013-2014)

Regulation and Incentives

In the thematic area of regulation and incentives, Institute scientists will continue their work evaluating the Ontario prevention system. Specifically, we continue to examine the impact of experience rating on the incidence of workers' compensation claims. In 2013, we continued our examination of the need of workplaces to better understand the degree to which large and intentional improvement in a workplace's rate of injury and illness, i.e. "breakthrough change" (BTC), is possible and what factors are critical to making such change.

The Impact of Experience Rating and Occupational Health and Safety on Claims Experience in British Columbia and Ontario (1130)

Project Status: Completed

Introduction: Tying workers' compensation premiums of firms to their claims burden to varying degrees (known as experience rating) is a principal policy lever that insurance providers use to encourage firm-level investment in health and safety. The mechanics of how premiums are experience rated can vary quite dramatically from jurisdiction to jurisdiction, though few studies have investigated the effects of experience rating with direct measures of program features, and even fewer have undertaken comparative analysis of different approaches to experience rating. To respond to these research gaps, we plan to undertake a comparative analysis of workers' compensation premium setting in British Columbia and Ontario using micro-data at the firm level (from 2000-2008) to investigate the impact of various features of the two programs.

Objectives:

- To assess the incentive effects of prospective (British Columbia) versus retrospective (Ontario) experience rating programs.
- To assess the incentive effects of other features of the programs such as the degree of experience rating (using direct measures such as the rating factor), the maximum per claim and per firm costs considered in the program, the weight given claims costs from previous years, and the graduated participation aspect of the British Columbia program.

Methods: We will use regression modeling techniques to identify the effects of experience rating features and other contextual factors on measures of safety performance. Since the outcome measures will be rates or counts of claims by type, we will consider the Poisson and the negative binomial regression models. Another modeling approach we will consider is multi-level modeling, because some categories of firm characteristics such as size or industry may have less variability within than across categories. Time period, jurisdiction, industry, and firm-level contextual factors that bear on outcomes will be controlled for in the analyses. We plan to use a range of outcome measures at the firm level based on claims data that provide insight into safety and claims management activities. To overcome the fact that claims are not synonymous with injuries, we will use categories of claims that are less likely to be affected by reporting bias such as permanent impairments, acute trauma injuries and fatalities and compare them to those more likely to be affected. We will also use claims data in other creative ways to uncover specific behavioural consequences of the programs.

Status: We evaluated the safety performance of organizations as measured by several claim outcomes for the period 2003-2007. The five key outcomes were: 1) health care only claims; 2) short-term disability claims; 3) long-term disability claims; 4) total claims; and 5) short-term disability days on benefit. Contextual variables included in the analysis were sector, base premium rate, premium rate adjustment, unemployment rate, changes in workforce size, calendar year, and industry. The three key experience rating variables designed to measure the impact of financial incentives were the current change in premium rate adjustment, one year lag of change in premium rate adjustment, and two year lag of change in premium rate adjustment. The relationship of these variables to claims outcomes is hypothesized to be negative if experience rating is effective in incenting efforts to reduce injuries and illnesses.

For the BC sample, most claim outcome models had at least two and sometimes all three of the key experience rating variables statistically significant and negative. Specifically, for the health care only rate, short-term disability rate, and total claim rate had all three of these variables significant and with the expected negative sign. This would suggest that a higher percentage of premium adjustment from one year to the next has a significant impact on these types of claim outcomes. Interestingly, the magnitude of the relationship for the current year and one year lags were similar, suggesting that the impact of the adjustment persists for at least 2 years. The magnitude of the relationship for the two year lag was generally smaller. The only unexpected result was for the outcome days on benefit rate, which had only one of the three variables significant and with the correct sign.

For the Ontario sample, all three key variables were significant for all claims outcomes and in expected directions. The magnitude of the relationship with claim outcomes was largest in the current year, decreased for the one year lag variable, and decreased yet again for the two year lag variable. The dramatic decline of magnitude across the three lagged variables suggests that the impact of a change in premium adjustment dissipates quickly (i.e., more recent adjustments have a substantially larger effect on claim outcomes than earlier ones). Nonetheless magnitudes of the relationship of the three variables to claim outcomes in the Ontario sample were all quite large compared to counterparts in the BC sample.

The findings from this study suggest that the BC ER program impacts health and safety outcomes in the expected direction. Also noteworthy is that there is persistence of these effects for two to three years, particularly for large organizations. This might be considered more desirable than large and immediate behavioural responses found in the Ontario NEER program, which may be associated with cost management rather than OHS management. This is something that needs to be explored further, since we were not able to formulate outcomes indicative of less desirable behaviours due to data limitations. The impact of the BC ER program on short-term benefit days is not as robust, which would suggest that attention needs to be given by system actors to understanding and then motivating organizations to address days on benefit for short-term disability claimants. This could be done by incenting early and safe return to work in a different way (e.g., providing information and supports to assist disability managers and injured workers), having a more prominent disability coordinator role within the board to ensure all supports are in place on a timely basis, and ensuring stakeholders work together on return-to-work plans.

Researchers: Emile Tompa (Principal Investigator), Chris McLeod, Cameron Mustard

Collaborations and Partnerships: Partners supporting this project include senior policymakers with the WSIB and WorkSafeBC.

Potential Audiences and Significance: WorkSafeBC and workplace parties in British Columbia will be particularly interested in the study findings, as they have a vested interest in the experience rating program. The findings will also be of interest to policymakers at the WSIB and at workers' compensation boards across Canada and the United States. Researchers investigating work and health issues, and particularly system level incentives for health and safety, are another target audience of this research.

Publications:

Tompa E, McLeod C, Mustard C. 2013. A comparative analysis of the occupational health and safety incentives of workers' compensation premium setting in British Columbia and Ontario. Final Report for WorkSafeBC.

Tompa E, Hogg-Johnson S, Amick BC, Wang Y, Shen E, Mustard C, Robson L, Saunders R. Financial incentives of experience rating in workers' compensation: new evidence from a program change in Ontario, Canada. *Journal of Occupational and Environmental Medicine* 2013; 55(3): 292-304.

Presentations:

Tompa E. Impact of Experience Rating Incentives. 4-6 October 2013; Port Elgin, Canada: UNIFOR Inaugural Conference: Ontario Workers' Compensation Conference.

Tompa E. Exploring the Past and the Future of Experience Rating. 15-19 September 2013; Saint John, NB, Canada: AWCBC Learning Symposium.

Funding:

Tompa E, Mustard CA, McLeod C, Moore I. A comparative analysis of the occupational health and safety incentives of workers' compensation premium setting in British Columbia and Ontario. WorkSafeBC: \$201,342 (2009-2011)

Breakthrough Change in Workplace Occupational Health and Safety Performance (1145)

Project Status: Ongoing

Introduction: This project consists of three related mixed methods projects (P1, P2, P3). They address the need of workplaces to better understand the degree to which large and intentional improvement in a workplace's rate of injury and illness, i.e. "breakthrough change" (BTC), is possible and what factors are critical to making such change.

Objectives:

- To determine the incidence of breakthrough change (BTC) in Ontario firms. (P1)
- To determine the critical success factors involved in BTC changes within individual firms and those common across BTC firms. (P1)
- To understand why and how firms make breakthrough improvements in their safety performance over time in manufacturing. (P2)
- To identify and understand factors determining differences in work injuries in manufacturing (P2)
- To understand relationships between operational and safety performance in manufacturing (P2)
- To test the validity of BTC factors (P3)

Methods: P1: Quantitative analysis of WSIB records, coupled with telephone interviews of a sample of firms that appear from claims statistics to have experienced BTC, in order to define BTC and describe its incidence in Ontario firms. Secondly, a multiple case study technique will be used to identify success factors critical to BTC in individual firms and across firms.

P2: Data will be collected using qualitative methods, a survey and an extraction of administrative records. Analysis will seek to understand the reasons for different outcome profiles (BTC, more modest change, no change) across the three manufacturing plants, as well as relationships between operational and safety performance.

P3: WSIB records will be screened for "stay-the-same" (STS) cases matched to the four BTC firms in the first study on size, sector and earlier poor performance; they will differ from BTC cases in having not undergone a large change in claim rate. Qualitative methods will be used to understand the basis for differences over time in OHS performance between BTC and STS cases.

Status: For Phase 1: Results from 2011 showed that 1 in 200 Ontario firms underwent BTC over a decade (moving from among the 50% of firms with the highest claim rates, within its respective sector, to among the 20% with the lowest claim rates. A manuscript describing the firm selection process was submitted in 2013. A theoretical model of the BTC process, including the critical success factors, was developed from the P1 multiple case study results in 2013. Findings have been presented in multiple presentations. A manuscript is in preparation. For Phase 2: Data collection by qualitative methods at the 3 sister plants, including 40 interviews, was completed in 2013 and the analysis is underway. A study-specific survey was developed, implemented, analyzed and reported back to the sister plants in 2013. A manuscript has been initiated in collaboration with a Danish researcher based on the survey. Preliminary discussion about administrative data collection and analysis has taken place. For Phase 3: Twenty-two stay-the-same firms were identified by screening WSIB statistics and attempts to recruit them to in-depth case study were attempted. Qualitative data were collected on site from three firms. Analysis is underway.

Researchers: Lynda Robson (Principal Investigator), Ben Amick, Siobhan Cardoso, Sheilah Hogg-Johnson, Emile Tompa, M Pagell (University of Dublin), H Shannon (McMaster University)

Collaborations and Partnerships: Partners include the Infrastructure Health and Safety Association, the Public Services Health & Safety Association, the Workplace Safety & Prevention Services, the Workers Health & Safety Centre, the Business Council on Occupational Health and Safety, and the Ministry of Labour.

Potential Audiences and Significance: The results of this project will be relevant to employers, health and safety associations, joint health and safety committees, the Ministry of Labour, and researchers.

Publication:

Robson LS, Amick III BC, Pagell M, Shannon HS, Swift M, Moser C, Hogg-Johnson S, Mansfield E. Searching for breakthrough performance in occupational health and safety performance: demonstration of a method to find positive deviants. Submitted: Journal of Safety Research.

Presentations:

Robson L, Amick B, Moser C, Mansfield L, Pagell M, Shannon H, Cardoso S, South H, Sharma S. Breakthrough Change in Workplace OHS Performance: Findings from a Multiple Case Study. 8 October 2013; Toronto, Canada: IWH Plenary Series.

Cardoso S, Robson L, Moser C, Amick B, Swift M, Pagell M, Hogg-Johnson S, Shannon HS, Manfield L, South H. Searching for breakthrough change in occupational health and safety performance: emerging themes. 1 May 2013; Mississauga, Canada: Partners in Prevention Conference.

Cardoso S, Robson L, Moser C, Amick B, Swift M, Pagell M, Hogg-Johnson S, Shannon HS, Manfield L, South H. Searching for breakthrough change in occupational health and safety performance: emerging themes. 20-22 March 2013; Nova Scotia, Canada: Safety Service Nova Scotia.

Funding:

Robson LS, Amick BC, Hogg-Johnson S, Mansfield L, Pagell M, Shannon HS. Breakthrough change in workplace OHS performance. WSIB BTG: \$57,668 (2009-2011)

Robson LS, Amick BC, Pagell M, Mansfield L, Shannon HS, Hogg-Johnson S, Tompa E. Further exploration of breakthrough change in OHS performance. WSIB RAC: \$180,360 (2012-2014)

Robson LS, Amick BC, Pagell M, Mansfield L, Shannon H, Hogg-Johnson S. Testing a Model of Breakthrough Change in Workplace Occupational Health & Safety. MOL Supplemental Funding: \$104,000 (2013-2014)

Systematic Review of the Effectiveness of Occupational Health and Safety Regulatory Effectiveness (1290)

Project Status: Ongoing

Introduction: This study expands and updates the systematic review on the effectiveness of OHS regulatory enforcement published by Tompa et al (2007). Since the completion of that review, a number of studies have been published on the topic. Consequently, an update on the review is warranted. Furthermore, we will expand the scope of the review to include a broader set of methodological approaches and outcomes. We also plan to include intermediate outcomes such as safety compliance and safety investment, and document in greater detail the evidence on how policy levers change behaviours. We are also complimenting the quantitative review with a qualitative component lead by MacEachen (see IWH project 1295). This project will undertake a joint and complementary quantitative and qualitative systematic review process, with a shared literature search, a separate data analysis process, and regular meetings to discuss synergy.

Objectives:

- To identify published peer-reviewed studies on the effectiveness of OHS legislation and regulatory enforcement at improving OHS performance.
- To evaluate the quality of identified studies and synthesize the evidence on the effectiveness of OHS legislation and regulatory enforcement policy levers.
- To compliment the qualitative review such that quantitative and qualitative findings illuminate each other.
- To engage an advisory committee consisting of senior academics and stakeholders throughout the process to better ensure the study meets the needs of stakeholders.
- To disseminate results to stakeholders across Canada and internationally through various media.

Methods: Systematic methodology includes literature search, paper screening for inclusion/exclusion criteria, data extraction of included studies, quality appraisal of included studies, and findings synthesis.

Status: In 2013, we held an advisory committee meeting to discuss our review questions and the literature search. We completed title and abstract reviewing, and full article retrieval and reviewing. We have been holding ongoing meetings with the quantitative and qualitative teams and discussing progress in conjunction with both teams. The quality assessment and data extraction portions are nearly complete and a final report is planned for early 2014.

Researchers: Emile Tompa (Principal Investigator), Sheilah Hogg-Johnson, Emma Irvin, Ellen MacEachen, Quenby Mahood, Chris McLeod, M Foley (SHARP)

Collaboration and Partnerships: Partners include the health and safety associations, and employer and labour representatives.

Potential Audiences and Significance: This study will undoubtedly be of considerable interest to Ministries of Labour, particularly given new challenges of tight financial resources and changing labour-market contracting practices. The results will interest employers and labour representatives. The study will be of interest to international stakeholders involved in or affected by OHS regulatory enforcement.

Presentation:

Tompa E, MacEachen E, Carasco C, Irvin E. Systematic review of OHS regulations. 19 February 2013; Toronto, Canada: Stakeholder Committee Meeting.

Funding:

Tompa E, Hogg-Johnson S, Irvin E, MacEachen E, Mahood Q, McLeod C, Foley M. Systematic Review of the Effectiveness of Occupational Health and Safety Regulatory Enforcement. Ministry of Labour Supplemental Funding: \$75,000 (2013-2014)

Systematic Review of Qualitative Literature on Occupational Health and Safety Regulatory Effectiveness (1295)

Project Status: Ongoing

Introduction: This systematic scientific literature assembles and synthesizes what is known about OHS regulatory levers are understood, planned, implemented and carried out. In contrast to quantitative research designs, which are primarily concerned with establishing quantifiable relationships, testing a question or determining the distribution or probability of already-known phenomena, qualitative research designs are oriented to discerning complex chains of interactions, explaining the nature of relationships between events, and interpreting events within their social, legal, economic and other contexts. To our knowledge, no review of qualitative literature has yet been carried out on the conditions and processes of occupational health and safety regulation.

Objectives:

- To identify the English-language peer-review qualitative literature, from 1990 to 2013 on OHS regulatory levers are understood, planned, implemented and carried out.
- To evaluate the quality of identified studies meeting these criteria and synthesize the evidence.
- To engage a Stakeholder Committee consisting of senior academics, policymakers and other system actors throughout the process to ensure study relevance.
- To disseminate the findings in stakeholder and academic venues in Ontario and internationally.

Methods: The study follows six steps for systematic review: 1) develop a research question; 2) conduct literature search; 3) identify relevant documents; 4) quality appraisal; 5) data extraction; 6) evidence synthesis; and 7) dissemination of findings/knowledge transfer activities.

Status: Steps 1-5 are complete and included the following activities: 1) a stakeholder meeting to assist in the framing of our research question, inclusion/exclusion criteria and search strategy; 2) we searched 10 electronic databases, contacted 19 content experts and handsearched relevant sources. This led to a total non-duplicate yield of 11,947 titles and abstracts; 3) we applied inclusion/exclusion criteria, which resulted in 36 articles considered for quality appraisal; 4) the team categorized articles into 6 high quality studies, 12 medium quality studies and 16 low quality studies; 5) data was extracted on: OHS regulatory levers, methods, sample characteristics, theoretical perspectives, analysis, findings, issues that shape the interpretation of findings and what the study told us about OHS regulatory levers. Step 6 is in progress.

Researchers: Ellen MacEachen (Principal Investigator), Sara MacDonald, Quenby Mahood, Lisa Redgrift, Sarah Sanford, Emile Tompa, A Kosny (Monash University), F O'Hagan (Trent University), C Stahl (University of Linkoping)

Collaboration and Partnerships: We have met or communicated with the following stakeholders: Michael Zacks (Office of the Employer Advisor); Wayne De L'Orme (Ontario Ministry of Labour); Anne-Marie Feyer (ISCRR, Australia); Barbara Silverstein (University of Washington); Carmine Tiano (Building and Construction Trades Council of Ontario); Steve Mantis (Ontario Network of Injured Workers Groups).

Potential Audiences and Significance: These results will be of considerable interest to MOL policy-makers and operational managers as they design and implement their own OHS regulatory systems. It will also interest worker advocacy groups and labour, whose constituents are the party to most benefit from optimal OHS regulatory processes.

Presentation:

Tompa E, MacEachen E, Carasco C, Irvin E. Systematic review of OHS regulations. 19 February 2013; Toronto, Canada: Stakeholder Committee Meeting.

Funding:

MacEachen E, Tompa E. Systematic Review of Qualitative Literature on Occupational Health & Safety Regulatory Effectiveness. Ministry of Labour Supplemental Funding: \$56,500 (2013-2014)

Working Conditions and Health

Over the past 15 years, Institute researchers have gained expertise in analyzing 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 analyzing workers' compensation administrative data from Ontario and other provinces. Our work on analyzing population-level data and compensation claims focuses on gaining a better understanding of working conditions and employment relationships, and risk factors for injury and disability in the labour market. For example, in 2013, we sought to develop a measure of OHS vulnerability that moves beyond demographic worker characteristics towards factors that are more proximal to risk of injury or illness at the worker level and also to examine how effective are occupational health and safety interventions in the prevention of MSDs, and what approaches to implementation are employed.

The Measurement and Surveillance of Working Conditions and Lost-Time Claims in Ontario (0417)

Project Status: Ongoing

Introduction: The nature of an individual's employment will to a large extent determine whether they derive health benefits from employment, or if work contributes to deterioration in their physical or mental health. There are a range of characteristics of employment that are associated with risk of adverse health effects. For example, physical job demands and psychosocial work exposures are key determinants of the risk of work-related musculoskeletal disorder. Other working conditions relevant to understanding the health of the Canadian labour force include: hours of work, overtime hours, shift work, contingent or short-tenure employment and exposure to outdoor work. For more than a decade, IWH has made extensive use of health interview surveys and labour market surveys administered by Statistics Canada to describe the incidence and prevalence of work-related health disorders associated with various dimensions of working conditions. This work has served both to provide accurate surveillance information on the prevalence of different working conditions and to provide information on the risk of work-related disorder associated with different working conditions.

Objectives:

- To conduct surveillance research on the relationship between working conditions and work-related disorder.
- To examine differences between self-reported work-related injury information and routinely collected information (e.g. accepted claims from Workers' compensation boards).
- To document trends in working conditions and work injuries across different geographical and labour market segments over time.

Methods: The work performed under this project involves utilizing secondary data from Statistics Canada surveys and administrative claim data from WSIB. The objectives are to better understand what each data source is measuring (e.g., what do lost-time claims represent, what do "usual hours worked per week" represent), and to create time series to understand trends in particular working conditions among different labour market groups.

Status: This project has had limited activity in 2013 with the Principal Investigator's attention being diverted to other projects and the lead analyst going on maternity leave. It is expected that activity related to this project will increase in the second half of 2014.

Researchers: Peter Smith (Principal Investigator), Cameron Mustard, Amber Bielecky, Curtis Breslin, Sheilah Hogg-Johnson, Sara Morassaei

Collaborations and Partnerships: 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: Directly relevant to policy makers at the MOL and the WSIB.

Publication:

Premji S, Smith PM. Education-to-job mismatch and the risk of work injury. *Injury Prevention* 2013; 191(2):106-111.

Working Conditions and Health in the Canadian Labour Market (0448)

Project Status: Ongoing

Introduction: Over the past decade, 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 extends to seventeen years and there are nine cycles available with the last cycle (2011) ending the survey. The SLID now contains information across four different panels from 1993 to 2010. Each survey contains detailed information on health status, disability status, labour market entry, labour market exit and labour market trajectories.

Objectives:

- To apply methods to measure changes in working conditions and examine their effects on different health outcomes.
- To examine if these relationships are consistent across selected groups (e.g. gender, family structure or occupation).
- To examine trends over time in the incidence and duration of work-related injury and illness.

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. 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.

Status: One paper was published and one paper was submitted for publication in 2013: one examined the relationship between shift work and body mass index among Canadian nurses; and another examined work injury absence and compensation among partnered and lone parents.

Researchers: Cameron Mustard (Institute Coordinator), Monique Gignac, Sara Morassaei, Brendan Smith, Peter Smith, Imelda Wong

Collaborations and Partnerships: This project has limited stakeholder involvement given use of secondary data.

Potential Audiences and Significance: Previous work with these secondary data sources have been valued by policy-makers, workers' compensation authorities and government departments involved in setting policies related to the provision of health benefits for labour market participants and policies aimed at worker protection through employment regulations

Publications:

Smith PM, Fritschi L, Reid A, Mustard CA. The relationship between shift work and body mass index among Canadian nurses. *Applied Nursing Research* 2013; 26(1):24-31.

Wong IS, Smith PM, Mustard CA, Gignac MA. Work-injury absence and compensation among partnered and lone mothers and fathers. Submitted: *Social Science and Medicine*.

Occupation Health and Safety Hazards in Ontario Economic Sectors (1175)

Project Status: Ongoing

Introduction: The Expert Advisory Panel on Occupational Health and Safety reported to the Minister of Labour in December 2010. Legislation was passed in June 2011 implementing a range of recommendations from the panel, including the establishment of a prevention office within the Ministry of Labour with responsibility to develop and execute an integrated occupational health and safety strategy for the province. The recommendations of the Expert Advisory Panel also included a charge to improve the indicators of occupational health and safety performance at the workplace level and at the system level (Recommendation 6). The goal of this project is to support the implementation of the Expert Advisory Panel recommendations concerning enhanced data for OHS performance measurement. Phase 1 of the project has been completed resulting in the development of a framework of indicators of OHS performance based on characteristics of key economic sectors in Ontario including measures of numbers of workers, geographic distribution, occupational mix and hazard exposures. The model also includes measures of OHS injury burden, based on the incidence of workers' compensation lost-time and no lost-time claims.

Objectives:

- To support the implementation of Advisory Panel recommendations concerning: health and safety research, enhanced performance measurement data, design of common database for planning and evaluation, to strengthen knowledge management capacity in Ontario prevention system.
- To forecast demand for occupational health and safety services and guide the allocation of prevention system resources.
- To supplement existing model by adding a risk ranking for each of 70 industrial sectors and 40 occupational groups and by adding measures of the distribution of OHS prevention resources.

Methods: In supporting the implementation of the recommendations of the Expert Advisory Panel, this project is focused in two areas. In the development of a performance measurement framework, the workplan includes consultation with experts and reference to measurement frameworks in other jurisdictions. In the specification of data requirements for program planning and evaluation purposes, the workplan includes consultation with experts and the assessment of the quality and timeliness of potential data sources.

Status: To date, the project has completed the following elements: 1) a ten year time series estimating the labour force insured for WSIB coverage and the incidence of compensation claims for 56 economic sectors and five geographic regions, 2) implementing a method for estimating the incidence of work-related injury and illness over a ten year period for five economic regions, based on records of emergency department visits, 3) projections of the insured labour force and the incidence of compensation claims for the period 2012-2020, 4) applying a job exposure matrix to estimate the prevalence of exposure to 13 occupational hazards in each of 56 economic sectors.

Researchers: Cameron Mustard (Principal Investigator), Ben Amick, Amber Bielecky, Jacob Etches, Sheilah Hogg-Johnson, Lynda Robson, Ron Saunders, Peter Smith, J O'Grady (Prism Economics and Analysis), E Stokes (Stokes Economics Consulting)

Collaborations and Partnerships: A project team within the MOL has participated in defining the objectives and timelines of this project. Contributions have also been made by the Ontario Workplace Safety and Insurance Board, the four Health and Safety Associations, OHCOW and the WHSC.

Potential Audiences and Significance: The recommendations of the Expert Advisory Panel on Occupational Health and Safety place prominent emphasis on enhanced data for the measurement of the Ontario prevention system and the development of a common database for planning and operational purposes. This project will implement a preliminary framework for OHS performance measurement.

Publication:

Mustard CA, Chambers A, Etches J, Smith P. Declining incidence of non-traumatic work-related musculoskeletal disorders in Ontario 2004-2011. Submitted: Canadian Medical Association Journal

Presentations:

Mustard CA, Etches J. Forecasting Model for Occupational Health and Safety Risk in Ontario. 5 March 2013; Toronto, Canada: IWH Plenary Series.

Chambers A, Mustard CA, Etches J. Trends in occupational injury in the province of Ontario: Opportunities for enhanced surveillance. April 2013; Toronto, Canada: Disability Managers Network.

Mustard CA, Etches J. Forecasting Model for Occupational Health and Safety Risk in Ontario. November 2013; Toronto, Canada: Presentation to the Prevention Office, Ontario Ministry of Labour.

Funding:

Mustard C, O'Grady J, Stokes E, Leading Indicators for Occupational Health & Safety: A Forecasting Model for Ontario. Ministry of Labour Supplemental Funding: \$26,807 (2013-2014)

Methods for Surveillance of Work Injury by Time of Day in Ontario (1185)

Project Status: Ongoing

Introduction: Shift work – employment with anything other than a regular daytime work schedule – is a large part of work in the Canadian economy. About 25% of full-time workers aged 19-64 in Canada worked shifts in 2005. Research evidence has identified a number of potential health risks associated with shift work. This project will address this gap in occupational health surveillance capacity by developing methods to estimate the association between the rate of work-related injury and time of injury for labour force participants in Ontario for the period 2004-2008. This project will evaluate emergency department encounter records as a source of information for the surveillance of work-related injury and illness in Ontario. Information on the hour of work injury, measured across the 24 hour clock, will be obtained from two sources of administrative records in Ontario for the period 2004-2008: workers' compensation lost-time claims and records of non-scheduled emergency department visits where the main problem is attributed to a work-related exposure. Denominator information required to compute risk of work injury will be estimated from labour force and population surveys conducted by Statistics Canada.

Objectives:

- To compare the incidence of work-related injury and illness presenting to Ontario emergency departments to the incidence of worker's compensation claims filed with the Ontario Workplace Safety and Insurance Board over the period 2004-2011.
- To use both data sources to estimate the incidence of work-related injury in relation to time of day of injury occurrence.

Methods: Information on the hour of work injury, measured across the 24 hour clock, will be obtained from workers' compensation lost-time claims and records of non-scheduled emergency department visits where the main problem is attributed to a work-related for the period 2004-2011. Denominator information required to compute risk of work injury per 200,000 hours for eight three-hour periods over the 24 hour clock, will be estimated from labour force and population surveys conducted by Statistics Canada.

Status: Records of work-related injury have been obtained from two administrative data sources in Ontario for the period 2004-2011: workers' compensation lost-time claims and records of non-scheduled emergency department visits where the main problem was attributed to a work-related exposure. Denominator information required to compute the risk of work injury per 2,000,000 work hours, stratified by age and gender has been estimated from labour force surveys conducted by Statistics Canada. The project has published a comparison of the two data sources for the surveillance of work injury, concluding that emergency department records available for the complete population of Ontario residents are a valid source of surveillance information on the incidence of work-related disorders. A second paper has estimated the risk of work injury risk by time of day in the two population-based data sources, reporting that there was an elevated risk of work-related injury or illness in the evening, night and early morning periods in both administrative data sources. Analysis of the incidence of work-attributed illness attributed to excess heat exposure was published in 2013. The project has submitted a comparative analysis of trends in the incidence of work-related musculoskeletal disorders in the two surveillance data sources.

Researchers: Cameron Mustard (Principal Investigator), Amber Bielecky, Andrea Chambers, Melanie Fortune, Chris McLeod

Collaborations and Partnerships: The project team will consult with representatives of the Ontario Ministry of Labour and representatives of labour unions.

Potential Audiences and Significance: The results of this work will identify characteristics of workers, occupations, industries and injury events that are associated with the risk of work injury by time of day. These findings will be of interest to prevention authorities. Prevention authorities will also be interested in a detailed assessment of the validity of emergency department records as a source of surveillance information on the health of workers in Ontario.

Publications:

Mustard CA, Chambers A, McLeod C, Bielecky A, Smith PM. Work injury risk by time of day in two population-based data sources. *Occupational and Environmental Medicine* 2013; 70(1): 49-56.

Fortune M, Mustard CA, Etches J, Chambers A. Work-attributed illness and injury arising from excess heat exposure in Ontario, 2004-2010. *Canadian Journal of Public Health* 2013; 104(5): e420-e426.

Fortune M, Mustard CA, Brown P. The use of Bayesian inference to inform the surveillance of temperature-related occupational morbidity in Ontario, Canada, 2004-2010. Submitted: *Environmental Research*.

Presentation:

Chambers A, Mustard CA, Etches J, Bielecky A. Trends in occupational injury in the province of Ontario: Opportunities for enhanced surveillance. 5-7 November 2013; Montreal, Canada: Canadian Injury Prevention and Safety Promotion Conference.

Funding:

Mustard CA, Smith PM, Saunders R, McLeod C. Improved methods for work surveillance in Ontario. WSIB RAC: \$170,140 (2012-2014)

Mustard CA, Chambers A. Improving information on worker health protection in Ontario. Submitted to the MOL Research Opportunities Program: Requesting \$186,700 for 2 years.

Mustard CA, Fortune M. Injury burden attributed to adverse weather conditions. Submitted to MOL Research Opportunities Program: Requesting \$92,500 for 1 year.

Evidence Guides and Tools

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 “Smart Planner” and the Participatory Ergonomics guide. While the initial “Smart Planner” project was completed, a new project received funding in order to develop a training workshop for workplace parties. 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.

Development and Evaluation of Musculoskeletal Disorder Pictograms for the Ontario Prevention System (1110)

Project Status: Completed

Introduction: This project will address the needs of the English as a Second Language (ESL) population in Ontario's service sector. The initial focus of the project will be MSDs, which account for 30% of long-term claims, 53% of lost time days and 49% of benefit costs in Ontario's service sector. The pictogram approach has been proven to be a successful way to share important messages across various barriers, including cultural, language, age and education. Ontario Service Safety Alliance (OSSA) members need support in effectively communicating ergonomic hazards in their workplaces. This project will continue to support OSSA's alignment with other system partners and initiatives, specifically extending the reach of the MSD Guidelines and Tool Kit.

Objectives:

- To provide tools that would be suitable for vulnerable workers (youth, aging, immigrant, ESL).
- To provide health and safety in a manner that is simplified and easily understood.
- To develop pictograms for the hotel/motel sector and validate the existing tools.
- To transfer knowledge into the health and safety system.
- To propose a RCT in hotel/motel sector to test the effectiveness of pictograms in training and housekeeping.

Methods: In each phase of the project, literature scans will be conducted to identify best practices in, for example, tailoring training to or developing measurement tools for low literacy and English as second language workers. Our goal in the scan is to inform the work and the stakeholder dialog. Intervention development will use focus groups for pictogram and training development. The development of the measurement tools, including the self-efficacy measure, will be supported by one-on-one interviews and, if possible, focus groups. Finally, the observational tool and training will be developed internally and pilot tested to examine inter-rater reliability.

Status: In 2013 the team initiated a preliminary observation period to determine if the tool would work, after the observation period was completed they revised the tool and then conducted further observations to measure inter rater agreement. Once agreement had been reached they established a process to train the observers and created the materials that would be used during the observations.

Researchers: Ben Amick (Co-Principal Investigators), Kim Grant (Co-Principal Investigators) (Workplace Safety & Prevention Services), Trevor King, Lynda Robson, Dwayne Van Eerd

Collaborations and Partnerships: Partners in this project include the Workplace Safety & Prevention Services, the Workplace Safety & Insurance Board and the Ministry of Labour.

Potential Audiences and Significance: The results of this project will be relevant the Workplace Safety & Prevention Services, the WSIB, the MOL, the Occupational Health and Safety Council of Ontario, and other prevention partners.

Publication:

Vu U. Pictograms project: the science of using art to improve safety. Contact 2013; 34(3): 22-23.

Funding:

Amick BC, Breslin FC. Training and evaluation of pictograms. Ontario Service Safety Alliance: \$10,000 (2009-2010)

Amick BC, Grant K, Breslin FC, Van Eerd D, Steenstra I, Keown K, Robson LS, Robertson M. Developing an intervention to reduce occupational health and safety risk among vulnerable workers: Pictograms and training for low-literacy hotel/motel workers. WSIB RAC: \$29,760 (2010-2011)

Economic Evaluation of Health and Safety Programs: A Training Workshop for Workplace Parties (1220)

Project Status: Ongoing

Introduction: Organizations regularly face challenging resource allocation decisions in an effort to remain competitive and profitable. With sometimes competing demands on scarce funds, managers need to allocate resources wisely across all parts of the organization. Consequently, complete information on the costs and consequences of health and safety (H&S) initiatives can be critical to the decision making process. Yet far too often organizations do not have the skill set to evaluate the cost and consequences of initiatives. In this project we are developing and delivering a half-day training workshop for workplace parties—managers, labour representatives, and H&S practitioners —on the economic evaluation of H&S initiatives. Four sessions will be delivered free of charge. The workshop will not be sector or organization size specific, though there will be a focus on recruiting participants from small- and medium-sized businesses. Through our previous work we have found that the greatest need for skills development is within this group.

Objectives:

- To increase awareness of the need to consider the cost and consequences of H&S initiatives systematically, comprehensively, and on an ongoing basis.
- To advance knowledge about sound economic evaluation methods for H&S initiatives.
- To increase the comfort level and ability to apply economic evaluation methods in workplaces.
- To stimulate dialogue and discussion, in workshop breakout session, about overcoming barriers to undertaking in-house H&S economic evaluations.

Methods: To develop the workshop content, in-depth interviews are being undertaken with workplace parties to get insights into the H&S decisions they confront, the challenges they face when making decisions, the analyses they currently do, and the information resources they currently access to assist with decisions. The interviews will facilitate customizing the workshop and will be the basis for a manuscript. To create and execute the workshop, the ADDIE model of instructional design is being used; a five-phase approach that consists of Analysis, Design, Development, Implementation, and Evaluation.

Status: In 2013, we completed in-depth interviews with OHS managers and decision makers in manufacturing and service sectors. Using findings from the interviews, we developed the format and content of the workshop. We held a half-day facilitated discussion with HSA consultants and two full-day workshops with OHS managers and decision makers. A system partners' workshop was planned for early 2014. A fourth workshop will be given in Manitoba in the spring of 2014.

Researchers: Emile Tompa (Principal Investigator), Emma Irvin, Sara MacDonald, Lynda Robson, K Grant (Workplace Safety & Prevention Services), K Kapoor (Workplace Safety & Prevention Services).

Collaborations and Partnerships: Workplace parties will be involved in interviews and will participate in four workshops. HSA representatives from WSPS are involved as co-investigators.

Potential Audiences and Significance: This study is relevant to the Ontario Workplace Safety and Insurance Board, workplace parties in Ontario, and workers' compensation authorities and workplace parties across Canada.

Presentation:

Tompa E. An Introductory Workshop on the Economic Evaluation of Workplace Health and Safety Programs. 19, 26 November 2013; Mississauga, Canada: Workshop for Workplace Parties.

Funding:

Tompa E, Grant K, Kapoor K, Robson L, Keown K, Irvin E. Economic evaluation of H&S programs: A training workshop for workplace parties. WSIB: \$58,880 (2010-2011)

Prevention and Management of Work Disability

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 has led to the development of tools for practical application in workplace parties and the compensation system.

In 2013, 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.

2013 Quick Statistics

Completed projects (4)

Ongoing projects (15)

Papers published or in press (30)

Peer review papers submitted (5)

Presentations of results (13)

External grants held (28)

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Clinical Treatment

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 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. In addition, much of the current work of our researchers in EBP is related to the Institute's role as an international Cochrane Collaboration Review site. In 2013, a group of researchers continued the review of long term effects of treatment for chronic non cancer pain on those in the workforce.

Cochrane Collaboration Back Review Group: Systematic Reviews of the Scientific Literature on Spinal Disorders (0440)

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 hosts the Cochrane Back Review Group (CBRG), one of 53 review groups in the Cochrane Collaboration. The editorial and central coordinating activities associated with the CBRG are described here. The activities associated with Institute researchers who are conducting Cochrane reviews are described in Project 0670 (Evidence Based Practice). The work of the CBRG remains closely aligned with the new systematic review program initiated at IWH in 2005, which in turn has close relations with the Cochrane Occupational Health Review group. Over the course of the year, we plan to publish five protocols, five reviews, and five updated reviews. We will apprise stakeholders of our activities via our website, news bulletins, and social media (Twitter and Facebook).

Objectives:

- To prepare and disseminate systematic reviews of scientific literature on spinal disorders.
- To maintain a specialized database of trials on spinal disorders and related disorders for literature searches, and to help identify gaps in the literature and suggest areas for further studies.
- To communicate regularly with our CBRG stakeholders.

Methods: Multiple methods related to the conduct of Systematic Reviews are utilized.

Status: In 2013, we published 6 protocols, 4 new reviews, and 4 review updates, and we screened over 14 000 titles and abstracts for inclusion in our specialized register. We sent out two newsletters to our members and highlighted our publications on Twitter, Facebook and our website. We now have 997 followers on Twitter and 453 Facebook “likes”.

Researchers: Teresa Marin (Institute Coordinator), Claire Bombardier, Rachel Couban, Andrea Furlan, Emma Irvin, Allison Kelly, J Hayden (Dalhousie University), M van Tulder (VU University)

Collaborations and Partnerships: Clinical stakeholders who are involved in this project participate in Cochrane activities at their own level of interest and expertise. This varies by individual, 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.

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.

Publications:

Ammendolia C, Stuber KJ, Rok E, Rampersaud R, Kennedy CA, Pennick V, Steenstra IA, de Bruin LK, Furlan AD. Non-operative treatment for lumbar spinal stenosis with neurogenic claudication. Cochrane Database of Systematic Reviews 2013; 8: CD010712.

Chaparro LE, Furlan AD, Deshpande A, Mailis-Gagnon A, Atlas S, Turk DC. Opioids compared to placebo or other treatments for chronic low-back pain. Cochrane Database of Systematic Reviews 2013; 8: CD004959.

Marin TJ, Furlan AD, Bombardier C, van Tulder M. Fifteen years of the Cochrane back review group. Spine 2013; 38(24): 2057-2063.

Wegner I, Widyahening IS, van Tulder MW, Blomberg SEI, de Vet HCW, Brønfort G, Bouter LM, van der Heijden GJ. Traction for low-back pain with or without sciatica. Cochrane Database of Systematic Reviews 2013; 8: CD003010.

Williams CM, Henschke N, Maher CG, van Tulder MW, Koes BW, Macaskill P, Irwig L. Red flags to screen for vertebral fracture in patients presenting with low-back pain. Cochrane Database of Systematic Reviews 2013; 1: CD008643.

Funding:

Grimshaw J, Beyene J, Bombardier C, Feagan BG, Klassen TP, Lavis JN, Moayyedi P, Moher D, Tugwell P, Wright JM. Knowledge synthesis and translation by Cochrane Canada. CIHR: \$9,600,000 (2010-2015)

Evidence-Based Practice Systematic Reviews (0670)

Project Status: Ongoing

Introduction: Many researchers at the Institute are authors (or co-authors) of systematic reviews of health care interventions, including Cochrane, non-Cochrane reviews and Clinical Practice Guidelines. These reviews offer opportunities for partnerships with other systematic review teams and with local, national and international communities and stakeholders. While conducting these reviews, Institute researchers are exposed to various challenges on the methodology of conducting reviews, and the expertise of the Institute in solving these challenges is developed and strengthened.

Objectives:

- To conduct and update systematic reviews of health care interventions for musculoskeletal pain.

Methods: Systematic methodology includes literature search, paper screening for inclusion/exclusion criteria, data extraction of included studies, quality appraisal of included studies, and findings synthesis.

Status: The protocol for the opioid review for low back pain was submitted and accepted, and the review is almost completed. We initiated the development of a methodology for adverse events and complications within Cochrane reviews. In addition we initiated the development of a new kind of analysis known as “uncertainty analysis” with the Cochrane Statistical Methods Group in Ottawa.

Researchers: Andrea Furlan (Principal Investigator), Carlo Ammendolia, Claire Bombardier, Emma Irvin, Teresa Marin, Dwayne Van Eerd, L Chaparro (University of Antioquia), K Cheng (University of Maryland), A Deshpande (University Health Network), L Lao (University of Maryland), E Manheimer (University of Maryland), R Reardon (College of Physicians and Surgeons), M Van Tulder (VU University)

Collaborations and Partnerships: Cochrane and non-Cochrane systematic reviews form the evidence basis of clinical practice guidelines worldwide and of evidence-based clinical tools for practitioners.

Collaboration and Partnerships: Cochrane and non-Cochrane systematic reviews form the evidence basis of clinical practice guidelines worldwide and of evidence-based clinical tools for practitioners.

Potential Audiences and Significance: Up-to-date systematic reviews provide the most current information on the effectiveness of treatment modalities and therapies, thereby assisting evidence-based treatment and payment decisions by patients, health care professionals, policy makers and payers.

Publication:

Furlan A, Chapparo LE, Irvin E, Mailis-Gagnon A. Undertreated pain and opioid misuse: Can we kill two birds with one guideline? In press: Canadian Medical Association Journal

Funding:

Furlan AD, Flannery J, Reardon R. Opioid Guidelines Dissemination amongst Ontario Physiatrists. AFP Innovation Fund: \$45,604 (2009-2011)

A Systematic Review of Long Term Use of Opioids for Chronic Non-Cancer Pain (3125)

Project Status: Completed

Introduction: Opioids are very potent analgesics, and chronic non-cancer pain, which includes back pain, osteoarthritis, neuropathic pain, is very debilitating. Therefore, the use of opioids is intended to help this population to improve their pain, function, quality of life, and increase participation in society. There is now a Canadian Clinical Practice Guideline for how to use opioids safely and effectively for CNCP, released in May 2010. The guideline recommends monitoring for function and risks during long-term opioid therapy. The goal of long-term opioid therapy is to not only improve pain, but to help patients maintain function and role participation, while minimizing the risks of therapy, including falls, fractures, overdose, and aberrant drug behaviours, such as abuse addiction, and diversion. However, there remains significant uncertainty about whether long-term opioid therapy is beneficial or harmful for CNCP.

Objectives:

- To conduct a systematic review (with or without meta-analyses) of the published scientific literature on the impact of long-term opioid therapy for chronic non-cancer pain (CNCP).
- To perform subgroup and sensitivity analyses to guide current practice and future research.

Methods: Systematic methodology includes literature search, paper screening for inclusion/exclusion criteria, data extraction of included studies, quality appraisal of included studies, and findings synthesis.

Status: This review has completed all stages from relevancy through to evidence synthesis and meta analysis

Researchers: Andrea Furlan (Principal Investigator), Nancy Carnide, Melanie Fortune, Emma Irvin, Claire Munhall, Ron Saunders, Dwayne Van Eerd

Collaborations and Partnerships: Partners in this project include Norman Buckley (McMaster University), Peter MacDougall (Dalhousie University), Peter Selby (Centre for Addiction and Mental Health), Clarence Wepler (College of Physicians and Surgeons of Alberta), Loren Regier (RxFiles), Judith Hunter (Universities of Toronto), Diana Gromala (Simon Fraser University), Peter Tugwell (University of Ottawa), Roger Chou (Oregon Health and Science University), Andrew Moore (Oxford University)

Potential Audiences and Significance: The results of this project will be relevant to clinicians and provincial worker's compensation boards.

Presentation:

Furlan A, Irvin E, Carnide N, Munhall C, Loke Y, Marin T. Workshop Sept 22: A discussion of the challenges in conducting a systematic review of adverse effects including randomized trials and non-randomized studies. September 19-23, 2013; Quebec City, Canada: 21st Cochrane Colloquium- Better Knowledge for Better Health.

Funding:

Furlan A, Irvin E, Brenneman Gibson J, Carnide N, Van Eerd D. A systematic review of long-term use of opioids for chronic non-cancer pain. CIHR: \$77,986.00 (2011-2012)

Return to Work Practices

The WSIB has identified improved return to work 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.

Training Initiatives in Work Disability Prevention (0144)

Project Status: Ongoing

Introduction: IWH is recognized for its expertise in evidence-based practice and work disability prevention. 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. IWH supports the CIHR Work Disability Prevention (WDP) Program, which is based at the University of Toronto, by contributing Scientist's time and expertise. We also encourage our students to participate in the program. The WDP program has attracted international attention and recognition, and many non-Canadian students apply.

Objectives:

- To influence the next generation of health-care professionals and research trainees by participating in the development and execution of the CIHR Work Disability Prevention training initiative.

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

Status: In 2013, we planned an e-course, a summer session, and conducted optional courses. The two-week summer session was held in June and the e-course was offered in the spring. We also held quarterly Program Executive Committee meetings and an annual Program Advisory Committee meeting. Ellen MacEachen is on each of these committees. The Executive Committee reviewed student practicum proposals to the WDP Program, course plans, student admissions, program budget and other items. The "Handbook of Work Disability: Prevention and Management" was published. The 2014 WDPI conference is under way, in collaboration with the IWH, the University of Ontario Institute of Technology, and the Canadian Memorial Chiropractic College.

Researchers: Ellen MacEachen (Institute Coordinator), Curtis Breslin, Sheilah Hogg-Johnson, Emile Tompa

Collaboration and Partnerships: A Program Advisory Committee consisting of policy-makers, employers, union representatives, students, and injured workers provides advice to the Program Executive Committee. Stakeholders are also involved in educational activities during the summer session.

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

Publications:

Dunstan D, MacEachen E. A theoretical model of co-worker responses to work reintegration processes, *Journal of Occupational Rehabilitation* 2013; Epub ahead of print: DOI 10.1007/s10926-013-9461-x

Dunstan D, MacEachen E. Bearing the brunt: Co-workers' experiences of work reintegration processes. *Journal of Occupational Rehabilitation* 2013; 23(1): 44-54.

Hogg-Johnson S, MacEachen E. Methodological issues in work disability prevention research. In Loisel P, Anema H, Costa-Black K, Feuerstein M, MacEachen E, Pransky G. (Eds.), *Handbook of Work Disability: Prevention and Management*. Springer Press, 2013.

Loisel P, Anema H (Editors), and Feuerstein M, Pransky G, MacEachen E, Costa-Black K (Co-Editors). *Handbook of Work Disability: Prevention and Management*. Springer Press, 2013.

MacEachen E. Understanding work disability systems and intervening upstream. In Loisel P, Anema H, Costa-Black K, Feuerstein M, MacEachen E, Pransky G. (Eds.), *Handbook of Work Disability: Prevention and Management*. Springer Press, 2013.

Seing I, MacEachen E, Stahl C, Ekberg C. Early-return-to-work in the context of an intensification of working life and changing employment relationships. Submitted: Journal of Occupational Rehabilitation.

Stahl C, MacEachen E, Lippel K. Exploring ethical perspectives in the field of work disability prevention and return to work. *Journal of Business Ethics* 2013; E-pub ahead of print: DOI 10.1007/s10551-013-1661-y

Steenstra I, Busse J, Hogg-Johnson S. Predicting return to work for workers with low-back pain. In Loisel P, Anema H, Costa-Black K, Feuerstein M, MacEachen E, Pransky G. (Eds.), *Handbook of Work Disability: Prevention and Management*. Springer Press, 2013.

Tjulin Å, MacEachen E. The importance of workplace social relations in the return to work process: a missing piece in the return-to-work puzzle? In Schultz I, Gatchel R. (Eds.), *Handbook of Return-to-Work: From Research to Practice*. In press: Springer Publishing.

Presentation:

MacEachen E. The co-worker's role in return to work. 28-29 October 2013; Toronto, Canada: Disability Management and Benefits 2013: Driving Productivity with Effective Workplace Practices Conference.

Funding:

Loisel P. and (in alphabetical order) Anema JR, Baril R, Breslin C, Bültmann U, Cassidy JD, Cooper JE, Corbiere M, Côté P, Coutu MF, Dewa C, Dionne C, Durand MJ, Feuerstein M, Franche RL, Gagnon D, Guzmán J, Hogg-Johnson S, Koehoorn M, Krause N, Lambert C, Lippel K, MacEachen E, Mairiaux P, Pransky G, Ranville P, Shaw W, Tompa E, Vézina N, Scardamalia M. CIHR Strategic Training Program in Work Disability Prevention. CIHR: \$1,950,000 (2009-2015)

Loisel P, MacEachen E, Tompa E, Côté P, Kube D. Mobilizing Work Ability and Health/Mobiliser les connaissances pour travailler en santé. Networks of Centres of Excellence Knowledge Mobilization: \$15,000 received to develop full grant (2013)

Dunstan D, MacEachen E, Kosny A. Testing a socially-enhanced workplace rehabilitation intervention. University of New England University Research Seed Grants: AUD \$15,000 (CAD \$15,800) (2013)

Dunstan D, MacEachen E. Manager's perspectives on the role of co-workers in workplace reintegration processes. University of New England Staff Seed Grant: AUD \$8,398 (CAD \$8,815) (2012-2013)

Recurrent or Persistent Work Disability Episodes (0341)

Project Status: Completed

Introduction: Following an occupational injury and work absence, recurrence of work absence is a critical outcome to consider when assessing sustainability of return-to-work (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 six months post-injury, and they are more than twice as likely as workers without recurrences to be still be off work. 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:

- To identify modifiable workplace, insurer, healthcare provider (HCP), and worker risk factors for recurrent and persistent work absence over 24 months post-injury.
- To 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: 1) sustainable first RTW: No recurrence(s) of work absence with sustainable first RTW; 2) recurrence(s) with sustained RTW; 3) recurrence(s) without sustained RTW; and 4) persistent work absence.

Methods: We conducted a prospective cohort study of 632 injured workers, who filed WSIB lost-time claim for an MSK-related work injury of the back or upper extremity. Data was collected via telephone interviews at 1 month, 6 months, 12 months, and 24 months post-injury. Linkage of the interview with WSIB data allowed data extraction on compensation duration and history, leading to a comprehensive picture of RTW trajectory.

Status: We completed several manuscripts summarizing findings from this project which were submitted and accepted for publication.

Researchers: Sheilah Hogg-Johnson (Institute Coordinator), Ben Amick, Curtis Breslin, Nancy Carnide, Hyunmi Lee, Cameron Mustard, Colette Severin, Ivan Steenstra, P Côté (Ontario University Institute of Technology), R-L Franche (WorkSafeBC), G Hepburn (University of Lethbridge)

Collaborations and Partnerships: Partners in this project include the WSIB, RTW specialists, and external researchers.

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, study findings can be incorporated into WSIB's external education initiatives.

Publications:

Amick BC, Steenstra IA, Hogg-Johnson S, Katz J, Lee H, Brouwer S, et al. How do organizational policies and practices affect return to work and work role functioning following a musculoskeletal injury. Submitted: American Journal of Public Health.

Boot C, Hogg-Johnson S, Bültmann U, Amick BC, van der Beek AJ. Differences in predictors for return to work following musculoskeletal injury between workers with and without co-morbidities. Submitted: International Archives of Occupational and Environmental Health.

Brouwer S, Amick B, Lee H, Franche RL, Hogg-Johnson S. The predictive value of the Return-to-Work Self-Efficacy Scale for return-to-work outcomes in claimants with musculoskeletal disorders. Submitted: Spine.

Bültmann U, Steenstra IA, Lee H, Hogg-Johnson S, Carnide N, Franche RL, Amick BC. Measurement properties of the work limitations questionnaire among injured workers with musculoskeletal disorders – Do depressive symptoms matter? Submitted: Pain.

Funding:

Franché RL, Mustard CA, Hepburn CG, Breslin FC, Hogg-Johnson S, Frank JW, Côté P. Determinants of return to work: Applying the readiness for change model. WSIB RAC: \$278,320. (2004-2006)

Franché RL, 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: \$246,674. (2006-2008)

Niagara Health System Evaluation (1250/2165)

Project Status: Ongoing

Introduction: This project will measure the impact of a three-year organization change initiative to reduce the burden of work-related injury and illness in Ontario's largest multi-site acute care community hospital system. The Niagara Health System (NHS) is an acute care community hospital system with seven sites in the Niagara region employing more than 4,300 staff. The initiative has been developed by Niagara Health System management and labour unions, with technical support provided by the Occupational Disability Response Team of the Ontario Federation of Labour, the Occupational Health Clinics for Ontario Workers and the Public Services Health & Safety Association. In 2011, NHS senior management and union representatives commenced implementation of a three year organization change plan to reduce the incidence of work-related MSDs, improve workplace practices in the area of return-to-work and disability prevention and strengthen the culture of safety in the organization. Over 2012-2014, the organizational change plan aims to reduce incidence of total claims registered with the WSIB by 25% and to reduce the total days of disability provided wage replacement benefits by WSIB by 25%.

Objectives:

- To compare workers' compensation claim incidence and duration in NHS to a comparable Ontario health care system for a 3 year period prior to and following January 2012.
- To conduct a repeated survey of a sample of approximately 350 NHS staff for 3 years (2012-14).
- To conduct two detailed case studies of the organizational change process

Methods: This study will apply a mixed methods protocol consisting of three components: 1) a quasi-experimental design, with measures obtained from administrative data, 2) a repeated time series design, based a survey sample of approximately 350 NHS staff for each of three years (2012-2014), and 3) two detailed case studies of the organizational change process, using qualitative and quantitative methods.

Status: In 2013, we conducted a qualitative case study of manager and supervisor perspectives on the early stages of implementation of a RTW/accommodation policy in the NHS. We conducted 30 semi-structured interviews with union RTW coordinators and manager/supervisors who had been involved in the planning and management of individual RTW episodes. Overall, interview participants were uniformly positive about disability management practices following the implementation of new RTW/accommodation policy. Participants were confident in their understanding of the responsibilities of respective stakeholders. In this large regional hospital system, managers and union RTW coordinators expressed positive views of progress in the early stage implementation a new RTW/ accommodation policy.

Researchers: Cameron Mustard (Principal Investigator), Ben Amick, Andrea Chambers, Marni Lifshen, Kathryn Skivington, Dwayne Van Eerd

Collaboration and Partnerships: Partners in this project include the Niagara Health System, the Ontario Nurses' Association, the Occupational Disability Response Team of the Ontario Federation of Labour, the Occupational Health Clinics for Ontario Workers, and the Public Services Health & Safety Association.

Potential Audiences and Significance: The results will be relevant to acute care health care institutions and will be expected to provide evidence to quality improvement initiatives focused on the health of health care workers. This project will also address gaps in evidence concerning effectiveness and cost/ benefit ratio of integrated initiatives to reduce burden of work-related disorders in health care workers.

Funding:

Mustard CA, Amick BC, Van Eerd D. Organizational change to protect workers health. Canadian Institutes of Health Research (CIHR): \$306,706.00 (2012-2015).

Mustard CA, Van Eerd D, Amick BC. Niagara Health System Evaluation. MOL Supplemental Funding: \$70,000 (2013-2014)

Comparison of the 1993 Early Claimant Cohort and the 2005 Readiness for Return to Work Cohort (2145)

Project Status: Ongoing

Introduction: The number of days of benefit payment has been steadily increasing since 1998 in Ontario. Work in progress using WSIB administrative data suggests that changes in worker, injury & workplace attributes do not explain these increases. On the other hand, some markers of claims management (e.g., delays in adjudication) are related to the increase in claim duration. In this project, we will examine differences in injury severity, worker health, workplace attributes such as disability management practices and work status as reported by the worker. To accomplish this we take advantage of two worker cohorts - the Early Claimant Cohort (ECC) and the Readiness for Return to Work Cohort (R-RTW) recruited in 1993 and 2005, respectively. The two cohorts bracket the major WSIB policy changes in 1998. The overarching study goal is to explain what is driving recent increases in lost time claim durations.

Objectives:

- To compare 1-year health-related outcomes and work status to determine whether there are differences in the 1-year outcome or differences in change within the 1st year.
- To compare claims outcomes over four (and then six) years between the two cohorts to determine whether there are differences.
- To determine whether the duration and patterns of benefit receipt are different between the two cohorts and whether those differences can in turn be explained by differences in worker, injury or workplace characteristics or claims milestones.

Methods: This study is based on a comparison of two longitudinal inception cohorts with four years follow-up each. Many design features of the cohorts were similar. We will determine a further set of inclusion criteria to select two more similar "comparison cohorts". All participants will have soft-tissue injuries of the back or upper limb. A database will be assembled including the eligible claimants of the comparison cohorts and the measures identified as comparable between two cohorts. Baseline attributes (worker, injury and workplace) will be compared. Health outcomes (pain grade, health-related quality of life) and work outcomes reported by the worker will be compared at 12-month mark. Claims milestones such as delays in registration or adjudication indicative of claims management will be examined and compared across the two cohorts to examine their role in the health and claims outcomes. Predictive models will be constructed to identify factors (worker, injury, workplace, health, claims milestones) related to claim duration and whether they are similar or different between two cohorts/time periods.

Status: We first compared the two groups based on their characteristics shortly after injury including worker demographics (age, gender, education, occupation etc.), physical and mental health status and injury severity (pain, functional limitations), workplace characteristics and offers of work accommodation to determine whether there were differences from the outset. We found that the 2005 group of injured workers tended to be older, more likely female, with more education and more likely married than the 1993 workers. The 2005 group of injured workers also reported higher levels of pain on average at baseline compared to the 1993 injured workers. Offers of work accommodation early after injury were much more prominent in the 2005 group of injured workers than in the 1993 cohort, likely due to WSIA section 40 which obligates employers to contact injured workers and offer them suitable work. The 2005 group of injured workers may have started off with a poorer baseline prognostic profile on average, but we found things were different by one-year post-injury. At the twelve month mark, the 2005 group of injured workers reported less pain and better mental health, on average, than the 1993 group of injured workers. The 2005 group was also much more likely to report having been back at work at some point over the first year than the 1993 group was, although the two groups were very similar with regard to whether they were currently working at the twelve month mark. Despite earlier initial Return-to-work and better one-year health, the RRTW participants experienced more episodes of disability, more days of 100% disability on average after the one-year mark of the claim and were more likely to begin a new episode of disability after the one-year mark of the claim than the ECC participants.

Researchers: Sheilah Hogg-Johnson (Principal Investigator), Ben Amick, Cynthia Chen, Hyunmi Lee, Ivan Steenstra, Emile Tompa, U Bultmann (University of Groningen), R-L Franche (WorkSafeBC)

Collaboration and Partnerships: Partners in this project include various stakeholders and researchers interested in claim durations.

Potential Audiences and Significance: This study will provide information relevant to the WSIB. The study goals are to identify factors that have led to prolonged claim durations in recent years, some of which may be related to changes in practices arising from a policy change - the enactment of the Workplace Safety & Insurance Act in 1998.

Presentation:

Hogg-Johnson S. Comparison of the 1993 Early Claimant Cohort and the 2005 Readiness for Return to Work Cohort. 1 October 2013; Toronto, Canada: IWH Plenary Series.

Funding:

Hogg-Johnson S, Tulusso D, Franche R-L, Bultmann U, Amick BC, Steenstra I, Tompa E. Comparison of the 1993 Early Claimant Cohort and the 2005 Readiness for Return to Work Cohort. WSIB RAC: \$120,805 (2011-2013)

A National and International Collaboration on Comparative, Inter-jurisdictional Research in Occupational Health and Safety and Workers' Compensation (2200)

Project Status: Ongoing

Introduction: The project brings together knowledge users and researchers from Canadian provinces, Australian states and New Zealand; jurisdictions that have similar economies, labour market institutions and approaches to workers' compensation, but that have differences in regulations, policies and practices. Comparative studies across these jurisdictions have the potential to assess and evaluate occupational health and safety and workers' compensation system performance and improve the health and safety of workers in Canada and internationally. Results from comparative studies are more powerful than those from single jurisdiction studies as it is possible to control for additional sources of variation that may be driving the findings and take advantage of natural policy experiments. The project builds on a recently funded grant by the Manitoba Worker's Compensation Board that will examine the determinants of severe work-related injuries and long duration claims in British Columbia and Ontario.

Objectives:

- To facilitate formalization of collaboration, including regulatory agencies participation agreement.
- To conduct an assessment of the data available in each jurisdiction to identify a comparable set of data across the participating jurisdictions.
- To explore logistics of developing and hosting comparable, cross-jurisdictional research dataset.
- To conduct a comparative analysis of severe work-related injuries and long duration claims using data from British Columbia, Manitoba and Ontario.
- To conduct a pilot project across the broader range jurisdictions that would provide proof in concept of the collaboration.
- To prepare project or programmatic research grants to submit to national research funding agencies.

Methods: We will conduct an analysis of long duration and severe injury claims among three provinces, Manitoba, British Columbia, and Ontario. Using three comparable cohorts of injured workers drawn from accepted time loss claims from each province for the period of 2000 to 2011, we will calculate jurisdiction specific rates at the industry and occupation level and stratified by age and gender, and calculate rate ratios to compare claim rates.

Status: In 2013, the team conducted an assessment of the data available in each jurisdiction in order to identify a comparable set of data across the participating jurisdictions. They subsequently, explored the logistics of developing and hosting a comparable, cross-jurisdictional research dataset. Specifically, they struck a research agreement with the Ontario Workplace Safety and Insurance Board for this project as part of the logistics and established a data transfer to British Columbia; furthermore they initiated the Ontario data preparation.

Researchers: Ben Amick (Co-Principal Investigator), Sheilah Hogg-Johnson (Co-Principal Investigator), Amber Bielecky, Jacob Etches, Chris McLeod, Cameron Mustard, A Collie (ISRCC), M Koehoorn (University of British Columbia), A Kraut (Manitoba)

Collaboration and Partnerships: Partners in this project include the Safe Communities Foundation.

Potential Audiences and Significance: Results will be relevant to workers' compensation boards, OHS regulators, employer and labour. Results also have the potential to directly inform policy and practice.

Funding:

McLeod C, Amick BC, Scott-Marshall H. The health and wellbeing consequences of the great recession: A comparative and cross-jurisdictional analysis. CIHR: \$492,887 (2013-2016)

Koehoorn M, McLeod C, Amick B, Hogg-Johnson S. A comparative analysis severe work-related injuries and long duration claims in three Canadian provinces. WCB Manitoba: \$199,246 (2013-2015)

Prognostic Factors for Time Away from Work in Workers with Chronic Low Back Pain: An Update of a Systematic Review (3115)

Project Status: Ongoing

Introduction: If a worker hurts their back, many people want to know how long it will take before they return to work (RTW). The worker wants to know because being off work can seem endless and lead to insecurity and anxiety. The workplace wants to know whether it should make alternate work arrangements. Compensation agencies want to know to guide intervention decisions for early and safe RTW. In this study, we will assess the evidence on factors that predict duration of time away from work in workers in the beginning of a LBP related episode of time away from work. Interpretation of the vast body of studies on prognostic factors for delayed RTW is difficult. The amount of information can be quite overwhelming to the actual users of scientific knowledge. Making inferences about the prognosis of RTW from these studies is difficult and this has led to much confusion. In 2005, we published a systematic review on prognostic factors for duration on sick leave due to acute low back pain. This study will expand this systemic review to the chronic phase of low back pain.

Objectives:

- To assess the evidence on factors that predict duration of time away from work by workers at the chronic stage of a LBP related episode of time away from work.
- To develop an evidence-based handbook to help direct RTW practices in Manitoba.

Methods: The search strategies to identify relevant studies are influenced by those advocated by the Cochrane Collaboration and by Haynes et al. We will use an updated search strategy in PubMed, EMBASE and PsycINFO from inception of each database to the present, extracting those references already reviewed in the 2005 systematic review search. The references and citations of all relevant articles and recently published review articles will be screened for additional publications. Two reviewers will independently select studies meeting the same inclusion and exclusion criteria as the 2005 review. Two reviewers will score the quality of included studies.

Status: In 2013, we finalized the process of full paper screening; critically appraised 94 relevant papers and extracted data from 83.

Researchers: Ivan Steenstra (Principal Investigator), Sheilah Hogg-Johnson, Emma Irvin, Quenby Mahood, Claire Munhall, Dwayne Van Eerd, J Busse (McMaster University), N Oranye (University of Manitoba), S Passmore (University of Manitoba)

Collaboration and Partnerships: Partners in this project include work disability prevention professionals and the Manitoba Worker's Compensation Board.

Potential Audiences and Significance: The results of this systematic review will be relevant to clinicians, researchers, and employers.

Publication:

Steenstra I, Busse J, Hogg-Johnson S. Predicting return to work for workers with low-back pain. In Loisel P, Anema H, Costa-Black K, Feuerstein M, MacEachen E, Pransky G. (Eds.), Handbook of Work Disability: Prevention and Management. Springer Press, 2013.

Funding:

Steenstra I, Irvin E, Mahood Q, Hogg-Johnson S. Prognostic factors for the time away from work in workers away from work due to acute low back pain, an update of a systematic review. WCB Manitoba: \$40,361 (2010-2011)

Steenstra I, Irvin E, Mahood Q, Hogg-Johnson S, Busse J, Van Eerd D, Friesen M, Oranye N. Prognostic factors for time away from work in workers with chronic low back pain. WCB Manitoba: \$119,332 (2012-2014)

Compensation and Benefits

The Canadian OHS and disability policy systems should support workplaces and protect workers and their families. Research can help to ensure these systems are functioning as intended. As such developing a clearer understanding of the impact that health conditions, by themselves and in combination, have on labour market participation, and if these relationships differ for men and women, is a vital area of future research. Additional research looks to describe post-injury earnings and benefits of workers' compensation beneficiaries in Ontario since the changes in the program that came into effect in 1998.

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.

A third area of study follows the Institute's 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. We also received funding for a project which will compare a variety of outcomes in the 1993 early claimant cohort and the 2005 readiness for return to work cohort.

Benefits Adequacy for Worker's Compensation Claimants, 1998-2006 (2150)

Project Status: Ongoing

Introduction: The purpose of this study is to describe post-injury earnings and benefits of workers' compensation beneficiaries in Ontario since the changes in the program that came into effect in 1998. The enactment of Bill 99 in 1998 introduced a number of changes to the workers' compensation system in Ontario, including the following: benefits are based on a rate of 85% of pre-injury post-tax earnings (changed from 90%), benefits are adjusted annually for inflation, at a rate of ½ of the increase in the Consumer Price Index (CPI), minus one percentage point, to a maximum of 4 percent a year, and vocational rehabilitation services that had been delivered by the Workers' Compensation Board were replaced by a Labour Market Re-entry program with third-party delivery of rehabilitation services.

Objectives:

- To provide a comprehensive summary of earning losses and earnings replacement rates for a cohort of workers' compensation beneficiaries who experience a work injury from 1999-2005.

Methods: The study examined earnings losses and earnings replacement rates for long-term and short-term disability claimants who experienced a work injury during the years 1998 -2006. Post-injury earnings recovery and earnings-replacement rates will be calculated by comparing claimants' post-injury earnings and benefits receipt with: 1) pre-injury, after-tax earnings, and 2) earnings of uninjured counterparts that had similar characteristics and earnings to the claimants prior to the injury year. Descriptive analyses will be provided for various categories of claimant (age group, gender, region, nature and rating of physical impairment and occupation)--a more extensive set of categories than previously examined.

Status: In 2013, a data sharing agreement with the WSIB was secured for the data. The sample frame and related variables for the linkage were developed and the sample was sent to the WSIB for linkage with the SIN. The sample frame with SIN numbers was transferred from the WSIB to Statistics Canada for the record linkage to the LAD. We continue to develop the administrative data to complete the linkage and have begun work on the statistical programs for analysing the LAD linkage.

Researchers: Emile Tompa (Principal Investigator), Cameron Mustard, Ron Saunders

Collaboration and Partnerships: In August 2010, Institute staff briefed senior management at the WSIB on the results of studies examining the adequacy of benefits in the pre-1990 Ontario program and in the program that was in place from 1990-1997. At this briefing, the President of the WSIB requested that the Institute proceed to update these studies to describe more recent cohorts of beneficiaries.

Potential Audiences and Significance: A key knowledge transfer and exchange activity for this study will be frequent consultations with WSIB policymakers and worker representatives to ensure that the analyses undertaken and results obtained are framed appropriately and address relevant issues.

Presentations:

Tompa E. Analysis of Workers' Compensation Issues using WCB-LAD Linkages. 15 November 2013; Gatineau, Canada: Presentation to Employment and Social Development Canada.

Tompa E. Measuring the Adequacy of Earnings Replacement Benefits in Workers' Compensation. 13 November 2013; Mississauga, Canada: Canadian Manufacturers and Exporters.

Tompa E. Examining the Adequacy of Workers' Compensation Benefits. 17 September 2013; Toronto, Canada: Presentation to the Canadian Association of Workers' Compensation Advisors and Advocates.

Funding:

Tompa E, Saunders R, Mustard C. Impairment and work disability of workers' compensation claimants in Ontario, a cohort study of new claimants from 1998-2006. CIHR: \$204,580 (2013-2015)

Examining the Impact of Physical Conditions and Depression on the Labour Market Participation of Older Working-aged Canadians: Exploring Differences by Gender and Sex (2155)

Project Status: Ongoing

Introduction: The Canadian population is getting older. Certain aspects of health decline as we get older, such as increases in certain health conditions. From both a society and individual perspective it is important to keep older workers in the labour market. As such, it is important that we understand how health conditions, both physical and mental, impact on the ability of people to continue to work, and if there are differences in these relationships and the ability to stay at work for men and women. It is likely that the number of workers with multiple chronic conditions will increase given the aging workforce in Canada. As such developing a clearer understanding of the impact that health conditions, by themselves and in combination, have on labour market participation, and if these relationships differ for men and women, is a vital area of future research.

Objectives:

- To examine the pattern of chronic conditions among older working-aged Canadian in separate analyses for men and women (40 to 74 years).
- To explore differences in the impact of particular conditions on work status, in particular if the relationship differs for men and women and if it has changed between 1994 and 2007.
- To examine the temporal relationship between the onset of different chronic health conditions and subsequent labour market participation for 40 to 60 year olds at baseline from 1994 to 2008.
- To examine differences in the time lag between the onset of chronic conditions and changes in labour market participation.
- To examine the influence of health conditions on labour market re-entry, among respondents who have left the labour market for at least one survey cycle.

Methods: The study will examine earnings losses and earnings replacement rates for long-term and short-term disability claimants who experienced a work injury during the years 1999-2005. Post-injury earnings recovery and earnings-replacement rates will be calculated by comparing claimants' post-injury earnings and benefits receipt with: 1) their pre-injury, after-tax earnings, and 2) the earnings of a sample of uninjured counterparts that had similar characteristics and earnings to the claimants prior to the injury year. Descriptive analyses will be provided for various categories of claimant (age group, gender, region, nature and rating of physical impairment and occupation)--a more extensive set of categories than previously examined.

Status: In 2013, we completed further cross-sectional analysis examining the relationship between chronic conditions (physical and mental) on restrictions in activities at work. The results of our previous analysis, focused on labour market participation, have been published in peer-review, and the findings of our new analysis will be submitted for peer-review in the first half of 2014. In the first half of 2014, we will also extend our work to examine the longitudinal impacts of chronic conditions on labour market participation in the National Population Health Survey.

Researchers: Peter Smith (Principal Investigator), Dorcas Beaton, Amber Bielecky, Cynthia Chen, Selahadin Ibrahim, Cameron Mustard

Collaborations and Partnerships: This is a secondary data analysis so stakeholder involvement is limited during the analytical part of the project. Results and interpretation of results will be disseminated and discussed with various industry and labour groups with an interest in mental and physical health conditions and labour market participation.

Potential Audiences and Significance: This project will develop a general knowledge base concerning the ability of older workers to find work that fulfills their needs in the Canadian labour market – and highlight particular gender- and sex-based differences in this relationship – providing both direction for

future research questions and preliminary evidence for policy development that recognises the role that health plays in the successful labour market participation among older men and women in Canada.

Publication:

Smith PM, Chen C, Bielecky A, Ibrahim S, Beaton D, Mustard CA. Examining the relationship between chronic conditions, multi-morbidity and labour market participation in Canada: 2000 to 2005. *Ageing and Society* 2013; Epub ahead of print.

Funding:

Smith PM, Beaton D, Ibrahim S, Mustard CA. Examining the impact of physical conditions and depression on the labour market participation of older working-aged Canadians: exploring differences by gender and sex. CIHR: \$120,000 (2011-2013)

Early Opioid Prescriptions for Work-Related Musculoskeletal Disorders of the Low Back (2170)

Project Status: Ongoing

Introduction: Increasing use of prescription opioids among workers with musculoskeletal disorders, such as back pain, has become a significant source of concern for workers' compensation systems across North America. Recent data suggest opioids are being prescribed increasingly earlier after filing a workers' compensation claim for work-related low back pain (WRLBP) and that these early opioid prescriptions are leading to prolonged work disability. However, a number of methodological limitations are present in these studies that cast doubt on the validity of their conclusions.

Objectives:

- To describe pre-claim and post-claim patterns of LBP-related health care and opioid, non-opioid, and adjuvant analgesic prescriptions and their associated factors.
- To describe whether opioid, non-opioid, adjuvant analgesic prescription patterns have changed.
- To assess the validity of billing data on opioid, non-opioid, and adjuvant analgesic prescriptions.
- To describe post-claim opioid prescriptions patterns suggestive of possible opioid misuse or problematic prescribing and describe whether these patterns have changed since 1998.
- To determine whether opioid analgesics prescribed within first eight weeks of filing a new lost-time claim are associated with future work disability compared to NSAIDs and muscle relaxants.
- To determine whether specific opioid prescription characteristics are associated with future work disability among workers who receive at least one opioid prescription in first eight weeks of claim.

Methods: This project seeks to answer these questions using linkable, person-specific, population-based data from two sources: Population Data BC, representing one of the world's largest collections of health data; and PharmaNet, a province-wide network containing prescription data from all BC pharmacies. Data from PharmaNet will be used to provide a comprehensive picture of prescription opioid patterns pre- and post-claim. Population Data BC data provide a unique opportunity to characterize low back pain-related health care utilization pre- and post-claim, as well as supplementary health care and comorbidities.

Status: In 2013, the PI received permission to access the data from all four custodians (PharmaNet, Ministry of Health, Workers Compensation, College of Physicians and Surgeons). As a result, full access to the data required was prepared by Population Data BC, and training was received in the secure research environment; data preparation for all objectives was initiated.

Researchers: Sheilah Hogg-Johnson (Principal Investigator), Nancy Carnide, Andrea Furlan, Hyunmi Lee, P Côté (Ontario University Institute of Technology), M Koehoorn (University of British Columbia)

Collaborations and Partnerships: Partners supporting this project include workers' compensation boards, the National Opioid Use Guideline Group, clinicians, injured workers and their representatives.

Potential Audiences and Significance: The findings will improve our understanding of whether opioids provided early in the course of a claim are associated with work disability. These findings will be fundamental to informing new and existing policies in workers' compensation systems, as well as for physicians. It will also have implications for injured workers seeking safe and effective pain management options.

Funding:

Hogg-Johnson S, Carnide N, Furlan A, Koehoorn M, Côté P. Early opioid prescriptions for work-related MSK disorders of the back: understanding utilization patterns, determinants & impact on work disability. WorkSafe BC: \$64,855 (2011-2013)

Hogg-Johnson S, Côté P, Carnide N, Furlan A, Koehoorn M. Early opioid prescriptions for work-related MSK disorders of the low back: understanding utilization patterns, determinants and impact on work disability. CIHR: \$66,576 (2011-2012)

Work Injury and Poverty: Investigating Prevalence Across Program and Over Time (2180)

Project Status: Ongoing

Introduction: Research on the economic impact of work disability has found that permanently impaired workers have reduced labour-market earnings, suffer significant long-term financial losses, and are at increased risk of poverty. There is also some preliminary research undertaken by injured worker groups that suggests the proportion of impoverished claimants has been rising, although it is difficult to generalize from studies based on samples of convenience. Furthermore, little is known about the specific factors contributing to claimant poverty and the reasons for its possible increase.

Objectives:

- To investigate the prevalence of poverty amongst injured claimants with permanent impairments and how it differs from that of matched, uninjured controls.
- To investigate whether the prevalence of poverty amongst claimants changed over time.
- To investigate whether the program under which claimants receive benefits bears on the prevalence of poverty.
- To examine the magnitude and significance of the effects of individual, programmatic, temporal, and other contextual factors on the probability of poverty.

Methods: This study draws on the linkage of a 20% sample of workers' compensation claimants to a Revenue Canada tax file that was undertaken in 2007. The claimant sample includes workers who sustained a permanent impairment from a work accident and are receiving benefits from four different legislative programs over three different time periods. The tax file is called the Longitudinal Administrative Databank (LAD) and contains a simple random sample of 20% of Canadian tax filers. Analyses draw on two methodological approaches. The first is a claimant-control matching process in which claimants will be matched with uninjured controls, based on age, gender, pre -accident earnings, and family characteristics. Descriptive analysis consists of a difference-in-differences approach in which within and across time period/program differences in poverty will be compared. Regression modeling techniques are used to estimate the significance and magnitude of factors that bear on low income at the individual and family level.

Status: In 2013, we developed poverty measures and completed matching of claimants with controls. We tested the poverty measures with the sample of claimants and controls. Descriptive analysis and regression modeling were completed. We also completed analysis and a manuscript on work injury and mortality. An interim report was submitted to the funder, the WSIB-RAC.

Researchers: Emile Tompa (Principal Investigator), Sheilah Hogg-Johnson, Ron Saunders, Heather Scott-Marshall, P Ballantyne (Trent University)

Collaboration and Partnerships: We plan to meet with the Ontario Workplace Safety and Insurance Board (WSIB) policymakers to discuss the findings from this study at several points over the time frame of this study. We have met with them in the past on the topic of work disability trajectories. The topic of injured worker poverty fits in well with the subject matter of a related study on work disability trajectories, since poverty may be associated with inability to reintegrate into the labour market.

Potential Audiences and Significance: The WSIB is an important user group and audience for the results from this study. We will disseminate our findings first through a WSIB group and to directors at the WSIB. Reports and presentation materials will be developed to convey key findings in a manner that is transparent and useable. We will also prepare materials which convey our key messages in a manner that is accessible to a broad range of stakeholders.

Funding:

Tompa E, Scott-Marshall H, Ballantyne P, Saunders R, Hogg-Johnson S. Work injury and poverty: Investigating prevalence across programs and over time. WSIB RAC: \$88,160 (2012-2014)

Income Security and Labour-Market Engagement: Envisioning the Future of Disability Policy in Canada (2195)

Project Status: Ongoing

Introduction: A significant current context of work disability policy is the changing nature of work, workers, and injuries. By work disability policy, we mean policy related to any federal or provincial Canadian program that shapes income security and labour-market engagement for work-disabled individuals. We also include employers in the disability policy system as they play an important role. In the past, efforts to revamp the Canadian work disability policy system have been piecemeal, uncoordinated, and have failed to address core changes to workplaces and the labour-markets. Our 7-year initiative is a transdisciplinary inquiry into the future of work disability policy and labour-market engagement.

Objectives:

- To provide a forum for within- and cross-provincial and national dialogue on challenges and opportunities for improving the work disability policy system for working age individuals.
- To identify problems and challenges associated with program coordination and complexity.
- To identify relevant and favourable alternative approaches to system design or service provision.
- To build capacity for research and knowledge mobilization on the topic of work disability policy.

Methods: An LOI was submitted to SSHRC in February 2012. From June through November the full grant was developed. Partner meetings were held in August and September with each of the four clusters—British Columbia, Ontario, Quebec and Newfoundland. Meetings focused on developing the partner relationships, research program, governance structure, and knowledge mobilization plan.

Status: In 2013, this initiative received support for seven years from the SSHRC Partnership Grant funding envelope. The initiative is now known as the Centre for Research on Work Disability Policy (CRWDP). The Centre is a transdisciplinary initiative on the future of work disability policy in Canada, and is comprised of over 50 academics and 45 partners from across the country. Through 2013 we developed the administrative and governance structure of the Centre, as well as prepared for a national launch that will be held at the McMaster Health Forum on Tuesday February 4, 2014. At the launch, members and champions spoke about why we need policy change and how things might better work to support Canadians who can, want to and need to work. The British Columbia, Ontario, Quebec and Newfoundland and Labrador clusters participated in the launch via teleconferencing technology. Speakers included the Honourable David C. Onley, the Lieutenant Governor of Ontario, and Mike Bradley, the Mayor of Sarnia and a well know disability rights advocate. The national launch was accompanied by a media release, the launch of the centre's website, the launch of the first newsletter, 'Making it Work', and several disability worker video stories.

Researchers: Emile Tompa (Co-Principal Investigator), Ellen MacEachen (Co-Principal Investigator), Curtis Breslin, Chris McLeod, Ron Saunders, Heather Scott-Marshall, G Baril-Gingras, J Bernier, S Montreuil, Y Provencher (Laval University), S Bornstein, G Cooke, C de Boer, E Finkler, B Neis, S Small (Memorial University), N Boucher (CIRRI), J Calvert, RL Franche (WorkSafeBC), P Côté (Ontario University Institute of Technology), MF Coutu, MJ Durand (University of Sherbrooke), D Dawe, C Dewa (CAMH), M Facey, P Loisel (University of Toronto), R Gewurtz, D Gold, M Grignon, A King, S Premji, I Zeytinoglu (McMaster University), R Hanes, EM Jennissen (Carleton University), N Helfand (Commission for the Review of Social Assistance in ON), J Heymann, E Latimer (McGill University), L Holness, P O'Campo (St Michael's Hospital), T Ison (Osgoode Hall Law School), M Koehoorn, M White (University of British Columbia), M Laberge, A Noël (Université de Montréal), K Lippel (University of Ottawa), P MacAhonic (Canadian Injured Workers Alliance), M Mendelson, S Torjman (Caledon Institute), A Ostry (University of Victoria), M Rioux (York University), L Shaw (University of Western Ontario), J Stapleton (Metcalf Foundation)

Collaboration and Partnerships: Stakeholders, including disability communities and program provider representatives, are involved in all aspects of the initiative, including governance.

Potential Audiences and Significance: This initiative will be of interest to all stakeholders in the Canadian work disability policy system, which includes injured worker and disability communities, as well as employers.

Presentations:

Ellis R. *Unjust by Design*. 10 October 2013; Toronto, Canada: Bancroft Speaker Series.

Stapleton J. *From Disability to Welfare*. 7 May 2013; Toronto, Canada: Bancroft Speaker Series.

Tompa E. *Analysis of Workers' Compensation Issues using WCB-LAD Linkages*. 15 November 2013; Gatineau, Canada: Presentation to Employment and Social Development Canada.

Tompa E, MacEachen E. *Income security and labour-market engagement: Envisioning the future of work disability policy*. 9 December 2013; Toronto, Canada: SafetyNet Webinar Series.

Tompa E, MacEachen E. *Income security and labour-market engagement: Envisioning the future of work disability policy*. 5 December 2013; Toronto, Canada: Canadian Institute for the Relief of Pain and Disability (CIRPD) Webinar Series.

Tompa E, MacEachen E. *Income security and labour-market engagement: Envisioning the future of work disability policy*. 3-5 September 2013; Coventry, England: British Sociological Association: Work, Employment and Society Conference.

Tompa E, MacEachen E. *Income security and labour-market engagement: Envisioning the future of disability policy in Canada*. 23 May 2013; Toronto, Canada: IWH Scientific Advisory Committee Meetings.

Funding:

Tompa E (Co-Principal Investigator), MacEachen E (Co-Principal Investigator), Baril-Gingras G, Bernier J, Bornstein S, Boucher N, Breslin CF, Calvert J, Cooke G, Côté P, Coutu MF, Dawe D, de Boer C, Dewa C, Durand MJ, Facey M, Finkler E, Franche RL, Gewurtz R, Grignon M, Hanes R, Helfand N, Heymann J, Holness L, Ison T, Jennissen EM, King A, Koehoorn M, Laberge M, Latimer E, Lippel K, Loisel P, MacAhoic P, McLeod C, Mendelson M, Montreuil S, Neis B, Noël A, O'Campo P, Ostry A, Premji S, Provencher Y, Rioux M, Saunders R, Scott-Marshall H, Shaw L, Small S, Stapleton J, Torjman S, White M, Zeytinoglu I (Co-investigators and Collaborators). *Income Security and Labour-Market Engagement: Envisioning the Future of Disability Policy in Canada*. SSHRC: \$2,760,782 ((2013-2019)

Tompa E (Co-Principal Investigator), MacEachen E (Co-Principal Investigator), Banting K, Baril-Gingras G, Bornstein S, Boucher N, Calvert J, Cooke G, Côté P, Dawe D, de Boer C, Dewa C, Facey M, Gewurtz R, Gold D, Grignon M, Heymann J, Holness L, Koehoorn M, Laberge M, Latimer E, Loisel P, McLeod C, Montreuil S, Neis B, Noël A, Ostry A, Premji S, Provencher Y, Rioux M, Saunders R, Shaw L, Small S, Zeytinoglu I (Co-investigators and Collaborators). *Income Security and Labour-Market Engagement: Envisioning the Future of Disability Policy in Canada*. SSHRC Partners Grant LOI: \$20,000 received to develop full grant.

Assessment of the Human and Economic Burden of Workplace Cancer (2205)

Project Status: Ongoing

Introduction: There is now an increasing awareness of how occupational exposures can give rise to cancer, despite long latency that has historically prevented attribution of the cancer to work. In particular, there is a growing interest in better understanding the extent of occupational cancers and their economic burden to society. Yet assessing the economic burden of occupational cancer has rarely been performed. This is likely due to the challenges associated with such a task. One of the challenges is methodological. There is little standardization of methods and some uncertainty related to conceptual issues. Data availability is another challenge. It is difficult to identify sources with the range of data needs. The objective of this study is to estimate the economic burden of occupational cancer in Canada. We will use a prevalence cost study approach which encompasses costs in a given year for individuals across the disease trajectory. Morbidity and mortality burden will be estimated separately before aggregation because morbidity costs will only include costs from one year, whereas mortality costs will include costs associated with all years lost due to premature mortality.

Objectives:

- To estimate the direct costs of hospitalization, physician care, treatment costs.
- To estimate the indirect and health-related quality-of-life costs such as lost output in the paid labour force, activity loss in non-paid roles, and the intrinsic value of health.

Methods: To estimate the economic burden we will use a prevalence cost study approach which encompasses costs in a given year for individuals across the disease trajectory. Morbidity and mortality burden will be estimated separately before aggregation because morbidity costs will only include costs from one year, whereas mortality costs will include costs associated with all years lost due to premature mortality. To model health care costs (referred to as direct costs) we will use the phase-of-care approach. The phase-of care specific cost estimates will be applied to phase-specific person-years of survival to derive a prevalence cost estimate. To model paid-labour force productivity and output costs (referred to as indirect costs) we will consider multiple approaches. First, we will use the human capital approach. Then we will use the friction cost approach. The human capital approach and the friction cost approach may be viewed as an upper and lower bound estimate of output losses at the societal level. We plan to use both approaches in order to estimate the high and low boundaries of the true burden. Thirdly, we will estimate the intrinsic costs of occupational cancer. To this end, we will bring together into one metric known as quality-adjusted life-years (QALYs) an estimation of the intrinsic value of health and the value it brings through activities outside of paid work. Direct, indirect and intrinsic values of health costs will be identified and presented in disaggregated and aggregated form. Sensitivity analysis will be undertaken to account for different assumptions associated with the conceptual underpinning of the measures, and to account for the cost estimates generated from different data sources.

Status: In 2013, we held a retreat meeting with the whole team over two days. We completed our analysis plan and set target dates.

Researchers: Emile Tompa (Principal Investigator), Chris McLeod, Anna Sarnocinska-Hart, D Hyatt (University of Toronto)

Collaboration and Partnerships: We will effectively communicate the findings by: 1) integrating the Canadian Cancer Society (CCS) as a research partner; 2) engaging in multiple communication strategies with CCS's collaboration; and 3) having a knowledge broker from CCS who will help the team target, strengthen and build relationships with stakeholders, especially policymakers, who can use the findings to help inform policy change.

Potential Audiences and Significance: Burden of disease studies provide insight into the magnitudes of the health loss and the cost of a disease to society. Information on the economic burden is extremely useful for government and industry decision making on the benefits of investing in prevention-related

efforts, such as exposure reduction and increased enforcement of government regulations. In cases where best practices for prevention are not clear, burden estimates can help priorities research and development. Key audiences are policy makers, workers, employers and physicians.

Funding:

Demers P (Team Grant Lead), Davies H, Kramer D, Tompa E (Principal Investigators). Assessment of the Human and Economic Burden of Workplace Cancer, Multisector team grants in prevention research. Canadian Cancer Society Research Institute (CCSRI): \$1,000,0000 (2012-2016). Tompa E (Project Lead), Hyatt D, McLeod C. Estimation of Economic Burden. CCSRI Multisector Team Grant: \$256,635 over 3 years (2013-2016)

Measuring Health and Function

Over the past 17 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 2013, researchers undertook a longitudinal cohort of injured workers who are attending the WSIB specialty clinic in Toronto and in London with the goal of understanding the usual course of persons attending the specialty clinic and to identify modifiable and non-modifiable factors that could predict the likely course of injured workers.

Work-related Outcomes of Injured Workers Attending WSIB Specialty Clinics for Upper Limb Disorders (0113)

Project Status: Completed

Introduction: It is known that the majority of disability 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 Workplace Safety & Insurance Board (WSIB) specialty clinics that usually see workers only after approximately six months post-injury. In this study we examined the usual course of work-related outcomes (absenteeism and at-work productivity losses) in workers recruited from two upper extremity specialty clinics. We also examined the predictors of this course, and aimed to identify those which were amenable to intervention/modification. The project introduced web-based, touch screen data collection and continues with our "just-in-time" summary reports.

Objectives:

- To understand the usual course of persons attending the specialty clinic and to identify modifiable and non-modifiable factors that could predict likely course.
- To focus on the "gut feel" that experienced clinicians have and that predicts work outcomes uniquely and independently of clinical and self-report factors.
- To produce just in time reports that deliver on key predictors of the likely course.
- To prepare for clinical trials of intervention to improve modifiable factor (injured worker empowerment with skills for job of recovery).

Methods: This cohort is a longitudinal cohort of injured workers who are attending the WSIB specialty clinic in Toronto and in London.

Status: In 2013, the team initiated the RTW transitions grant to examine if RTW issues were similar for persons with arthritis and with work related injuries, this grant application took over the 'Gut Feel' grant, which was submitted but not funded. Dr Farshid Tabloie completed his thesis on predictors of a physician making recommendation of RTW in specialty clinics. Negotiations with the team in Holland to work on expanding KTE with clinic staff were ongoing throughout the year. Peer review papers are being written in preparation for Kenneth Tang's thesis.

Researchers: Dorcas Beaton (Principal Investigator), Claire Bombardier, Kim Cullen, Sheilah Hogg-Johnson, Carol Kennedy-Yee, Ivan Steenstra, P Côté (Ontario University Institute of Technology), J MacDermid (McMaster University), I MacRitchie (Holland MSK Program, Work Conditioning Program), S Pagura (Sunnybrook & Women's Health Sciences Centre), R Richards (Sunnybrook & Women's Health Sciences Centre), K Tang (St. Michael's Hospital), A Thompson (Orthopaedic and Arthritic Institute)

Collaborations and Partnerships: Partners in this project include the WSIB Specialty clinics, speciality clinic partners, and WSIB staff.

Potential Audiences and Significance: The results of this research project will be relevant to WSIB policymakers, clinicians treating injured workers, and researchers interested in the application of research findings directly into clinical practice.

Publications:

Roy JS, MacDermid JC, Tang K, Beaton DE. Construct and predictive validity of the chronic pain grade in workers with chronic work-related upper extremity disorders. *Clinical Journal of Pain* 2013; 29(10): 891-897.

Tang K, Beaton DE, Amick BC, Hogg-Johnson S, Côté P, Loisel P. Confirmatory factor analysis of the Work Limitations Questionnaire (WLQ-25) in workers' compensation claimants with chronic upper-limb disorders. *Journal of Occupational Rehabilitation* 2013; 23(2): 228-238.

Tang K, Beaton DE, Lacaille D, Gignac MAM, Bombardier C. Sensibility of five at-work productivity measures was endorsed by patients with osteoarthritis or rheumatoid arthritis. *Journal of Clinical Epidemiology* 2013; 66(5): 546-556.

Funding:

Beaton DE, Bombardier C, Cullen K, Hogg-Johnson S, Kennedy-Yee C, Côté P, MacDermid J. 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)

The Measurement of Work Disability/Disability at Work (0117/0121/2190)

Project Status: Completed

Introduction: This project includes an array of activity all aimed at improving our ability to measure the impact of limitations in health status on a worker's productivity. This body of work is aiming towards an international consensus on the specific measures that have sufficient evidence of their measurement properties (validity, reliability, responsiveness) to allow them to go forward into clinical trials, research and/or workplace applications. The measures we target in the project identify the impact of an injury or illness on work activities through self-reported limitations in job tasks, or self reported absenteeism. These measures may be used to identify changes in productivity, may be precursors to disability resulting in work absence or indicators of productivity-related costs (specifically the indirect costs of a worker's input into the model) in an economic appraisal of an intervention.

Objectives:

- To understand the construct, application and measurement properties of currently existing measures of work difficulty and work productivity.
- To conduct a concurrent comparison of different measures of at-work disability to create evidence where there are gaps – including benchmarking scores for interpreting outcomes.
- To provide leadership to two knowledge generation and transfer initiatives: the Outcome Measures in Rheumatological Clinical Trials (OMERACT) worker productivity group and the I-CAN Work-OMERACT Alliance on Work Outcomes.

Methods: These set of projects will be using scale development and measurement methods, such as factor analysis and Item Response Theory. The study of measurement properties of existing scales will include validity and reliability analysis, and examining sources of potential bias in self-report, survey administration.

Status: In 2013, we reported the best methods we recommend for longitudinal analysis of worker productivity. On the benchmarking study, data entry was completed, data was cleaned and analysis is well under way. The cognitive debriefing study was undertaken across several countries. A manuscript is under way and will be presented in May 2014 at OMERACT. In the cohort study of different instruments, the questionnaire was prepared and an ethics protocol was submitted. A manuscript on benchmarking is under way. The contents of a Knowledge Translation toolkit are being prepared for OMERACT with branding of "IT WORKS", as well as a summary of evidence and other relevant content.

Researchers: Dorcas Beaton (Principal Investigator), Ben Amick, Claire Bombardier, Monique Gignac, Sheilah Hogg-Johnson, Emma Irvin, Cameron Mustard, Dwayne Van Eerd, A Boonen (University Hospital Maastricht), R Escorpizo (University of Lucerne), C Hofstetter (Canadian Arthritis Network), D Lacaille (University of British Columbia), K Tang (St. Michael's Hospital), P Tugwell (OMERACT), S Verstappen (University of Manchester)

Collaborations and Partnerships: The international consensus organization on outcome measurement – OMERACT is a partner in this project, as well as IMMPACT, the I-CAN Work alliance, and various universities and rehabilitation communities.

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

Publications:

Hoang-Kim A, Beaton D, Bhandari M, Kulkarni AV, Schemitsch E. The need to standardize functional outcome in randomized trials of hip fracture: a review using the ICF framework. *Journal of Orthopaedic Trauma* 2013; 27(1): e1-8.

Hoang-Kim A, Schemitsch E, Kulkarni AV, Beaton DE. Methodological challenges in the use of hip-specific composite outcomes: linking measurements from hip fracture trials to the International Classification of Functioning, Disability and Health framework. *Archives of Orthopaedic Trauma Surgery* 2013 Aug 10 [E-pub ahead of print].

Holness DL, Beaton D, Harniman E, DeKoven J, Skotnicki S, Nixon R, Switzer-McIntyre S. Hand and upper extremity function in workers with hand dermatitis. *Dermatitis* 2013; 24(3): 131-136.

Tang K, Boonen A, Verstappen SM, Escorpizo R, Luime JJ, Lacaille D, Fautrel B, Bosworth A, Cifaldi M, Gignac MA, Hofstetter C, Leong A, Montie P, Petersson IF, Purcaru O, Bombardier C, Tugwell PS, Beaton DE. Worker productivity outcome measures: OMERACT filter evidence and agenda for future research. *Journal of Rheumatology* 2013 Oct 15 [Epub ahead of print].

Tang K, Beaton DE, Amick BC, Hogg-Johnson S, Côté P, Loisel P. Confirmatory factor analysis of the Work Limitations Questionnaire (WLQ-25) in Workers' Compensation Claimants with chronic upper-limb disorders. *Journal of Occupational Rehabilitation* 2013; 23(2): 228-238.

Tang K, Beaton DE, Lacaille D, Gignac MA, Bombardier C; Canadian Arthritis Network (CAN) Work Productivity Group. Sensibility of five at-work productivity measures was endorsed by patients with osteoarthritis or rheumatoid arthritis. *Journal of Clinical Epidemiology* 2013; 66(5): 546-556.

Funding:

Beaton DE, Tang K, Smith PM, Lacaille D, Escorpizo R, Hofstetter C, Montie P, Verstappen S, Boonen A. Interpretability of measures of worker productivity: A study defining meaningful benchmarks and changes in scores for use in clinical trials and clinical practice in arthritis. Canadian Arthritis Network (CAN): \$50,000 (2012-2013)

Bombardier C. Disability while at work: a comparison of different measures in persons with arthritis. Canadian Arthritis Network (CAN): \$76,488 (2004-2006)

Beaton DE, Bombardier C. Disability at work: measuring the progression of at-work disability and workplace productivity loss. Canadian Arthritis Network (CAN): \$250,000.00 (2005-2007)

Measurement Methodology Studies (0925)

Project Status: Ongoing

Introduction: This is a group of studies with a primary focus on measurement issues in the development and use of measurement instruments as indicators and outcomes of health and safety efforts. The data for much of this work comes from projects initiated for other research objectives within this theme but in this particular application are focusing on the measurement issues.

Objectives:

- To determine the best methods for cross cultural adaptation of self-report measures of outcome.
- To evaluate approaches used to determine the validity and reliability of different indicators.
- To produce models of recovery based on qualitative and quantitative findings.
- To explore cognitive interviewing/debriefing as a tool to understand respondents processing of rating systems or questions.

Methods: This project involves multiple methods aimed at advancing the science of measurement. This involves development and testing of instruments, and efforts to improve the interpretability of their scores (analytic approaches, Rasch/IRT, MCID and benchmarking). Our work has resulted in several methodological papers, theoretical frameworks, and tools to help clinicians or stakeholders to make the best use of instruments.

Status: We submitted a grant for comparison of critical appraisal systems. The screening for critical appraisal systems was undertaken and we completed categorizing them. We submitted an ethics protocol for the cross cultural adaptations. Writing has begun on the factor analysis review paper. We also submitted an ethics protocol for the EULAR study. We are also working with a researcher in England on cognitive testing analysis and synthesis, and we have completed the cognitive testing.

Researchers: Dorcas Beaton (Institute Coordinator), Claire Bombardier, Cynthia Chen, Sheilah Hogg-Johnson, Carol Kennedy-Yee, Peter Smith, Peter Subrata, Michael Swift, Dwayne Van Eerd, R Buchbinder (Monash University), P Côté (Ontario University Institute of Technology), F Guillemain (University of Nancy), J Katz (Brigham and Women's Hospital, Harvard University), R Osborne (Monash University), G van der Velde (University of Toronto)

Collaborations and Partnerships: Partners in this project include users of the instrument database, clinicians, researchers, trainees, and students.

Potential Audiences and Significance: The results of this project will be relevant to users of indicators and measures in health and work research. Researchers in measurement sciences, epidemiologists, health and safety organizations, clinical community at large will also be interested in this work.

Publications:

Epstein J, Osborne RH, Elsworth GR, Beaton DE, Guillemain F. Cross-cultural adaptation of the Health Education Impact Questionnaire: experimental study showed expert committee, not back-translation, added value. *Journal of Clinical Epidemiology* 2013 Sep 28 [Epub ahead of print].

Goldhahn J, Beaton DE, Ladd A, Macdermid J, Hoang-Kim A. Recommendation for measuring clinical outcome in distal radius fractures: a core set of domains for standardized reporting in clinical practice and research. *Archives of Orthopaedic Trauma Surgery* 2013 Jun [Epub ahead of print].

Riedel K, Beaton DE. Update on the state of outcome measurement in total elbow arthroplasty research: Identifying a need for consensus. *Journal of Bone Joint Surgery America* 2013; 95(14):e97, 1-8.

Evidence Guides and 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 or decision aids.

In this suite of projects we describe the evaluation of a return-to-work intervention 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.

Development and Testing of the DASH Outcome Measure - DASH Instrument (0425)

Project Status: Ongoing

Introduction: This multi-year project involves the development and ongoing testing of the DASH, a 30-item self-completed questionnaire designed to measure disability and symptoms in any or multiple disorders of the upper limb. The DASH Outcome Measure was jointly developed by the Institute for Work & Health (IWH) and the American Academy of Orthopaedic Surgeons (AAOS). It is now in world-wide use with cross-cultural adaptation versions having been completed on 30 language translations and 10 languages currently in progress. In 2003, the 11-item QuickDASH was released. In 2012, the 3rd edition of the DASH manual was loaded onto our website. Several tools to assist users with the calculation of DASH/QuickDASH scores have been developed within the Institute (e.g., QuickDASH scoring e-tool). In 2011, we published a paper that outlined benchmarking scores for the DASH.

Objectives:

- To continue work with the DASH and modern measurement theory.
- To revise the scoring system for the DASH based on the findings of repeated factor analysis.
- To synthesize the findings of the user's survey into a manuscript.

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.

Status: The DASH App we released was monitored. A review paper on the QuickDASH was submitted and accepted for publication. Two grants were submitted on comparison of COSMIN and other critical appraisal tools using DASH as the tool of interest. Also, a preliminary scoring review has been made, and we are currently working with knowledge translation associates and the DASH team to time its release.

Researchers: Dorcas Beaton (Institute Coordinator), Claire Bombardier, Kim Cullen, Sheilah Hogg-Johnson, Carol Kennedy-Yee, Quenby Mahood, Peter Smith, Peter Subrata, S Solway (Baycrest Hospital)

Collaboration and Partnerships: 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: Professional organizations such as the Canadian Physiotherapy Association (CPA), American Academy of Orthopaedic Surgeons (AAOS) and regulatory colleges have demonstrated their support through use of the DASH, as has the Ontario Workplace Safety and Insurance Board (the QuickDASH is the outcome used in the shoulder program of care). Anyone interested in outcome measurements that reflect client's perspective could be a potential user of DASH.

Publications:

Kennedy CA, Beaton DE, Smith P, Tang K, Van Eerd D, Hogg-Johnson S, Inrig T, Couban R. The QuickDASH outcome measure: Systematic review of measurement properties. In press: Quality of Life Research.

Kennedy CA, Beaton DE, Smith P, Van Eerd D, Tang K, Inrig T, Hogg-Johnson S, Linton D and Couban R. Measurement properties of the QuickDASH (Disabilities of the Arm, Shoulder and Hand) Outcome Measure and cross-cultural adaptations of the QuickDASH: a systematic review. Quality of Life Research 2013;22(9):2509-2547.

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 and 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 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.

2013 Quick Statistics

Completed projects (1)

Ongoing projects (4)

Papers published or in press (3)

Peer review papers submitted (2)

Presentations of results (3)

External grants held (1)

Foundation Programs

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| Data Dictionary (0301) | 86 |
| Workplace Safety & Insurance Board Data Routine Statistics (0845/0835/0307) | 87 |
| Methodological Developments in Systematic Reviews (0951) | 88 |
| A Systematic Review of the Quality and Types of Performance Measures Used to Assess Knowledge Transfer and Exchange (KTE) Implementation (3110) | 90 |
| Return to Work Systematic Review Update (3130) | 91 |

Data Dictionary (0301)

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 IWH 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).
- To cross reference information where appropriate.
- To maintain the dictionary.

Methods: First, we will build an inventory of internal and external microdata holdings used for IWH research. Then, we will classify all microdata holdings with respect to documentation and storage needs. A set of rules/guidelines for documenting/storing pre-analytic and analytic datasets will be developed. An investigation of available software solutions for creating and maintaining documentation will be undertaken and suitable software selected. This will take into account the ongoing use of the wiki for capturing WSIB data knowledge and the current IWH initiative for knowledge management. Finally, staff will be educated on the software and rules/guidelines for documenting microdata holdings and pre-analytic and analytic datasets.

Status: This is an ongoing project; in 2013 there was an emphasis on educating staff on policies/procedures for documenting/storing all types of data. One method of doing this was to move processes and documentation to our internal wiki.

Researchers: Sheilah Hogg-Johnson (Institute Coordinator), Amber Bielecky, Arold Davilmar, Jacob Etches, Claire Munhall, Peter Subrata, Michael Swift

Collaboration and Partnerships: Partners that are involved in this project include the Ministry of Labour Data Diagnostic Unit, who are a potential audience and user of the Data Dictionary, as well as a potential contributor around sources and uses of data.

Potential Audiences and Significance: This project is largely of internal interest, but there may be some specialized interest with data users within the Ministry of Labour and the Ontario Workplace Safety and Insurance Board.

Workplace Safety & Insurance Board Data Routine Statistics (0845/0835/0307)

Project Status: Ongoing

Introduction: The Workplace Safety & Insurance Board (WSIB) 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:

- To continually develop and maintain expertise in the data holdings of the WSIB.
- To aid Institute researchers by providing information on the data holdings and their potential use for research projects.
- To respond to ad hoc requests for data extractions required for project planning purposes, etc.
- To develop internal capacity to use WSIB data and maintain three staff who can extract data.
- To develop set of core competencies regarding WSIB data.
- To position IWH to provide assistance to external researchers.

Methods: The methods change depending upon the request. Data extractions largely involve creating SAS programs which tap data stored in a number of large files stored either on a mainframe computer or on tape.

Status: In 2013, we responded to ad hoc requests for WSIB data as required. We ensured research agreements for feasibility studies were completed prior to ad hoc requests. We sought opportunities to expand knowledge of different WSIB resources. We updated the codebook and made it available to the Scientists to help them when submitting a data extraction request. We also improved the internal organization and handling of WSIB data by creating a proposed WSIB data request form and a standard file structure to be used in order to save WSIB data in a consistent manner. As well, we developed a standardized methodology to document data extractions and the file structure to support this.

Researchers: Sheilah Hogg-Johnson (Institute Coordinator), Amber Bielecky, Arold Davilmar, Hyunmi Lee, Peter Smith, Peter Subrata

Collaborations and Partnerships: Partners involved in this project include the WSIB through our research and master agreements, external researchers from universities, and the Centres of Research Excellence.

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.

Methodological Developments in Systematic Reviews (0951)

Project Status: Ongoing

Introduction: IWH is committed to continuously improving the field of systematic review methodology. In 2014, we propose to initiate, undertake, and advance the following methods projects:

A. Update three Cochrane reviews: 1) Multidisciplinary interventions for neck and shoulder pain; 2) Multidisciplinary interventions for subacute low back pain; and 3) Alcohol and drug screening of occupational drivers for preventing injury.

B. Advance Review Methods: 1) Comparison of Cochrane vs. non-Cochrane reviews; 2) Comparison of Evidence synthesis methods; 3) Realist and Rapid Review project; 4) Review classification project; and 5) Reviews of Complications.

C. Create a database of prognosis reviews.

Objectives:

- To update three Cochrane reviews broadening SR expertise throughout the organization.
- To write a paper underlining the challenges and solutions of adapting the established systematic review methodology to non-clinical literature.
- To write a paper comparing recommendations of meta analytic vs. Narrative synthesis approach.
- To develop a process for conducting realist and rapid reviews and classifying review typologies.
- To recommend a methodology for conducting reviews of complications.
- To develop a database of prognosis reviews.

Methods: The IWH Systematic Review protocol usually includes the following steps: 1. Develop question, 2. Conduct literature search, 3. Identify relevant publications, 4. Quality appraisal, 5. Data extraction, 6. Evidence synthesis.

Status: A1. Each of the projects have been completed to the risk of bias stage of the reviews and have also been updated. B1. A report was written comparing the Cochrane and non Cochrane review approaches. B2. A draft report has been written comparing two evidence synthesis methods. B4 Classifications of reviews have been researched and written. B5. Thesis work looking at reviews of complications was initiated and a complications review was registered with the Cochrane Back Review Group.

Researchers: Andrea Furlan (Institute Coordinator), Emma Irvin (Institute Coordinator), Dwayne Van Eerd (Institute Coordinator), Ben Amick, Nancy Carnide, Rachel Couban, Kim Cullen, Melanie Fortune, Joanna Liu, Quenby Mahood, Teresa Marin, Claire Munhall, Imelda Wong, J Hayden (Dalhousie University), J Jordan (Keele University), M van Tulder (VU University)

Collaborations and Partnerships: Partners in this project include external researchers, the Ontario Workplace Safety and Insurance Board, clinicians, and policy-makers.

Potential Audiences and Significance: The results of this project will be relevant to methods groups of the Cochrane Colloquium and other researchers conducting systematic reviews, and those interested in incorporating stakeholders in the process.

Publications:

Gensby U, Labriola M, Irvin E, Amick BC, Lund T. A classification of components of workplace disability management programs – Results from a systematic review. *Journal of Occupational Rehabilitation* 2013 [Epub ahead of print]. DOI:10.1007/s10926-013-9437-x.

Irvin E, Brewer S, Amick BC. Systematic reviews in disability management and the prevention of occupational injuries: Moving from science to practice. Submitted: *Journal of Occupational Rehabilitation*

Mahood Q, Van Eerd D, Irvin E. Searching for grey literature for systematic reviews: challenges and benefits. *Research Synthesis Methods* 2013; Epub ahead of print.

Salbach NM, O'Brien K, Brooks D, Irvin E, Martino R, Takhar P, Chan S, Howe J. Speed and distance requirements for community ambulation: A systematic review. *Archives of Physical Medicine and Rehabilitation* 2013; Epub ahead of print.

Presentations:

Irvin E, Saunders R, Van Eerd D. The role of knowledge translation and knowledge synthesis in musculoskeletal disorders prevention. 7-11 July 2013; Busan, South Korea: International Conference on the Prevention of Work-related Musculoskeletal Disorders (PREMUS).

Irvin E, Van Eerd D. Workshop: Stakeholder/consumer engagement in systematic reviews. 19-23 September 2013; Quebec City, Canada: 21st Cochrane Colloquium- Better Knowledge for Better Health.

A Systematic Review of the Quality and Types of Performance Measures Used to Assess Knowledge Transfer and Exchange (KTE) Implementation (3110)

Project Status: Completed

Introduction: The burden of workplace injury and illness can be great and affects not only individual workers but workplaces, the medical system, insurance systems and society as a whole. Occupational health and safety is an important aspect of prevention of workplace injury and illness. The field of occupational health and safety is broad and may encompass occupational hygiene, engineering, biomechanics, ergonomics, psychology and sociology. Therefore practitioners may focus on different risk factors and aspects of workplace health and safety as they design and implement prevention activities. How do workplace parties locate and evaluate the information required to make the decisions that must be made to protect workers from the risks that are present at workplaces? How do workplace parties decide on the best approaches to reduce injuries and illnesses at work?

Objectives:

- To review the literature on KTE in work and health settings as a narrative review employing a comprehensive search strategy.

Methods: Systematic literature search employed and papers selected for review by the Principal Investigator based on relevance to the topic. A framework was developed for presentation of KTE results, theory and audiences.

Status: We completed all the review steps, and work has begun on drafting a manuscript summarizing the results from this review.

Researchers: Dwayne Van Eerd (Principal Investigator), Donald Cole, P Bigelow (University of Waterloo), N Theberge (University of Waterloo)

Collaborations and Partnerships: Not applicable.

Potential Audiences and Significance: Work and health stakeholders and practitioners (such as ergonomists, kinesiologists, OTs, etc.) will be targeted. The WSIB, employers, and labour groups will be interested in improved MSD prevention interventions and facilitating the transfer of knowledge to guide the intervention design and implementation. Furthermore, KT practitioners and knowledge dissemination organizations will be interested in the review findings.

Publication:

Van Eerd D, Cole DC, Keown K, Irvin E, Kazman Kohn M, Kramer D, Brenneman Gibson J, Mahood Q, Slack T, Amick BC, Phipps D, Garcia J, Morassaei S. A systematic review of the quality and types of instruments used to assess KTE implementation and impact. Submitted: Implementation Science.

Presentation:

Van Eerd D, King T, Amick III BC. Knowledge Transfer and Exchange in work and health research and practice. 8-10 October 2013; Whistler, BC: 44th Annual Conference of the Association of Canadian Ergonomist.

Funding:

Van Eerd D, Reardon R, Clements D, Laupacis A, Amick BC, Irvin E, Brenneman Gibson J, Keown K, Cole DC, Garcia J. KTE Practices: A systematic review of the quality and types of performance measures used to assess KTE implementation effectiveness and impact. CIHR: \$100,000 (2009-2010)

Return to Work Systematic Review Update (3130)

Project Status: Ongoing

Introduction: A systematic review of workplace-based return to work interventions was carried out by the Institute of Work & health and published in 2004. The review included studies published between January 1990 and December 2003. Since the review was completed there has been a growing research literature in the area of return to work (RTW). This project will update the initial review to reflect the current research evidence base. It will also extend the review through the inclusion of research relating to system/ jurisdictional interventions. Furthermore, it will determine whether the Seven Principles of Successful RTW, a globally recognized action tool, need to be changed or modified based on the current evidence. This review will facilitate the integration of high quality best practice research evidence into the development of return to work policies and programs and in so doing will improve the effectiveness of programs to reduce work disability and return injured workers to employment.

Objectives:

- To update the evidence base for workplace-based return to work programs and system/ jurisdictional return to work programs and policies.

Methods: Systematic methodology includes literature search, paper screening for inclusion/exclusion criteria, data extraction of included studies, quality appraisal of included studies, and findings synthesis.

Status: In 2013, the team completed the quality appraisal and data extraction of over 57 papers in the review. They also undertook a comparison with the articles in the original review. A meeting with stakeholders has been arranged in Melbourne and Toronto for early 2014.

Researchers: Ben Amick (Principal Investigator), Nancy Carnide, Kim Cullen, Sheilah Hogg-Johnson, Emma Irvin, Vicki Kristman, Quenby Mahood, Ron Saunders, Dwayne Van Eerd, A Collie (ISRCC), U Gensby (Roskilde University), M Laberge (IRSST), S Newman (ISRCC), A Palagyi (ISRCC), R Ruseckaite (ISRCC), D Sheppard (Monash University), S Shourie (ISCRR)

Collaboration and Partnerships: Partners in this project include the Ontario Workplace Safety and Insurance Board, Workplace Safety & Prevention Services, Public Services Health & Safety Association, Infrastructure Health & Safety Association, Workplace Safety North, Injured Worker's Consultants, members of the employer community, private insurers, and the Ontario Public Service Employees Union.

Potential Audiences and Significance: Members of our stakeholder community as listed above are eager to receive an update to this literature and the Seven Principles document as they refer to them frequently in their workplaces. The Seven principles remains one of the top downloaded items from our website.

Knowledge Transfer & Exchange

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:

- 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.
- Develop effective strategies to reach key audiences and build capacity in our audiences to make better use of research evidence in their decision-making.
- 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

Knowledge Transfer & Exchange

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Issue Briefings (0611)

Project Status: Ongoing

Introduction: Research findings of the Institute often have implications for decision-makers in government, the Workplace Safety and Insurance Board (WSIB), health and safety associations, and for employers, labour groups, and clinicians. In this project, Institute researchers identify findings that ought to be of particular interest to policy-makers in government and at the WSIB and prepare brief documents that outline the research findings and their implications, in plain language. The Five Year Strategic Plan of the IWH indicates that “We will provide our audiences with opportunities to increase their knowledge about research evidence, using methods tailored to meet the specific needs of stakeholder groups.” This project is an example of the development of a tailored form of knowledge translation.

Objectives:

- To summarize, in plain language, research findings on topics of interest to policy community.
- To identify implications of this research for decision-makers.
- To help foster a continuing conversation on the issues examined.
- To publish one Issue Briefing each quarter, to consult key stakeholders on future topics, and to broaden the distribution of notices about newly published Issue Briefings.

Methods: The work involves briefly summarizing, in plain language, research findings on topics of interest to the policy community and identifies implications for decision-makers. Sometimes an Issue Briefing is focused on research done at IWH; sometimes we draw mainly on the research of others. Issue Briefings are designed to give readers a quick overview of key findings on a topic, and to stimulate a continuing conversation on the issues examined. While they do not attempt to be systematic or comprehensive in their review of the relevant literature, they do pay attention to the quality of the research. They also consider existing reviews of the literature when available.

Status: One new issue briefing was published in 2013 and another was revised and supplemented with new findings. The Issue Briefing, “The adequacy of workers’ compensation benefits,” was originally published in January 2011. In May 2013, we published a more detailed version as well as a supplemental report that explores the impact of Canada Pension Plan Disability (CPP-D) payments to the adequacy of wage-replacement benefits provided by Ontario’s workers’ compensation system.

Researchers: Ron Saunders (Project Leader), Kristina Buccat, Cindy Moser, Cameron Mustard

Collaboration and Partnerships: Advance copies of Issue Briefings are sent to the Chief Strategy Officer at the WSIB. Issue Briefings are sent by email to heads of workers’ compensation boards and senior officials of ministries of labour across Canada. After posting on the IWH website, a link to the Issue Briefings is sent to: senior officials of workers’ compensation boards, public health academics, members of the HSA Liaison Committee, CCOHS, the Industrial Relations Centre at U of T, and several key Ontario stakeholders. The individuals are invited to post the link on their organizations’ websites and/or bulletins.

Potential Audiences and Significance: The main target audience is policy officials at ministries of labour and workers’ compensation boards in Canada. The topics of Issue Briefings will often be of interest to the wider stakeholder community, such as labour groups, employer associations, injured worker organizations, and OHS professionals.

Publications:

Amick BC, Saunders R. (Oct 2013). Issue Briefing: Developing leading indicators of work injury and illness.

Tompa E, Mustard C. (May 2013). Issue Briefing: Examining the adequacy of workers' compensation benefits, supplemental analysis: Canada Pension Plan disability benefits and WSIB benefits in the 1992-1994 NEL/FEL claimant cohort.

Clinical Networks (0617)

Project Status: Ongoing

Introduction: Many professional and clinical provider groups deliver care to populations of interest to IWH (e.g. workers with musculoskeletal disorders). We have targeted these groups as potential audiences for Institute research messages. These providers may also work within, or in close association with, workplaces (supporting the prevention of work injury, return to work, and/or disability management). These groups include: physiotherapists (PT), kinesiologists (Kin), occupational therapists (OT), chiropractors (Chiro) and ergonomists (Ergo). Many IWH research messages are relevant to these groups (management of back pain, disability management and RTW) and equally, these groups possess a practice expertise and knowledge that is useful and relevant to IWH. Fundamental to this project are partnerships developed with professional bodies that represent or regulate these disciplines. These partners have assisted in identifying those individuals across the province who are informal opinion leaders, i.e. individuals identified by their peers as “educationally influential” (EI). Each of the EI networks has been convened to seek their cooperation in an ongoing role as “knowledge broker”. It is a two-way exchange: stakeholder information and opinion into IWH (to improve our research and knowledge transfer efforts); and research knowledge out to EIs and, via EIs, to their peers to ultimately assist evidence-based practice. Sometimes we also invite EIs to participate in research projects in various capacities.

Objectives:

- To plan and implement annual face-to-face contact with each discipline group.
- To encourage EI participation in IWH's research.
- To disseminate monthly research alerts to all EI groups.
- To contribute to association trade publications as relevant.
- To survey members on their role as an EI over time.

Methods: We will meet annually with EIs. We will do a survey of Chiropractor EIs and Ergonomist EIs on their use of research.

Status: Monthly research alerts were delivered as planned. The OT/PT event was held on June 10th, 2013 with 5 attendees. The Kinesiologists event was held on Nov. 7th, 2013 with 6 attendees. In 2013, both the Chiropractor and the Ergonomist groups were renewed. This was done via online surveys following the Hiss method. Surveys were delivered via each group's professional association(s). The EI Chiropractor network now has 14 members, and the EI Ergonomist network now has 15 members. EIs (and past EIs) were contacted for letters of support and to participate in various research projects as stakeholders/advisory committee members.

Researchers: Ron Saunders (Project Leader), Kristina Buccat, Trevor King, Sara MacDonald

Collaboration and Partnerships: Partners in this project include clinicians/practitioners and professional bodies (associations and regulatory colleges).

Potential Audiences and Significance: This project is of interest to PTs, OTs, Kins, Ergos, and Chiros. Relevant findings will be disseminated to appropriate EI groups. It is anticipated that members of these groups will then further disseminate these findings within their own networks. EIs may also be involved with specific research projects, included as a partner, co-investigator, or an advisory committee member. Individual partner organizations may also promote IWH through their own events or websites.

Disability Managers Network (0638)

Project Status: Ongoing

Introduction: IWH invited disability management professionals (identified via the Contact Relations Management database and the leadership of the 60 Summits network) to join the IWH Disability Managers Network (DMN). The network is composed of 60+ members, and new members are added upon request (to a max of ~70). Members of the group are seen as valued stakeholders that not only benefit from IWH research, but could potentially contribute to future research projects. The network involves an annual in-person meeting, regular electronic updates, opportunities to participate in research projects, and fostering engagement through social media.

Objectives:

- To facilitate knowledge exchange among IWH researchers and individuals who are involved in the practice of disability management in Ontario.
- To facilitate the dissemination of research findings to the community of disability management practitioners in Ontario.
- To invite members to participate in/ provide advice on IWH research projects, and participate in IWH events (e.g. Workshops, seminars).
- To provide KTE support for research projects with messages for RTW audiences.

Methods: We will support stakeholder meetings for research projects (e.g., multi-morbidity study). We will maintain our network of disability managers. We will also highlight completed research articles about RTW and disability management in the IWH newsletter and in the IWH DMN LinkedIn private group. We will also identify key research priorities at an annual event, and communicate with DMs on next steps to keep the group active and worthwhile. Monthly notice of Research Alerts will also be sent out.

Status: Monthly research alerts were delivered as scheduled. The annual event was held on April 17th, 2013. There were presentations by Andrea Chambers (PhD Candidate), Dr. Ellen MacEachen, and Dr. Jacob Etches, followed by a roundtable discussion regarding research priorities and next steps. The private LinkedIn group, exclusive to members and key IWH staff continued. Relevant research and upcoming events were shared, and discussions were encouraged on the LinkedIn group. Also, members were approached for letters of support and for participation on specific grant applications.

Researchers: Ron Saunders (Project Leader), Kristina Buccat, Trevor King, Cindy Moser

Collaboration and Partnerships: Partners involved in this project include disability managers from various industries as well as the 60 Summits Group. This network is open to collaboration and receiving information from a number of organizations from the prevention system, including: the health and safety associations (HSAs: IHSA, OHCOW, PSHSA, WSN, WSPS), the Office of the Employer Adviser, the Office of the Worker Adviser, Injured Worker Consultants, the Ontario Network of Injured Workers Groups.

Potential Audiences and Significance: Members of the network include professionals from workplace parties, insurers, and clinical care settings and organizations.

Prevention Partners Networks (0640)

Project Status: Ongoing

Introduction: KTE will continue to build relationships with the prevention partner community through vehicles like the Health and Safety Association Liaison Committee (HSALC). Members of the CREs and OCRC continue as full partners in the HSALC. The Policy and Operations divisions of the Ministry of Labour, as well as the Prevention Office, are also participating. Capacity building in the use of evidence in programming and planning will continue through the review of evidence from the research organizations. The HSALC is also increasingly a forum for sharing ideas about improving knowledge exchange with workplace parties on the prevention of work injury and illness.

Objectives:

- To continue to build relationships with prevention partners to take research evidence to Ontario workplaces and to explore new research ideas.
- To continue to develop opportunities for our prevention partners to participate in the research process and review their experience with this participation.
- To coordinate IWH input into the Prevention Partners Conference and assist with research posters.

Methods: We will organize and host quarterly meetings of the HSALC. We will continue to utilize HSA networks for dissemination of IWH research and guides.

Status: The HSALC met on March 8, June 7, September 6, and December 6, 2013, chaired by the Director of KTE at IWH. There were presentations from one of the HSAs, one of the CREs, IWH (on leading indicators) as well as a workshop on building knowledge exchange networks. IWH had a booth at the annual Partners in Prevention Conference, and had two presentations (on office ergonomics training and on firms making large improvements in OHS performance) in the main program, as well as several scientific posters. IWH has also participated in the prevention system Ergo Learning Day (June 18, 2013) and has since been invited to sit on the revived Prevention System Ergonomists' Network led by Brian McInnes, Acting Provincial Ergonomist. The IWH KTE Director participates on two advisory councils of the Public Services Health and Safety Association.

Researchers: Ron Saunders (Project Leader), Kristina Buccat, Trevor King, Sara MacDonald, Greer Palloo, Janet Brown (CRE-OD), Desre Kramer (OCRC), Richard Wells (CRE-MSD)

Collaboration and Partnerships: Partners involved in this project include the health and safety associations (including the OHCOW), the Ontario Ministry of Labour, CRE MSD, CRE OD, OCRC, and other researchers

Potential Audiences and Significance: For HSLAC: HSA consultants, Ministry of Labour, Centres for Research Expertise, WSIB. For the Partners in Prevention Conference: workplace parties and OHS professionals would also be among the audience.

Presentations:

Cardoso S. Breakthrough change in workplace occupational health and safety performance. 30 April - 1 May 2013; Mississauga, Canada: Partners in Prevention Conference.

Saunders R. Developing an OHS training program that enhances essential skills. 30 April - 1 May 2013; Mississauga, Canada: Partners in Prevention Conference.

King T. The Development and Pilot Evaluation of an Online Office Ergonomics Training Program for Use across Sectors. 30 April - 1 May 2013; Mississauga, Canada: Partners in Prevention Conference.

Tracking KTE/Evaluation (0629)

Project Status: Ongoing

Introduction: KTE has identified activities and indicators to be measured, such as stakeholder participation in meetings to provide advice on research projects and the creation of new networks for knowledge exchange. We also track visits to and downloads from our website and testimonials about our research. We undertake case studies of research impact that involve interviews with key users of research evidence. We also look for methods to evaluate KTE activities.

Objectives:

- To track KTE indicators.
- To track stakeholder engagement in systematic reviews and other KTE activities.
- To use the Contact Relations Management system to track dissemination activities and evaluate research uptake and use.
- To implement an internal evaluation of the KTE program (based on the published SATORI instrument by Gholami et al) in parallel with the Institute for Safety, Compensation and Recovery Research (ISCRR).
- To provide qualitative information (mainly from completed case studies and our ongoing record of testimonials) on the impact of IWH research and KTE.

Methods: We will develop and monitor tracking systems.

Status: The KTE Activities Tracking sheets are being used for each active IWH research project to track stakeholder engagement and project outcomes. Two new impact case studies were completed and several others were initiated.

In 2013, 92 new contacts were added to our Contact Relations Manager Quarter 1 (88 being new e-alert sign-ups through the website), 70 in Q2 (58 being e-alert sign-ups through the website), 329 in Q3 (204 being e-alert sign-ups through the Partners in Prevention conference, where we used a badge scanner for the first time, 78 being e-alert sign-ups through the website and 35 being e-alerts sign-ups from the Nachemson lecture), and 418 in Q4 (259 were new subscribers to the DASH e-bulletin and 86 were e-alert sign-up through the website). Over the course of the year, more than 500 people signed up for our e-alerts. However, we also removed people from our database whose e-mail addresses were no longer working. The net result was that e-alert subscribers increased from 3,475 to 3,535 during 2013. The total number of contacts in our database increased from 6,070 in Q1 to 6,890 in Q4.

In 2013, the number of unique visitors to the website in Q1 was 87,466 and the number of unique page views was 143,728 (up 73% and 52%, respectively, compared to the same quarter the previous year). For Q2, unique visitors numbered 93,275 and unique page views numbered 151,477 (up 95% and 60%, respectively). In Q3, there were 79,909 unique visitors and 128,887 unique views (up 68% and 50% respectively). And, in Q4, the number of unique visitors was 89,769 and number of unique page views was 141,015 (up 15% and 11%, respectively).

Researchers: Ron Saunders (Co-Project Leader), Dwayne Van Eerd (Co-Project Leader), Kristina Buccat, Emma Irvin, Trevor King, Sara Macdonald, Cindy Moser

Collaboration and Partnerships: Stakeholders involved include participants in systematic review stakeholder committees, other project stakeholder/advisory committees, senior policy officials, and ISCRR.

Potential Audiences and Significance: This project is of interest to our external stakeholders, including funders, the Institute's Board of Directors, IWH and ISCRR staff, and other KTE researchers.

Tool Development and Dissemination (0636)

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 shown the advantage of having evidence-based tools (e.g., Prevention is Best Medicine, the PE Guide to reducing MSD Hazards, Red Flags/Green Lights Guide to Return to Work, H&S Smart Planner)). As research continues to develop and mature 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:

- To look for new opportunities for tool development, e.g., from the systematic reviews.
- To update, repackage and market current tools within IWH toolkit as needed.
- To disseminate and document the uptake of IWH tools and guides.
- To administer and coordinate all procedures related to translations of the DASH, *QuickDASH* and maintain related database.
- To monitor and maintain database of requests for commercial and non-commercial use of DASH.

Methods: We will revise and update forms to enable automation of DASH User Profile and Intent to Translate forms posted on DASH website. We will use information garnered from research and surveys to revise DASH Manual and to update FAQ pages on the DASH website. We will review user profile form information submitted to determine requests for free or commercial use. We will perform quality control checks on the DASH database to ensure items in the database are accurately entered and reflective of user submissions/requests. We will collaborate with Manitoba WCB to adapt Prevention is Best Medicine Toolkit and WorkSafeNB to test the Organizational Performance Metric for New Brunswick workplaces.

Status: The DASH translation process was monitored and three licences: Simplified Chinese, Spanish (Chile) and Slovene (Slovenia) were issued. Several new languages were added to the list on the DASH website of those currently in progress: Bulgarian, Fijian, Gujarati, Marathi and English for India, Yoruba and English for UK. The Translation database was also monitored and updated on an ongoing basis. DASH and *QuickDASH* commercial and non-commercial databases requests were maintained and all downloads were tracked. In the summer of 2013, a DASH e-Bulletin was prepared, distributed and posted on the DASH website and the DASH User Profile form was automated for receipt of online submissions. Frequently asked questions (FAQs) were also updated. A new software tool – the DASH iPad App – was released in the Apple i-Store in June, 2013. The app was also highlighted at the May 2013 Hand Therapy Conference held in Alberta. A registration application for “DASH Outcome Measure” as a trademark was submitted in September and is currently in progress with the Canadian Intellectual Property Office.

The Prevention is Best Medicine (PBM) toolkit was adapted by WCB Manitoba for Manitoba stakeholders and this version was translated into French. WorkSafeNB adopted the Organizational Performance Metric to assess workplace safety performance in their workplaces. The H&S Smart Planner was downloaded 210 times in 2013. The Manitoba Smart Planner was downloaded 264 times.

Researchers: Greer Palloo (Project Leader), Kristina Buccat, Carol Kennedy-Yee, Trevor King, Sara MacDonald, Ron Saunders

Collaboration and Partnerships: Partners involved in this project include health and safety associations, workplace parties, clinicians, labour and workplace parties, and other stakeholders as appropriate.

Potential Audiences and Significance: This project is of interest to workplace parties, clinicians, and health and safety professionals and practitioners.

Publication:

Prevention is Best Medicine (PBM): A toolkit for newcomers to Manitoba (and French translation)
New Brunswick’s WorkSafeNB adopts IWH’s safety culture yardstick, *At Work*, Issue 73, Summer 2013.

Workshops (0643, 0631)

Project Status: Ongoing

Introduction: IWH has considerable expertise in conducting systematic reviews to support evidence-based practice and research. 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 Systematic Review workshops that range from two hours to two-days since 2001 with plans to continue through 2013. We will also consider offering a measurement workshop again in 2013. This workshop is designed to provide participants with tools and knowledge to identify measures that can provide the best estimate of a given concept in their clinical work or research. The Institute has had an opportunity to develop and pilot test an introductory workshop on the economic evaluation of workplace health and safety programs. Demand from workplaces and HSA stakeholders and the success of two pilot sessions led to a decision by IWH to continue to offer the workshop in collaboration with workplace stakeholders going forward.

Objectives:

- To build capacity in our audiences to understand, use and conduct research.
- To build capacity in our audiences to understand, use and conduct economic evaluations of OHS programs.
- To evaluate and determine lessons learned.

Methods: The format of the Systematic Review workshop combines a series of short lectures and interactive exercises. The economic evaluation workshop pilots were offered on two occasions as a one-day lecture and interactive session with seven modules.

Status: Registration and preparation for the Systematic Review workshop was ongoing. We held the first workshop on June 5-7, 2013 with a total of 26 participants. We held another workshop on November 27-29th, 2013 where we successfully incorporated one of the lectures via Webinar from Amsterdam; we limited that workshop to 10 participants. In 2013 we initiated planning for an online workshop. We collaborated with Workplace Safety & Prevention Services to pilot test the Introductory Workshop on the Economic Evaluation of Workplace Health and Safety Programs.

Researchers: Emma Irvin (Project Leader), Dorcas Beaton, Andrea Furlan, Sheilah Hogg-Johnson, Sara Macdonald, Quenby Mahood, Lyudmila Mansurova, Teresa Marin, Anna Sarnocinska-Hart, Ron Saunders, Emile Tompa, Dwayne Van Eerd

Collaboration and Partnerships: Participants in the workshops will provide an evaluation which will be used for further development of the existing workshop. In addition, some of our prevention partners may be interviewed so that we can develop a workshop to suit their unique requirements. The economic evaluation workshop was pre-tested with WSPS staff and two pilot sessions were held with workplaces at CHSI. WSPS played a role in evaluation of the pilot workshops and in facilitation and will continue to play a role in the workshop facilitation going forward.

Potential Audiences and Significance: The Systematic Review workshop is of particular interest to health-care professional students, educators, clinicians, researchers, insurers and policy makers. The measurement workshop is designed for researchers, research assistants /coordinators, trainees and clinicians who use multi-item measures as part of their research. The economic evaluation workshop is of interest to workplace decision-makers and to Health & Safety Associations who assist workplaces in their OHS program development.

Outreach (0650)

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. As workplace parties are priority audiences for IWH research, this project also explores ways to reach employers and organized labour through intermediaries and direct communication. The KTE program has also identified "influential knowledge users" and will be interviewing them to explore ways to improve knowledge exchange.

Objectives:

- To implement plan for engagement with influential knowledge users.
- To continue to develop themed displays to meet targeted audiences, profiling key research initiatives where appropriate.
- To use these opportunities to profile the Institute as a credible resource of evidenced-based information and tools for improving the health of workers.
- To coordinate and lend support to a calendar of key events.
- To assist IWH researchers in linking with workplace parties

Methods: We will continue to identify influential knowledge users and interview them about ways to improve knowledge use and strengthen knowledge exchange. We will identify opportunities for IWH participation in non-academic conferences. We will work with key intermediary organizations to extend the reach of IWH products.

Status: We interviewed 16 influential knowledge users from 11 organizations in 2013. Interim findings from these interviews were presented at the Canadian Knowledge Mobilization Forum in June 2013. The KTE supported abstract submissions to several non-academic conferences (to be held in 2014 and 2015), including those of the Canadian Society of Safety Engineering, the Human Resources Professionals Association, and the Ontario Occupational Health Nurses Association. We had booths at the October 2013 Disability Management Conference of the Conference Board of Canada and the November 2013 convention of the Ontario Federation of Labour. We also strengthened our relationships with media specializing in OHS issues. In October 2013, we held the first meetings of new forums with OHS leaders from the labour and employer communities.

Researchers: Greer Palloo (Project Leader), Ron Saunders (Project Leader), Kristina Buccat, Trevor King, Sara MacDonald, Cindy Moser

Collaboration and Partnerships: Influential knowledge users are located in several of our stakeholder organizations, such as health and safety associations, government ministries or agencies, and labour or employer organizations. We partner with OHS specialty media on articles based on IWH research.

Potential Audiences and Significance: All stakeholder groups, with particular attention in this project to workers, unions, employers, and employer associations.

Presentation:

Saunders R. Improving knowledge exchange through dialogue with influential knowledge users. 4 June 2013; Toronto, Canada: Canadian Knowledge Mobilization Forum.

Corporate Communications (0690)

Project Status: Ongoing

Introduction: Corporate Communications works with IWH's scientists and KTE professionals to raise the visibility and credibility of the Institute, and to "push" IWH research so that stakeholders know about, consider and use evidence-based practices that protect workers from injury, illness and disability, as well as take part in research studies, where applicable. It seeks to reach these audiences more broadly by preparing materials in plain language and using mass communication tools and tactics – such as newsletters, websites, media releases, articles and mentions in trade and general media, social media and external events. Corporate Communications also aims to keep Institute staff informed of the research, projects and events going on within IWH in order to improve working relationships and camaraderie, and assist in meeting our corporate goal of "being a model of a healthy workplace."

Objectives:

- To extend reach/audience for IWH research findings.
- To ensure IWH information remains relevant and accessible to external stakeholders in order to help them protect the health and safety of workers.
- To ensure IWH comes to mind among people looking for best evidence in occupational health and safety and return to work.
- To support organizational excellence through strong internal communications.

Methods: We will monitor and complete communication functions on an ongoing basis.

Status: Externally, 2013 saw the Institute consolidate and expand upon its presence in the world of social media. A report was presented to the Executive Committee in early May on the Institute's social media pilot, which began in April of the previous year. The report indicated that the pilot had been successful and that IWH's presence in social media had contributed to increasing awareness of the Institute. By the end of 2013, IWH had 835 Twitter followers (up from 360 at the end of 2012), and Twitter referrals to the IWH website grew from 155 in Q4 2012 to a high of 880 in Q3 2013. The Institute also began "live tweeting" during Q4 2013—first from its plenaries and then from the Nachemson lecture. LinkedIn followers grew from 285 to 621 over the year, and LinkedIn referrals to the website grew from 86 in Q4 2012 to a high of 262 in Q4 2013. One of the most important social media developments in 2013 was the population of IWH's YouTube channel with the full set of 2012 external plenary slidecasts, and the creation and uploading of slidecasts of external plenaries as they occurred in 2013. The number of video views on the YouTube channel grew from 87 in the last quarter of 2012 to 876 in the last quarter of 2013, and minutes watched in the two quarters grew from 520 to 4,290.

2013 saw the publication of four At Work issues that maintained its status as a high-quality flagship publication through its strong editorial and design features. Some minor changes to the layout were made—namely shorter, snappier decks in larger font size. As well, the communications team prepared for the January 2014 launch of IWH News, the new monthly e-alert that replaces the quarterly e-alert and offers a wider variety of articles in a more graphically appealing format.

The website continued to improve in quality with the addition of new content and features, including web-based Research Alerts (the culmination of a nine-month project), a rotating Spotlight on the front page, social media buttons on all pages, the IWH Twitter feed on the front page, new pages on temp agency and leading indicators research, updated KTE pages, a new PREMUS 2016 page (being hosted by IWH), new IWH scientist photos and the addition of adjunct scientist photos, and the addition of plenary and Financial Incentives Symposium slidecasts. Much of the work on a new At Work landing page and archives, as well as a reformatted media page, was done in 2013 for publication in early 2014. As well, a new Website Committee was created to improve communications and collaboration among the IWH communication team members who do work on the website, and a plan was completed to upgrade the IWH website from Drupal 6 to Drupal 7 by the end of December 2014. The number of unique visitors to the website in Q4 2013 was almost 90,000—15 per cent higher than the same quarter the previous year.

A media relations plan to publish more research-based releases, which was approved in 2012, started to take root in 2013. In preparation, a successful media training workshop for scientists with well-known science communicator and journalist Jay Ingram was held in March, and KTE worked with scientists to create guidelines on reporting findings to the media, especially cause-and-effect statements and policy implications based on study design and other criteria. The first media release under the new plan—joint IWH/ICES research showing an association between low job control and hypertension in men—was picked up by nine different outlets, including the Globe & Mail (which made it the top banner on the front page of the Life & Arts section). Overall, media mentions stayed relatively steady compared to the previous year, at around 35 to 45 total print, radio, TV and web clips per quarter.

In 2013, IWH took important steps towards the creation and posting of videos. A good quality camera and related equipment were purchased and an all-day video training session was held for KTE staff in November. Lessons learned were incorporated into the videotaping of Mieke Koehoorn at the IWH offices prior to her Nachemson lecture, for use in related videos to be posted in early 2014.

In 2013, people in the Contact Relations Management (CRM) system database were contacted by e-mail to update their information, and this information was incorporated as it was received. As well, the media list expanded from 170 to 320 names by adding e-alert sign-ups who indicated their roles as “communications/media” and/or their sector as “information/culture.” Over the course of the year, the number of contacts in the CRM database grew from 6,070 in Q1 to 6,890 in Q4, and e-alert sign-ups increased from 3,475 to 3,535.

IWH hosted a well-received Nachemson lecture given by Dr. Mieke Koehoorn, on a policy/research partnership in British Columbia. The event was attended by 134 guests. IWH was also present, as usual, on the trade show floor of the Partners in Prevention conference. For the first time, IWH rented a scanner to acquire delegate names and e-mail addresses, which resulted in acquiring 222 names, compared to about 30 the previous year.

The 2012 annual report, produced in 2013, was themed “Protecting Vulnerable Workers” and, for the first time in a long time, a photo shoot was commissioned to produce graphics for use in the annual report. The result was a report with compelling photos showing various types of vulnerable workers on the job.

In early 2013, a plan for changing funder acknowledgements on all IWH products, which had been shared with and approved by the Ministry of Labour (MOL), was successfully put into place as products were published and updated.

Internally, 2013 saw the weekly production of the staff newsletter, *thisweek@iwh*. The changeover to the wiki as the Institute’s intranet continued. New content was added, included the IWH calendar, new general document templates, and an orientation sheet for new employees, introducing them to the Communications team. A wiki survey was developed in 2013 for administration in early 2014.

Researchers: Cindy Moser (Project Leader), Kristina Buccat, Jan Dvorak, Lyudmila Mansurova, Greer Palloo, Ron Saunders, Uyen Vu

Collaboration and Partnerships: As required.

Potential Audiences and Significance: External audiences include workplace parties, worker and employer representatives, policy-makers, occupational health and safety professionals, disability management professionals, clinicians, researchers, funders and more. Internal audiences include all IWH staff.

2013 Accomplishments

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2013 Publications
(not included in project listings)

Published

Allen MJ, Asbridge MM, Macdougall PC, Furlan AD, Tugalev O. Self-reported practices in opioid management of chronic noncancer pain: a survey of Canadian family physicians. *Pain Research Management* 2013 Jul;18(4):177-84.

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Shulte F, Smith PM, Beaton DE, Dewey D, Barrera M. Social adjustment in pediatric brain tumor survivors: Evaluating the psychometric properties of assessment tools. Submitted: Journal of Pediatric Psychology.

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Tompa E, de Boer H, Macdonald S, Alamgir H, Koehoorn M, Guzman J. Perspectives and priorities in the measurement of resources and outcomes in health and safety program evaluation in healthcare. Submitted: Healthcare Policy. (Project 1135: Accounting for all the Benefits)

Tompa E, Scott-Marshall HK, Fang M. Does permanent impairment from workplace accident increase the risk of marital breakup? Submitted: Social Indicators Research. (Project 0406: WSIB lost-time injuries)

Tompa E, Scott-Marshall HK, Fang M, Mustard CA. Comparative benefit adequacy and equity of three Canadian workers' compensation programs for long-term disability. Submitted: Canadian Public Policy. (Project 0416: ER and OHS Studies)

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Van Eerd D, King T, Keown K, Slack T, Cole DC, Irvin E, Amick BC, Bigelow P. Report to: WorkSafeBC Focus on Tomorrow. Dissemination and uptake of a Participatory Ergonomics Guide for workplaces in British Columbia. Toronto, Canada: Institute for Work & Health; March 2013 (Project 3100: PE Tool)

Abstracts: Published

Beaton DE, Carol K, Palloo G, Saunders R. The DASH outcome measure app: Now available on the iPad. 3-4 May 2013; Calgary, Canada: Canadian Society of Hand Therapists (CSHT) 6th Annual Meeting.

Jetha A, Badley EM, Beaton DE, Gignac MAM. The role of social relationships and perceived independence in the employment participation of young adults with rheumatic disease. 27 October 2013; San Diego, United States: American College of Rheumatology Annual Meeting.

Luca N, Stinson J, Feldman BM, Benseler S, Beaton DE, Bayoumi AM. Reliability and responsiveness of the standardized universal pain evaluations for Rheumatology providers for children and youth (SUPER-KIDZ). 25-29 September 2013; Ljubljana, Slovenia: European Pediatric Rheumatology 20th Congress.

Media and Web

Burchell G. Low job control at work linked to health conditions [internet]. OHS Canada, 4 March 2013. [Quotes Cameron Mustard]. [Accessed on Apr 4, 2013]. Available from

<http://www.ohscanada.com/news/low-job-control-at-work-linked-to-health-conditions/1002114551/>

De Guzman M-L. Western Canada workers have higher risk of injury: Study. Occupational Safety, 19 February 2013 <http://www.cos-mag.com/hygiene/hygiene-stories/western-canada-workers-at-higher-risk-of-injury-study.html> (Project 437: Geographic variation)

Hawkes C. National sleep awareness week. [internet]. Jobsafety.Seton.ca, 3 March 2013. [Quotes Cameron Mustard]. [Accessed on Apr 4, 2013]. Available from <http://jobsafety.seton.ca/national-sleep-awareness-week/>

Moser C, Van Eerd D. The science of return-to-work: Workplace factors that can help or hinder successful Work Reintegration. Canadian Occupational Safety Magazine, April 2013.

Steenstra IA. Factors affecting return to work following low-back pain webinar. Canadian Institute for the Relief of Pain and Disability. February 22, 2013 at 11am. <http://vimeo.com/6059054>

Taylor P. Men with little control over work life at risk of high blood pressure, study finds [internet]. The Globe and Mail, 27 February 2013. [Quotes Cameron Mustard]. [Accessed on Apr 4, 2013]. Available from <http://www.theglobeandmail.com/life/health-and-fitness/health-navigator/five-questions-to-determine-how-much-job-control-you-have/article9125910/>

Workplace Safety North's Every Worker Newsletter, 26 March 2013. High risk for new workers an ongoing issue [Describing Dr. Breslin's study on new worker injury risk]. <http://www.workplacesafetynorth.ca/news/news-post/high-risk-new-workers-ongoing-issue>

Media coverage received for the article by Smith PM, Glazier RH, Lu H, Mustard CA. The psychosocial work environment and incident diabetes in Ontario, Canada. Occupational Medicine 2012;62(6):413-419.

- Institute for Work & Health. www.iwh.on.ca Work environment may put women at risk of diabetes. Aug 21, 2012. Picked up by Heath & Healthcare News; Canadian Occupational Safety: Thomson Reuters Canada; Canadian Safety Reporter.
- Institute for Clinical Evaluative Sciences. www.ices.on.ca Work environment may put women at risk of diabetes. Aug 21, 2012. The release resulted in, to date, interviews with CBC, Agence France-Press (AFP) and Sarnia Observer.
- Habib M. CBC News: Health. www.cbc.ca Diabetes risk higher in women than men with no job control. Toronto study recommends giving workers more say on the job may curb stress. Aug 21, 2012. CBC news clip/release picked up by at least 35 other organizations/websites.
- Agence France-Press (AFP) Job stress doubles diabetes risk in women. AFP press release also picked up by at least 35 other organizations/websites.
- Revay V. Global News. www.globalnews.ca Work environment may put women at risk of diabetes: study. Aug 21, 2012
- Moore A. Medical Daily. www.medicaldaily.com Low job control doubles the risk of diabetes in women. Aug 22, 2012
- Kula T. The observer: News Local. www.theobserver.ca Low job control linked to diabetes: Study. Aug 21, 2012
- <https://divabetic.wordpress.com> Worrying about work? It could give you diabetes. Aug 22, 2012
- <http://scienceindex.com> The psychosocial work environment and incident diabetes in Ontario, Canada. Aug 22, 2012
- www.prediabiotics.org The stresses at work and its link with diabetes. Aug 23, 2012.

2013 External Scientific & Academic Presentations/Conferences

International

Badley EM, Gignac MAM, Moore L, Chan C, Cao X, Bowring JA. An education needs assessment: Findings from surveys of patients and caregivers. 25-30 October 2013; San Diego, United States: American College of Rheumatology/Association of Rheumatology Annual Meeting.

Beaton DE. Using outcome measures in clinical practice. 25-30 October 2013; San Diego, United States: American College of Rheumatology/Association of Rheumatology Annual Meeting.

Beaton DE. Choosing outcomes for clinical research. 6-8 December 2013; Bologna, Italy: International Society of Fracture Repair.

Bültmann U, Hogg-Johnson S, Lee H, Franche RL, Carnide N, Steenstra IA, Amick BC. Poster: Measurement properties of the 16-item Work Limitations Questionnaire among injured workers with musculoskeletal disorders – Do depressive symptoms make a difference? 18-21 June 2013; Utrecht, Netherlands: EPICOH 2013.

Gignac MAM, Badley EM, Moore L, Bowring JA, Cao X. The employment experiences of people with arthritis: Findings from an on-line survey. 25-30 October 2013; San Diego, United States: American College of Rheumatology/Association of Rheumatology Annual Meeting.

Gignac MAM. Striking a balance: Positive and negative inter-relationships among work, health and personal life roles in women and men with arthritis. Invited speaker for the Arthritis and Rheumatism Health Professionals Special Workshop: Work, Health and Well-Being: Arthritis and Employment across the Life Course. 25-30 October 2013; San Diego, United States: American College of Rheumatology/Association of Rheumatology Annual Meeting.

Hogg-Johnson S, Robson LS, Cole DC, Tompa E, Amick BC, Smith PM, Van Eerd D, Mustard CA. A randomized controlled study of targeted occupational health & safety consultation or inspection in Ontario workplaces. 12 March 2013; Melbourne, Australia: Monash Injury Research Institute (MIRI). (Project 0432: High Risk Firms)

Hogg-Johnson S. The impact of system level change on workers' compensation claims in Ontario, Canada. 13 March 2013; Melbourne, Australia: Institute for Safety, Compensation and Recovery Research (ISCRR) Stakeholder Seminar Series. (Project 0327: WSIB Claims Persistence)

Jetha A, Badley EM, Beaton DE, Gignac MAM. The role of social relationships and perceived independence in the employment participation of young adults with rheumatic disease. 25-30 October 2013; San Diego, United States: American College of Rheumatology/Association of Rheumatology Annual Meeting.

Kristman VL, Reguly P, Bédard M. A comparison of outcome measures for studying prognosis in older adults: Preliminary results from a pilot prospective cohort study. 19-22 March 2013; San Francisco, United States: 10th World Congress on Brain Injury.

Laberge M, Calvet B, Vézina N, Lavallée-Poirier M, MacEachen E, Durand MJ. Évaluation d'utilisation d'outils d'apprentissage de la SST développés en ergonomie pour la formation en alternance. 3-5 June 2013; Paris, France: 48^{ème} congrès international Société d'Ergonomie de Langue Française.

Monro M, Amick BC, Bottorff J, Corbett K, Shen H, Storoschuk S, Gotay C. Be well at work: Interaction effects of gender and intervention in a randomized study of cancer prevention programs in the workplace. 7-8 November 2013; Washington DC, United States: American Institute for Cancer Research Conference.

Morassaei S, Breslin FC, Ibrahim S, Smith PM, Mustard CA, Amick BC, Shankardass R, Petch J. Geographic variation in work injuries: a multilevel analysis of individual-level data and area-level factors within Canada. 27 September 2013; Helsinki, Finland: ICOH Culture of Prevention Symposium. (Project 0437: Geographic variation)

Mustard CA, Lilley R, Smith PM, Keegel T, Collie A, McLeod C. Mini-symposium: Innovative uses of Workers' Compensation data: Improving impact. 18-21 June 2013; Utrecht, Netherlands: EPICOH 2013.

Salbach NM, O'Brien K, Brooks D, Irvin E, Martino R, Takhar P, Chan S, Howe J. Poster: Reliability, measurement error and sensitivity to change of time-limited walk tests in people with stroke: A systematic review. 28-31 May 2013; London, UK: European Stroke Conference.

Smith BT, Smith PM, Manuel DG, Harper S, Mustard CA. The association between socioeconomic position, modifiable risk factors and heart disease incidence in Canada: The national population health survey. 18-21 June 2013; Boston, United States: 46th Annual Society of Epidemiologic Research (SER) Meeting.

Smith PM. A Model of knowledge, transfer & exchange in work and health research: An overview and practical application. 29 August 2013; Geelong, Australia: Australian and New Zealand Society of Occupational Medicine Annual Scientific Meeting.

Smith PM. The impact of injury type, hospitalizations and pre-existing chronic conditions on age differences in absence from work following a work injury in British Columbia. 18-21 June 2013; Utrecht, Netherlands: EPICOH 2013.

Smith PM. Gender differences in the effect of low job control on hypertension and diabetes in Ontario, Canada. 29 March 2013; Tokyo, Japan: 6th ICOH International Conference on Work Environment and Cardiovascular Diseases.

Steenstra I, Irvin E, Mahood Q, Hogg-Johnson S, Busse J, Van Eerd D, Friesen M, Oranye N. Prognostic factors for duration of sick leave in patients with chronic low back pain, a systematic review. 18-21 June; Utrecht, Netherlands: EPICOH 2013. (Project 3115: SR Prognosis for Chronic LBP)

Steenstra IA, Branco A, Ibrahim S. Poster: Does work relatedness of an injury influence time on disability benefits in Brazil. 18-21 June 2013; Utrecht, Netherlands: EPICOH 2013.

Tompa E, Hogg-Johnson S, Amick BC, Wang Y, Shen E, Mustard CA, Robson LS. Financial incentives for workplace health and safety: An analysis of workers' compensation experience-rating in Ontario, Canada. 7-10 July 2013; Sydney, Australia: International Health Economic Association.

Tompa E. Impact of work Injury and permanent impairment on labour-market engagement of older workers. 26-28 August 2013; Helsinki, Finland: Work, Well-being and Wealth: Active Ageing at Work.

Tompa E. Promotion of well-being at work – Economic effects. 26-28 August 2013; Helsinki, Finland: Work, Well-being and Wealth: Active Ageing at Work.

Tompa E, MacEachen E. Income security and labour-market engagement: Envisioning the future of work disability policy. 3-5 September; Coventry, England: British Sociological Association: Work, Employment and Society Conference 2013.

Wong I, Smith PM, Mustard CA, Gignac MAM. Does changing shift schedules influence the risk of work injury? 4-8 November 2013; Rio de Janeiro, Brazil: 21st International Symposium on Shiftwork and Working Time.

National

Beaton DE. The DASH Outcome measure App. May 2013; Calgary, AB: 2013 Canadian Society of Hand Therapists Conference.

Cameron JI, Czerwonka A, Naglie G, Gignac MAM, Green T, Warner G, Bayley M, et al. Can we identify family caregivers in need of support from the health care system? 17-20 October 2013; Montreal, QC: Canadian Stroke Congress - Vascular Day.

Canizares M, Perruccio A, Gignac MAM, Hogg-Johnson S, Badley EM. The health of the aging Canadian Baby boomer generation: Are the effects of secular improvements in education and income offset by increases in obesity? 17-19 October 2013; Halifax, NS: Canadian Association of Gerontology Annual Scientific and Educational Meeting.

Cardoso S, Robson LS, Moser C, Amick B, Swift M, Pagell M, Hogg-Johnson S, Shannon HS, Mansfield L, South H. Searching for breakthrough change in occupational health and safety performance: Emerging themes. 20-22 March 2013; Halifax, NS: Safety Service Nova Scotia.

Carrasco C, MacEachen E, Saunders R, Lippel K, Mansfield L, Kosny A. They're temps for a reason: Examining the interplay of managerial discourses of control and temporary agency worker resistance strategies. 3-8 June 2013; Victoria, BC: Canadian Federation of Humanities and Social Sciences Congress. (Project 1125: Temporary Work Agency Grant)

MacEachen E, Saunders R, Lippel K, Kosny A, Carrasco C, Mansfield L. The workers are our product: The occupational health implications for workers of social disconnect in work agency relationships. 3-8 June 2013; Victoria, BC: Canadian Federation of Humanities and Social Sciences Congress. (Project 1125: Temporary Work Agency Grant)

Reguly P, Kristman VL, Shaw W. Poster: Supervisor and organizational factors associated with supervisors' support for work accommodation for low back pain injured workers. 24-27 June 2013; St. John's, Newfoundland: 2013 CSEB Biennial Conference.

Smith BT, Smith PM, Manuel DG, Harper S, Mustard CA. The association between socioeconomic position, modifiable risk factors and heart disease incidence in Canada: The national population health survey. 24-28 June 2013; St John's, Newfoundland: 2013 CSEB Biennial Conference.

Local and Provincial

Beaton DE. Keep your eye on the target: Compassion, knowledge & leadership in rehabilitation outcomes. 8 October 2013; London, ON: Helen Saarinen Lectureship.

Educational, Professional, Policy

Gignac MAM. Improving access to care: How access to care affects work and productivity. 18 April 2013; Toronto, ON: Invited Panel Presenter for the Health Charities Coalition of Canada.

Gignac MAM. Arthritis and employment: Research and opportunities for impact. 15 May 2013; Toronto, ON: Invited presenter to the Senior Leadership Team Meeting of The Arthritis Society.

Gignac MAM. Arthritis and employment: Research and opportunities for impact. 17 June 2013; Toronto, ON: Invited presenter to the Board of Directors, Ontario Division, The Arthritis Society.

MacEachen E. Chair, Symposium on socio-political challenges in work disability prevention. 12-13 June 2013; University of Toronto, ON: CIHR Work Disability Prevention Program.

Mustard CA. Low job control: Is it more harmful than smoking or drinking? 8 October 2013; Toronto, ON: 2013 Health and Safety Conference, Lancaster House.

Saunders R. KT and the policy community. 19 November 2013; Toronto, ON: Presentation in Knowledge Translation Professional Certificate program, SickKids Learning Institute.

Saunders R. Improving knowledge exchange through dialogue with influential knowledge users. 4 June 2013; Canadian Knowledge Mobilization Forum.

Plenaries

January

- Regional trends in work-related injury and illness, Ontario 2004-2008 (January 29, 2013)
Andrea Chambers, PhD Student, and Dr. Cam Mustard, President and Senior Scientist, Institute for Work & Health
- Development of a prediction rule to determine time away from work (January 22, 2013)
Dr. Ivan Steenstra, Institute for Work & Health

February

- Serving the food nation: Assessing body mass index and self-perceived weight in the food service worker population (February 19, 2013)
Julia Woodhall, Department of Sociology and Legal Studies, University of Waterloo
- Certifications and awards for occupational health and safety, wellness, quality and excellence (February 5, 2013)
John Speers, Manager, HSW & Organizational Excellence, Workplace Safety & Prevention Services

March

- Near-miss reporting...on the road to prevention (March 19, 2013)
Ester Digiovanni, Health, Safety, Environment, Quality & Security Specialist, Atotech Canada Ltd.

April

- Work disability trajectories under three workers' compensation programs (April 2, 2013)
Dr. Emile Tompa, Institute for Work & Health

May

- A classification of components of workplace disability management programs: Results from a systematic review (May 28, 2013)
Merete Labriola, School of Public Health, University of Aarhus, Denmark
- A multi-centre research initiative focusing on successful integration of youth into education and employment (May 28, 2013)
Thomas Lund, Department of Occupational Health, Regional Hospital Herning, Denmark
- Monitoring health inequities by socio-economic status: Lessons from Scotland (May 22, 2013)
Dr. John Frank, Scottish Collaboration for Public Health Research and Policy, University of Edinburgh
- Fairness in accommodating work injury and disability: What is perceived as fair and why do these perceptions matter? (May 7, 2013)
Dr. Gail Hepburn, Department of Psychology, University of Lethbridge

July

- Visuals for workplace safety (July 16, 2013)
Peter Stoyko, Elanica (Information Design Consultancy)

September

- Non-randomized studies in Cochrane reviews of intervention studies: A content analysis (September 24, 2013)
Jani Ruotsalainen, Finnish Institute of Occupational Health, Finland
- Prospective Outcomes of Injury Study: Recruitment and participant characteristics (September 11, 2013)
Sarah Derrett, University of Otago, New Zealand

October

- Contrasting participatory ergonomics programs with requirements for occupational health and safety management systems (October 29, 2013)
Dr. Richard Wells, University of Waterloo and the Centre of Research Expertise for Prevention of Musculoskeletal Disorders (CRE-MSD)
- Health and safety issues in the aging workforce (October 22, 2013)
Harry Shannon, Department of Clinical Epidemiology & Biostatistics, McMaster University
- Health-care workers and antineoplastic drugs: Evaluating the risks and identifying determinants of exposure (October 15, 2013)
Chun Yip Hon, School of Occupational and Public Health, Ryerson University

November

- Law Commission of Ontario's Vulnerable Workers Project: Why? How? What's next? (November 26, 2013)
Patricia Hughes, Law Commission of Ontario
- Preventing needlestick injuries in Ontario's acute care hospitals: Progress and ongoing challenges (November 19, 2013)
Andrea Chambers, PhD student, Institute for Work & Health
- Geographic variation in work injuries: An analysis of individual and area-level factors within Canada (November 13, 2013)
Dr. Curtis Breslin and Sara Morassaei, Institute for Work & Health
- Bridging the gap between the economic evaluation literature and daily practice in OHS (November 12, 2013)
Hanneke van Dongen, Department of Health Sciences, VU University, Amsterdam

December

- An introduction to developmental evaluation: Why evaluation matters in rethinking "accountability to learning" (December 3, 2013)
Sanjeev Sridharan, Evaluation Centre for Complex Health Interventions, St. Michael's Hospital

Research Project Funding: Awarded in 2013

Amick BC, Beaton DE, Churchill D, Hogg-Johnson S, Robson L, Van Eerd D, Riahi S Assessing the validity and reliability of a tool to support reducing patient on staff violence-related injuries. WSIB RAC: \$59,720. (2013-2014) (Project: 2220: Tool to Reduce Violence Related Injury)

Beaton DE, Tang K, Smith PM, Lacaille D, Escorpizo R, Hofstetter C, Montie P, Verstappen S, Boonen A. Interpretability of measures of worker productivity: A study defining meaningful benchmarks and changes in scores for use in clinical trials and clinical practice in arthritis. Canadian Arthritis Network: \$50,000 (1 year)

Beaton DE, Kennedy C, Tang K, MacRitchie I, Richards R, Gignac AM. Factors at the transition: Understanding RTW decisions in injured workers, and comparing those to people managing chronic conditions at work. WSIB RAC: \$59,988 (1 year)

Furlan A, Irvin E, Carnide N, Van Eerd D, Macdonald S, Radhakrishnan A, Hitzig S. Strategies to support the appropriate use of prescription opioids. CIHR: \$96,496 (1 year)

Kristman V, Shaw W, Loisel P, Amick BC, Boot C, Tolusso D, Hogg-Johnson S. A supervisor training program for work disability prevention: a Cluster Randomized Controlled Trial. CIHR: \$331,224 (3 years)

Mustard CA, Amick BC, Van Eerd D. Organizational change to protect worker health. CIHR: \$306,706 (3 years)

Smith PM, Saunders R, LaMontagne AD. Developing a framework for understanding and measuring occupational health and safety vulnerability. ISCRR: \$49,653 (1 year)

Steenstra I, Amick BC, Busse JW, Furlan AD, Hogg-Johnson S, Tolusso D. Predicting successful return to work in worker on disability due to low back pain. CIHR: \$322,946 (4 years)

Tompa E, MacEachen E. Challenges of workplace injury prevention through financial incentives in a global economy. CIHR: \$25,000 (1 year)

Tompa E, Saunders R, Mustard C. Impairment and work disability of workers' compensation claimants in Ontario, a cohort study of new claimants from 1998-2006. CIHR: \$204,685 (2 years)

Van Eerd D, King T, Amick BC, Robson LS, MacGregor C. eLearning for office ergonomics. WSIB RAC: \$39,718 (1 year)

Van Eerd D, Irvin E, King T, Saunders R, Brenneman-Gibson J. An assessment of knowledge transfer and exchange: Researcher and stakeholder perspectives. WSIB RAC: \$38,030 (1 year)

Van Eerd D, Chan V, Colquhoun H, Cornelissen E, Jenkins E, Klein G, Lal S, Prasanna S, Richmond S, Urquart R. KT research development within a national knowledge translation trainee collaborative. CIHR: \$24,937 (1 year)

Non-IWH Research Project Funding: Awarded in 2013

Badley E, Gignac M, Hogg-Johnson S, Peruccio A. In sickness or in health? How well are the baby boomers aging compared to older generations: an analysis of age, period and cohort effects. CIHR: \$99,967 (2011-2013)

Bültmann U, Amick BC. Work functioning among cancer survivors. Dutch Cancer Foundation: 439.100 Euro (2012-2016)

Davis AM, Mahomed N, Perruccio A, Chesworth B, Gandhi R, Hogg-Johnson S, Waddell J, Rajgopa V. Quantifying and understanding a “good” outcome following total knee replacement. The Arthritis Society: \$329,832 (2013-2015)

Demers P, Grant H, Kramer D, Tompa E (Project Leads) Hyatt D, McLeod C Assessment of the human and economic burden of workplace cancer, multi-sector team grants in prevention research. Canadian Cancer Society Research Institute (CCSRI): \$1,000,000 (4 years).

Dennerlein J, Cavallari J, Amick BC. Randomized controlled trial of whole body vibration intervention in truck drivers. NIOSH: \$81,805 (2012-2016)

Gignac MAM, Backman C, Lacaille D, Beaton DE, Badley EM. Striking a balance: Health and employment outcomes related to role overload and role balance among people with arthritis. CIHR: \$357,564 (2010-2013)

Gross D, Steenstra IA, Williams-Whitt K, Shaw N, Shaw W. Clinical decision-support tools for managing disabling musculoskeletal disorders. WCB Manitoba: \$88,085 (2012-2014)

Hayden JA, Saunders R, Iles R, Riley RD, Pincus T, Parker RM. Individual recovery expectations and prognosis of low back pain: Synthesis and implementation of prognostic factor evidence. CIHR Knowledge Synthesis: \$94,448 (2013-2014)

Koehoorn M, Hogg-Johnson S, Lippel K, McLeod C. Gender, sex and work injury, illness and disability. CIHR: \$436,884 (2012-2015)

Koehoorn M, McLeod C, Hogg-Johnson S, Mustard C, Amick BC, Kraut A. Comparative analysis of severe work-related injuries and long duration claims in three Canadian provinces. WCB Manitoba: \$199,246 (2012-2014)

Kramer D, Bigelow P, Aversa T, McMillan K, Naqvi S, Steenstra I, Van Eerd D, Wells R. Evaluation of a workplace-level MSD-prevention knowledge transfer intervention, and the creation of an on-line MSD prevention planning tool. WSIB RAC: \$134,292 (2011-2013)

Kristman V, Bedard M, Chisholm S, Brison R. Prognosis for mild traumatic brain injury in the elderly population: A pilot cohort study. Ontario Neurotrauma Foundation: \$96,424 (2012-2014)

Loisel P, Breslin FC, Hogg-Johnson S, MacEachen E, Tompa E, et al. CIHR Strategic Training Program in Work Disability Prevention. CIHR: \$1,950,000 (2008-2014)

Nichol K, Holness L, Kudla I, Robson LS. The development and testing of a tool to assess joint health and safety committee functioning and effectiveness. WSIB RAC: \$39,999 (2012-2013)

Sears JM, Bowman SM, Hogg-Johnson S. Using injury severity to improve occupational traumatic injury trend estimates. National Institute for Occupational Safety and Health Development Grant: \$343,685. US (2012-2014)

Sorensen G, Amick BC, et al. Harvard School of Public Health Center for Work, Health and Wellbeing. NIOSH: \$6,540,213 [\$63,000 at IWH] (2011-2016)

Viikari-Juntura E, Solovieva S, Martimo KP, Kivekäs T, Kausto J, Virta L, Laaksonen M, Burdorf A, MacEachen E. Effects of temporary work modifications on work disability related to musculoskeletal pain and depressive symptoms. Academy of Finland: 220,000 EURO (2012-2014)

Viikari-Juntura E. (PI), Solovieva S, Martimo KP, Kivekäs T, Kausto J, Virta L, Laaksonen M, Burdorf A, MacEachen E. Efficacy and effectiveness of occupational interventions in enhancing return to work: experimental and quasi-experimental studies. Academy of Finland: EURO 457,745 (CAD \$615,000). (2013-2015)

Wells R, McMillan K, Kramer D, Bigelow P, Naqvi S, Steenstra I. Developing and evaluating a workplace-level MSD physical risk factor survey: A researcher-labour collaborative project. WSIB RAC: \$83,947 (2012-2014)

Research Project Funding: Submitted in 2013

Amick BC, Hogg-Johnson S (Co-PI's), Saunders R, Demers P, McLeod C. Understanding key drivers of the 'union effect' in the construction sector. MOL: \$296,908 (2 years)

Amick BC, Van Eerd D (Co-PI's), Village J, Lambraki I. How are leaders using benchmarking information on occupational health and safety performance? MOL: \$297,795 (2 years)

Beaton DE, Hogg-Johnson S, Touma Z, Cullen K, Ervin E, Van Eerd D, Mahood Q. Best Outcome Selection Study (BOSS): Scoping Review. A scoping review to identify the literature on risk of bias. CIHR Knowledge Synthesis: \$49,856 (1 year)

Bornstein S, Irvin E, Van Eerd D, Saunders R. Synthesizing occupational health and safety knowledge for local stakeholders. Manitoba WCB: \$196,126 (2 years)

Breslin FC, MacEachen E, Laberge M, Jetha A, Tompa E. Learning disabilities and workplace safety. MOL: \$241,021 (2 years)

Cole DC, Tew M, McLaughlin J. Migrant agricultural workers and eye protection: The impact of an educational intervention on eye health of seasonal workers in Ontario and the factors that predict it. MOL: \$299,681 (2 years)

Furlan A, Meldon K. (Co-PI's) Saunders R. Knowledge translation of the Canadian Opioid Guidelines into multiple electronic medical records (EMR). HSRF Capacity Award: \$1,050,000

Furlan A, Stinson J, Stevens B, Taenzer P, Kaham M, Dubin R. An evaluation of the replication of the Project ECHO for chronic pain and opioids stewardship in Ontario. CIHR Partnerships for Health System Improvement: \$399,810 (3 years)

Gignac M, Beaton DE, Badley E, Kristman V, Mustard C, Smith PM. A longitudinal follow-up of the employment needs and experiences of older workers with arthritis and diabetes: Keeping the Boom(ers) in the labour market. MOL: \$245,646 (2 years)

Irvin E, Van Eerd D, (Co-PI's) Hogg-Johnson S, Beaton DE, Amick BC, Munhall C, Cullen K. Implementation of effective MSD prevention: A systematic review. MOL: \$59,530 (1 year)

Kosny A, Saunders R, Premji S, Lifshen M. Falling through the cracks? New immigrants, employment preparation and workplace health & safety. MOL: \$212,930 (2 years)

MacEachen E, Saunders R, Lippel K, Kosny A, Laberge M. Keeping temp agency workers safe: tips for employers and workers. MOL: \$59,943 (1 year)

Mustard CA, Tompa E. Costs and benefits of investments in occupational safety and health. MOL: \$279,100 (2 years)

Saunders R, Breslin FC, Myers K. Enhancing essential skills through OHS training: a pilot study. MOL: \$200,336 (2 years)

Scott-Marshall H, Mustard C, Tompa E. The effect of work disability on the labour-market outcomes of older Canadians. CIHR: \$235,114 (2 years)

Scott-Marshall H, Tompa E, MacEachen E. Exploring barriers and facilitators to active and sustained labour-market engagement in older Canadians. MOL: \$180,859 (2 years)

Smith PM, Brisson C, Glazier R, Mustard CA. Developing a gender/sex-sensitive understanding of how the psychosocial work environment is related to chronic disease. CIHR Grant: \$447,538 (3 years)

Smith PM, Hogg-Johnson S, Mustard CA. Understanding why gender and age differences exist in return-to-work following a musculoskeletal injury. CIHR: \$246,151 (2 years)

Smith PM, Saunders R, Lamontagne A, Breslin C, Tompa E. A survey tool for measuring occupational health and safety vulnerability. MOL: \$201,088 (2 years)

Smith PM, Sim M, Hogg-Johnson S, Lilley R, Lamontagne T. Understanding individual, workplace and system level influences on return to work in a changing Australian labour market. Australian Research Council: \$416,282 AUD (2 years)

Tompa E, Clune L, van Dongen JM, Dewa C, Mahood Q, Irvin E. Develop a methods workshop specifically for the health care sector including a portfolio of health care studies. MOL: \$135,177 (2 years)

Van Eerd D, Amick BC, Hogg-Johnson S, Mustard CA, Steenstra I, Robson LS, Wells R. Evaluating the implementation of a participatory intervention in long term care. MOL: \$299,600 (2 years)

Van Eerd D, Amick BC, Steenstra I, King T. High engagement training for office ergonomics. MOL: \$298,360 (2 years)

Williams A, Tompa E. Evaluation of caregiver-friendly workplace policy (CFWP) interventions on the health of caregivers employees. MOL: \$299,474 (2 years)

Williams A, Tompa E, MacEachen E. Vulnerable workers: Caregiver-employers managing precarious employment and informal care work. MOL: \$150,000 (1 year)

Non-IWH Research Project Funding: Submitted in 2013

Bigelow P, Tompa E, Dickey J, Cann A. Intervening in the transportation sector to reduce low back pain using biomechanics, facilitation and economics. MOL: \$291,173 (2 years)

Davis AM, Davis K, McCartney C, Diamandis E, Hawker G, Backstein D, Jenkinson R, Perruccio A, Hogg-Johnson S, Carlesso L, Gandhi R, Schemitsch E; (Collaborators): Goobermann-Hill R, Kandel R, Mahomed N. After total knee replacement: The 'pain' of persistent pain. CIHR: \$1,536,916 (5 years)

Davis AM, Perruccio AV, Hogg-Johnson S, Mahomed NN, Gandhi R. Determining good outcome following total knee replacement. CIHR: \$301,711 (3 years)

Davis AM, Perruccio AV, Hogg-Johnson S, Mahomed NN, Gandhi R. Determining good outcome following total knee replacement. Resubmission: CIHR: \$325,484 (3 years)

Fernie G, Furlan A, Campos J, Naglie G, Hebert D, Advani S, Haycock B. An evaluation of the realism and usefulness of advanced driving simulation technology that includes glare and rain for testing older drivers. CIHR: \$556,538 (3 years)

Dunstan D, MacEachen E. The personal helpers and mentors service model: How does it support recovery from mental illness in rural Australia? Australian Research Council Linkage Project: \$355,656 (3 years)

Dunstan D, MacEachen E. Manager's perspectives on the role of co-workers in workplace reintegration processes. University of New England: \$8,815 (1 year)

Gross D, Steenstra IA, Williams-Whitt K, Shaw N, Shaw W, Seale L, Amell T, Woodhouse L, Niemelainen R. Clinical decision-support tools for managing disabling musculoskeletal disorders: A transdisciplinary scoping review. CIHR Knowledge Synthesis Grant: \$46,195 (1 year)

Loisel P, Cote P, Hogg-Johnson S, Dewa C, Pransky G, Anema J, O'Hagan F, Costa-Black K. WDPI 2014 Bi-Annual International Conference in Toronto. CIHR Dissemination Grant: \$25,000 (1 year)

Loisel P, Côté P, Tompa E, MacEachen E, Kube D, Lariviere C, Mantis S, Bornstein S, Walker C, Taylor P. Mobilizing work ability and health/Mobiliser les connaissances pour travailler en santé. Networks of Centres of Excellence-Knowledge Mobilization (NCE-KM): \$1,782,306 (4 years)

Mahomed N, Davis A, Gandhi R, Hogg-Johnson S, Perruccio AV, Waddell JP. Defining good outcome following hip replacement surgery. Physicians' Services Incorporated (PSI) Health Systems Research: \$170,000 (2 years)

McLeod C, Amick BC, Scott-Marshall H. The health and well-being consequences of the great recession: A comparative and cross-jurisdictional analysis. CIHR: \$492,887 (3 years)

McLeod C, Collie A, Amick BC, et al. An international collaboration on comparative, inter-jurisdictional research in occupational health and safety and workers compensation. CIHR: \$24,998 (1 year)

Premji S, MacEachen E, Smith PM, Koehoorn M, Saunders R, Kosny A. Workers' compensation policies, practices and outcomes for linguistic minorities: A comparative case study Ontario and British Columbia. SSHRC: \$230,000 (5 years)

Rampersaud Y, Raja, Furlan A, Marin T, Irvin E. Recurrent low back pain: A systematic review to inform future guideline development. CIHR Knowledge Synthesis: \$97,673 (1 year)

Ray J, Roche-Nagle G, Waddell J, Beaton DE. Incidence, risk factors and outcomes of surgical amputation of a contralateral lower limb -- a population-based study. CIHR: \$49,745 (1 year)

Sale J, Beaton DE, Bogoch E, Gignac MAM, Ho J. How do fracture patients with co-morbidities manage bone health treatment? CIHR: \$272,714 (3 years)

Sears JM, Hogg-Johnson S, MacEachen E, Franklin G. Keys to re-injury prevention and sustained return-to-work for disabled workers. NIOSH: \$343,554 (2 years)

Sears J, Hogg-Johnson S. Using injury severity to improve occupational traumatic injury trend estimates. NIOSH: \$174,684 (2 years)

Taskila T, Grunfeld E, Louise L, MacEachen E, Powell T. Improving return to work in people with acquired brain injury through participation in evidence based vocational rehabilitation program. National Institute for Health Research: \$420,639 (2.5 years)

Research Personnel Funding & Other Awards

Carnide N. Vanier Canada Graduate Scholarship. CIHR: Analgesic prescriptions for work-related musculoskeletal disorders: Understanding utilization patterns, determinants, and impact on work disability, 2010-2013.

Carnide N. The Queen Elizabeth II/C.P. Shah Award of \$15,000, 2012-2013.

Furlan A, Amick BC, Bombardier C. Reardon R. My Opioid Manager - A point of care tool for patients with chronic non-cancer pain considering opioids. CIHR New Investigator Grant, 2012-2017.

Gignac MAM. Distinguished Scholar Award, Association of Rheumatology Health Professionals (ARHP), 2013.

Gignac MAM. Queen Elizabeth II Diamond Jubilee Award, Governor General's Office: Service to The Arthritis Society, 2013.

Smith PM. CIHR Chair Award 2012-2017: Examining gender/sex differences in the relationships between work stress and disease, work injury and the consequences of work injury.

Tang K. CIHR PhD Fellowship, 2010-2014.

2013 Institute for Work & Health Staff

* denotes staff no longer at the IWH

Research

Amick, Benjamin; PhD, Senior Scientist
Ammendolia, Carlo; PhD, DC, Associate Scientist
Barlow, Amy; MA, Research Associate
Beaton, Dorcas; PhD, Senior Scientist
Bielecky, Amber; MSc, Research Coordinator
Bombardier, Claire; MD, FRCP(C) Senior Scientist
Breslin, Curtis; PhD, Scientist
Canga, Albana; BA, Administrative Assistant
Christine Carrasco; MPH, Project Coordinator *
Cardoso, Siobhan; BA, Research Associate
Chen, Cynthia; MSc, Research Associate, Analyst
Cheung, James; Systems Support
Cole, Donald; MD, Senior Scientist
Couban, Rachel; MA, MIST, Library Technician *
Cullen, Kim; Research Associate, PhD Student
D'Elia, Teresa; MA, Project Coordinator
Davilmar, Arold; MSc, Research Associate, Analyst
Dollack, Jocelyn; MHSc, Research Assistant/Administrative Assistant
Etches, Jacob; PhD, Post-Doctoral Fellow
Ferron, Era Mae; PhD, Project Coordinator
Fortune, Melanie; MPH, Research Associate
Furlan, Andrea; MD, PhD, Scientist
Gignac, Monique; PhD, Associate Scientific Director and Senior Scientist
Harlowe, Linda; Research Operations Administrative Coordinator
Heath, Charmaine; Dip. Business Administration, Administrative Assistant
Hogg-Johnson, Sheilah; PhD, Senior Scientist
Ibrahim, Selahadin; MSc, Associate Scientist
Irvin, Emma; BA, Director, Research Operations
Kelly, Allison; Dip. S.T. Administrative Editorial Assistant
Kennedy-Yee, Carol; MSc, Research Associate
Kim, Jaemin; PhD, Project Coordinator
Kristman, Vicki; PhD, Associate Scientist
Latour-Villamil, Desiree; MA, Research Assistant
Lee, Hyunmi; MSc, Programmer Analyst

Lefebvre, Camie; Dip, Broadcasting/Television, Administrative Assistant/Research Assistant
Liao, Qing; MSc, Research Associate, Analyst
Lifshen, Marni; MA, Project Coordinator
Liu, Joanna; BA, Diploma Library and Information Technology, Library Technician
MacEachen, Ellen; PhD, Senior Scientist
Mahood, Quenby; BA, Manager, Library Services
Mansurova, Lyudmila; BSc, Administrative Assistant
Marin, Teresa; PhD, Managing Editor, Cochrane Back Review Group
Maselli, Paolo; Network Administrator/Systems Analyst
McAlpine, Jessie; MA, Research Coordinator Analyst
McLeod, Chris; PhD, Associate Scientist
Morassaei, Sara; BSc, Coordinator, Research Operations
Munhall, Claire; MA, Project Coordinator
Padkapayeva, Kathy; BA, Administrative Assistant
Pelcowitz, Matthew, MA, Student Fellowship
Pisac, Dianna; BA, Project Coordinator
Raktoe, Shanti; BSc, Administrative Assistant
Redgrift, Lisa; MA, Research Associate *
Robson, Lynda; PhD, Associate Scientist
Sanford, Sarah; PhD, Project Coordinator
Sarnocinska-Hart, Anna; MA, Research Associate
Scott-Marshall, Heather; PhD, Associate Scientist
Severin, Colette; MSc, Project Coordinator
Shervani, Sharma; PhD Student, Research Associate
Skivington, Kathryn; PhD, Research Associate
Smith, Brendan; PhD Student
South, Harriet; BA, Administrative Assistant *
Steenstra, Ivan; PhD, Associate Scientist
Subrata, Peter; MSc, Research Associate
Swift, Michael; MSc, Research Associate, Data Manager/Programmer
Tomba, Emile; PhD, Senior Scientist
Tonima, Sabrina; BA, Research Assistant
Turner, Karen; MA, Project Coordinator
Usher, Amelia; MA, Project Coordinator
Van Eerd, Dwayne; MSc (Kin), MSc (HRM), PhD (c), Associate Scientist
Wang, Ying; MSc, Research Associate/Analyst
Yanar, Basak; PhD, Project Coordinator

Yao, Grant; BComm, Network Administrator/Systems Analyst

Knowledge Transfer & Exchange

Buccat, Kristina; Dip. Radio and Television Production, Administrative Assistant

Dvorak, Jan; BA, Web & Design Coordinator

King, Trevor; MA, KTE Associate

Macdonald, Sara; QEHS Management Diploma, KTE Associate

Moser, Cindy; BA, Communications Manager

Mueller, Megan; BA, Communications Associate *

Paloo, Greer; BSc, Information & Events Coordinator

Saunders, Ron; PhD, Director of Knowledge Transfer and Exchange, Senior Scientist

Wu, Yuen; MA, Communications Associate

Corporate Services

Cicinelli, Mary; CHRP, Director, Human Resources & Corporate Services

Maccarone, Dylan; Accounting Clerk

Mustard, Cameron; ScD, President, Senior Scientist

Sir, Cathy; CMA, Manager, Financial Services

Stevens, Alexandra; Administrative Coordinator, Office of the President

2013 Institute for Work & Health Research Trainees

Adihetty, Chamila; PhD Student

Bogaert, Laura; PhD Student

Carnide, Nancy; PhD Student

Chambers, Andrea; PhD Student

Giraldo-Prieto, Mario; PhD, Post Doctoral Fellow

Tang, Ken; PhD Student

Touma, Zahi; Post Doctoral Fellow

Wong, Imelda; PhD, Mustard Fellow

2013 Research/Professional Collaborations and Networks, Appointments and Offices

AMICK, Benjamin

Member: American Public Health Association
Member: American Society for Safety Engineers
Member: Human Factors and Ergonomics Society

BEATON, Dorcas

Chair: Meeting Planning, Policy and Evaluation Committee at ISOQOL
Chair: Outcome Measures in Rheumatology (OMERACT)
Founding Member: Canadian Society of Hand Therapists
Member: American Society of Shoulder and Elbow Therapists, Member of Research Committee
Member: Canadian Association of Occupational Therapists
Member: College of Occupational Therapists of Ontario
Member: Upper Extremity Collaborative Group (IWH, American Academy of Orthopaedic Surgeons)
Member: The Arthritis Society of Canada, Medical Advisory Committee
Member: International Society of Quality of Life Research
Member: American Society for Bone and Mineral Research (ASBMR)
Member: Associate Rheumatology Health Professional (ARHP)
Member: Canadian Arthritis Network (CAN) - Training and Education Committee

BOMBARDIER, Claire

Fellow: Royal College of Physicians of Canada F.R.C.P.(C)
Member: Advisory Board, SONORA Study, Abbott Pharmaceutical Company, 2000 –
Member: AMGEN - Kineret Registry Steering Committee, 2002 –
Member: Merck -Etoricoxib Outcomes Study Steering Committee, 2002 –
Member: Merck Frosst Rheumatology Medical Advisory Council (MEDAC), 2002 –
Member: AMGEN Global Advisory Board in Inflammation, 2003 –
Member: COX-2 International Lifecycle Advisory Board, 2004 –
Member: Canadian Arthritis Network - Research Management Committee, 2005 –
Chair: Aleve Advisory Board (Bayer), 2006 –
Member: CORRONA Board of Directors, 2007 –
Member: Advisory Board, WHO International Task Force on Neck Pain, 1999 –
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)

BRESLIN, Curtis

Member: Ontario College of Psychologists
Member: Canadian Psychological Association
Member: Work Disability Prevention CIHR Strategic Training Program, University of Toronto
Professor, Seneca College Applied Arts and Technology, School of English and Liberal Studies

CARNIDE, Nancy

Member: Canadian Association for Research on Work and Health
Member: Canadian Society for Epidemiology and Biostatistics
Member: International Society for Pharmacoepidemiology

CHAMBERS, Andrea

Member: Canadian Association for Research on Work and Health
Member: Canadian Society for Epidemiology and Biostatistics
Member: Canadian Association for Health Services and Policy Research

Member: Canadian Evaluation Society

DAVILMAR, Arold

Member: American Society of Clinical Oncology

FORTUNE, Melanie

Member: Ontario Public Health Association

Member: Association of Public Health Epidemiologists in Ontario

Co-Chair: New Professionals Working Group, Ontario Public Health Association, 2012–

FURLAN, Andrea

Staff Physician: Physiatry, Toronto Rehabilitation Institute

Assistant Professor: Department of Medicine, Division of Physiatry, University of Toronto

Associate Member: Institute of Medical Science, University of Toronto

Associate Scientist: Health Services Research, Monitoring and Evaluation, Institute for Work & Health

Scientist: Health Services Research, Monitoring and Evaluation, Institute for Work & Health

Advisory member: BestLifeRewarded™

Member: Admissions Committee, Medical School, Faculty of Medicine, University of Toronto

Member: Residency Program Committee, University of Toronto, Division of Physiatry

Member: Canadian Association of Physical Medicine and Rehabilitation

Member: Canadian Pain Society

Member: Canadian Academy of Pain Medicine

Member: Cochrane Collaboration Non-randomised studies Methods Group

Member: International Society of Physical & Rehabilitation Medicine (ISPRM)

Member: WSIB Drug Advisory Committee

Member: Clinical Sciences Committee, International Society of Physical and Rehabilitation Medicine (ISPRM)

Representative of the Institute of Medical Sciences (IMS) Department of the University of Toronto in the “CoPAS” Collaborative Program in Addiction Studies

GIGNAC, Monique

Member: American Psychological Association (APA)

Member: Canadian Association on Gerontology (CAG)

Member: Gerontological Society of America (GSA)

Member: Association of Rheumatology Health Professionals (ARHP)

Chair: Institute Advisory Board (IAB), Institute for Musculoskeletal Health and Arthritis (IMHA),

Canadian Institutes of Health Research (CIHR), 2011–

Co-Scientific Director: Canadian Arthritis Network (CAN), Networks of Centres of Excellence (NCE), 2008 –

Director: Board of Directors, Canadian Arthritis Network (CAN), A Network of Centres of Excellence (NCE), 2008 –

Member: Advisory Council, Community Health Solutions, Simon Fraser University, British Columbia, 2013

Member: Advisory Committee, “Work with Us,” Mood Disorders Society of Canada (MDSC) and The Arthritis Society (TAS), 2013 –

Member, Strategic Planning Committee, Institute for Musculoskeletal Health and Arthritis (IMHA), Canadian Institutes for Health Research (CIHR), 2013 –

Member: Advisory Board, Conference Board of Canada, “Managing the Drivers of Absenteeism and Lost Productivity,” 2013

Member: Scientific Advisory Committee (SAC), The Arthritis Society (TAS), 2011 –

Member: Technical Advisory Group (TAG) on Data Strategy on People with Disabilities, Human Resources & Skills Development Canada (HRSDC) in partnership with Statistics Canada, 2011 –

Member: Centre for Research in Women’s Studies (CRWS), Toronto, Ontario, 2005 – 2013

HOGG-JOHNSON, Sheilah

Member: Statistical Society of Canada

Professional Statistician: Statistical Society of Canada

Member: Canadian Association for Research on Work and Health
Member: Workers' Compensation Research Group

IBRAHIM, Selahadin

Member: Statistical Society of Canada.
Professional Statistician (recognized by Statistical Society of Canada).

IRVIN, Emma

Convenor: Cochrane Library User Group Meeting; Cochrane Colloquium

KENNEDY-YEE, Carol

Member: College of Physiotherapists of Ontario
Member: Arthritis Health Professions Association

KING, Trevor

Canadian Certified Professional Ergonomist
Member: Association of Canadian Ergonomists
Member: Canadian Knowledge Transfer and Exchange Community of Practice

KRISTMAN, Vicki

Member: Canadian Association for Research on Work and Health
Member: Canadian Society for Epidemiology and Biostatistics
Member: American College of Epidemiology
Member: International Society for Violence and Injury Prevention
Member: Society for Epidemiologic Research
Member: Editorial Board, Journal of Occupational Rehabilitation
Member: Editorial Board, Conference Papers in Medicine
Member: Canadian Institute for the Relief of Pain and Disability
Member: Brain Injury Association of Canada
Member: American Congress of Rehabilitation Medicine

LIFSHEN, Marni

Member: Canadian Knowledge Transfer and Exchange Community of Practice

MACEACHEN, Ellen

Past President, Board of Directors, Canadian Association for Research on Work and Health 2012 –
Fellow: Steering Committee, Centre for Critical Qualitative Health Research, University of Toronto 2009-
Member: Academic Council, Pacific Coast University, British Columbia 2012 –
Member: Dalla Lana School of Public Health Council, University of Toronto 2012 – 2013
Member: SSHRC Review Committee, Dalla Lana School of Public Health, University of Toronto 2013
Member: Program Executive Committee, Work Disability Prevention CIHR Strategic Training Program,
University of Toronto 2005 –
Member: Program Advisory Committee, Work Disability Prevention CIHR Strategic Training Program,
University of Toronto 2005 –
Associate Editor: Editorial Board, Journal of Occupational Rehabilitation 2007 –
Member: Canadian Association for Research on Work and Health 2009 –
Member: Canadian Anthropology and Sociology Association 2005 –
Member: British Sociological Association 2004 –

MAHOOD, Quenby

Member: Special Libraries Association, 2011 –

MOSER, Cindy

Member: International Association of Business Communicators (IABC)
Member: Canadian Science Writers' Association (CSWA)

MUSTARD, Cam

Vice-President: Board of the International Social Security Association (ISSA) Research Section, 2006 – 2013

Vice-Chair and Member: Appeals Committee, School Council, Dalla Lana School of Public Health, 2012 – 2013

Member: Quality Committee, Parachute, 2013 – 2015

Member: Scientific Advisory Committee, Veterans Affairs Canada, 2012 –

Member: Editorial Board, Canadian Journal of Public Health, 2010 – 2014

Member: Advisory Committee, Lancaster House Health and Safety Conference, 2008 –

Member: Advisory Board International Journal of Social Security and Workers Compensation, 2008 –

Member: Board of Advisors, RAND Center for Health and Safety in the Workplace, 2008 –

Member: Board of Directors, Ontario Neurotrauma Foundation, 2008 –

Member: Ontario Health Quality Council Performance Measurement Advisory Board, 2007 –

Member: Scientific Visitors Advisory Board, Liberty Mutual Research Institute for Safety, 2007 –

Member: Steering Committee: Toronto Region Research Data Centre, 2005 –

Member: Editorial Advisory Board, Longwoods Review, 2003 –

Affiliate: Centre for Health Services and Policy Research, University of British Columbia, 2008 –

ROBSON, Lynda

Member: Canadian Association for Research on Work and Health

Member: Canadian Evaluation Society

SAUNDERS, Ron

Member: American Economic Association

Member: Canadian Association for Research on Work and Health

Member: Community & Healthcare Advisory Council, Public Services Health & Safety Association

Member: Education and Culture Advisory Council, Public Services Health & Safety Association

Member: Editorial Advisory Board, Canadian Occupational Safety Magazine

SCOTT-MARSHALL, Heather

Member: Canadian Association for Research on Work and Health

SMITH, Brendan

Member: Social Inequalities Group, Simulation Technology for Applied Research (STAR) Team, Canadian Institute of Health Research (CIHR) Team in Microsimulation Modeling of the Impact of Health Interventions and Policy

Member: Society for Epidemiologic Research

Member: Canadian Public Health Association

STEENSTRA, Ivan

Member: Canadian Association for Research on Work and Health

Member: Workers' Compensation Research Group

Member: Dutch Society for Human Movement Sciences (VvBN)

Member: Editorial Board, Journal of Occupational Rehabilitation

Committee Member: Knowledge Synthesis Grant Canadian Institutes of Health Research

TANG, Ken

Member: College of Physiotherapists of Ontario

TOMPA, Emile

Member: Canadian Association for Research on Work and Health

Member: Workers' Compensation Research Group

Member: International Health Economics Association

Member: Mentorship Committee, Work Disability Prevention CIHR Strategic Training Program, University of Toronto

Member: Editorial Board, Journal of Occupational Rehabilitation

Member: Bancroft Institute for Studies in Workers' Compensation and Work Injury

WONG, Imelda

Member: Scientific Director - International Commission on Occupational Health: Scientific Committee on Shiftwork and Working Time

Teaching, Educational and Service Activities

AMICK, Ben

Teaching/Educational Role

Society and Health; Social Epidemiology/Social Justice; Research Design and Analysis in Behavioural Sciences, University of Texas School of Public Health, 2010 – 2013

Service Activities

Editorial Board: Journal of Occupational Rehabilitation, 2010 –
Scientific Chair: PREMUS 2016, 2013 –

BEATON, Dorcas

Teaching/Educational Role

Scientist and Director: Mobility Program Clinical Research Unit, St. Michael's Hospital, Toronto
Associate Professor: Department of Occupational Sciences and Occupational Therapy, Faculty of Medicine, University of Toronto
Full Member: School of Graduate Studies (SGS), Graduate Department of Rehabilitation Sciences, University of Toronto, Ontario; Institute of Health Policy, Management and Evaluation, Clinical Epidemiology Program, University of Toronto, Ontario
Lecturer: Advanced Measurement course, University of Toronto
Coordinator and lecturer: Introduction to Measurement, University of Toronto
Lecturer: Advanced Quantitative Methods in Epidemiology, University of Toronto
Lecturer: Research Methods for Rehabilitation Science, University of Toronto

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

BOMBARDIER, Claire

Teaching/Educational Role

Co-Scientific Director: Canadian Arthritis Network (CAN)
Director: Division of Rheumatology, University of Toronto
Director: Clinical Decision Making and Health Care, Toronto General Research Institute
Staff Physician: Rheumatic Disease Unit, Mount Sinai Hospital, Toronto
Professor: Medicine/Health Administration, University of Toronto
Guest Professor: University of Toronto, MSc, HAD 5302: Measurement in Clinical Research
Guest Lecturer: University of Toronto, Clinical Epidemiology Students - PhD Thesis Course
Instructor: IWH Systematic Reviews Workshop
MSc Thesis Supervisor: Bindee Kuriya, Roberta Berard, Wanruchada Katchamart
PhD Thesis Supervisor: Joel Gagnier
Post Doctoral Fellowship Supervisor: Carine Salliot, Judith Trudeau, Edith Villeneuve (co-supervisor)
Member: School of Graduate Studies, Division of Community Health, University of Toronto
Member: School of Graduate Studies, Institute of Medical Science, University of Toronto

Service Activities

Chair: Government of Canada, Canada Research Chair in Knowledge Transfer for Musculoskeletal Care, Tier I Award – Renewal 2009 - 2016

Member: Multidisciplinary Clinical Research Center in Musculoskeletal Diseases

Member: Canadian Arthritis Network Disease Management Core Instrument Committee@, 2001 –

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), 2002 –

Member: Multidisciplinary Clinical Research Center in Musculoskeletal Diseases (MCRC) Scientific Advisory Board, Dartmouth Medical School, 2003 –

Member, Canadian Council of Academic Rheumatologists (CCAR) [as Director, Division of Rheumatology, University of Toronto] 2003 –

Team Leader, Effectiveness Task Force, 2004 –

Member: Journal of Clinical Epidemiology Policy Advisory Board, 2004 –

Member: Pfizer - OSCARE Scientific Committee Meeting 2004 –

Member: American Pain Society Clinical Guidelines Project – Low Back Pain Panel 2005 –

Member: Canadian Rheumatology Association (CRA) Therapeutics Committee “Creating Canadian Guidelines for Treatment of Rheumatoid Arthritis [RA]”, 2005 –

Member: Expert Task Force “Recommendations for the use of Biological (and Nonbiological) Agents in the Treatment of Rheumatoid Arthritis” for American College of Rheumatology (ACR), 2006 –

Chair (International): Abbott 3E Initiative in Rheumatology – Phase III, 2008 –

UCBeyond Rheumatoid Arthritis Scholarship Program, Toronto Arthritis Society, 2008 –

Member: Alliance for the Canadian Arthritis Program (ACAP) Government Relations Committee [as CAN representative] 2007 – ; Business Case Steering Committee 2008 –

Panellist: American Pain Society Clinical Guidelines Project – Low Back Pain, 2005 –

Review Committee: Best Research on Low Back Pain Commission de la santé et de la sécurité du travail

Editorial Boards: American Journal of Medicine; Arthritis Care and Research

Co-ordinating Editor: Cochrane Collaboration Back Review Group, Joint Bone Spine, International

Edition; Nature Clinical Practice Rheumatology Journal Advisory Board; Journal of Clinical Epidemiology

Advisory Board, 2004 –

Journal Referee: Annals of Internal Medicine; Annals of Rheumatic Disease; Arthritis and Rheumatism;

Arthritis, Care and Research; Canadian Medical Association Journal; JAMA; Journal of Rheumatology;

Journal of Clinical Epidemiology; Journal of the Society for Medical Decision Making; Medical Care; New

England Journal of Medicine

BRESLIN, Curtis

Teaching/Educational Role

Associate Professor: Dalla Lana School of Public Health, University of Toronto

Member: School of Graduate Studies, University of Toronto

PhD Thesis Co-supervisor: Andrea Chambers, Safer Needle Regulation in Ontario, 2010 –

Co-supervisor for Post-doctoral fellow, Marie Laberge

Guest Lecturer: CHL 5804, Health Behavior Change, University of Toronto

Service Activities

Editorial Board: Journal of Studies on Alcohol Journal of Occupational Health Psychology

Reviewer: Journal of Adolescent Health Social Science and Medicine Journal; American Journal of

Industrial Medicine; Occupational & Environmental Medicine

ETCHES, Jacob

Service Activities

Assistant IWH Research Ethics Co-ordinator

Assistant IWH Privacy Agreement Co-ordinator

Journal Referee: International Journal of Epidemiology, Journal of Health Economics

FORTUNE, Melanie

Service Activities

Member: Burlington Sustainable Development Committee, City of Burlington

Member: Curriculum Review Committee, Epidemiology Division, Dalla Lana School of Public Health, University of Toronto

Co-chair: New Professionals Working Group, Ontario Public Health Association

FURLAN, Andrea

Teaching/Educational Role

Assistant Professor: Department of Medicine, Faculty of Medicine, University of Toronto

Instructor: IWH Systematic Reviews Workshop

PhD Thesis Defense Chair: F Tabloie

PhD Thesis Committee member: N. Carnide, F. Lakha

MSc Thesis Committee member: B. Rafat, M. Pelcowitz, A. Bartolini

Undergraduate Supervisor: I. Famiyeh, D. Bastien, A. Qayyum

Post-graduate Supervisor: K. Coros, C. Ho, M. Prieto

Undergraduate teaching:

Undergraduate non-MD: How to conduct an N-of-1 trial of opioids for chronic pain, Faculty of Pharmacy, University of Toronto

Undergraduate MD:

Low-back pain and Whiplash, Mechanisms, Manifestations and Management of Diseases – Department of Medicine - Faculty of Medicine - University of Toronto

Pharmacological treatment of pain, Mechanisms, Manifestations and Management of Diseases – Department of Medicine - Faculty of Medicine - University of Toronto

Graduate teaching:

Pain Management: Practical aspects of prescribing opioids for patients with chronic pain, Faculty of Nursing, University of Toronto

Post-graduate teaching:

Management of Chronic Pain, Family Medicine, North York General Hospital, University of Toronto

How to conduct an N-of-1 trial of opioids for chronic non-cancer pain, Residents and clinical fellows of Geriatrics, University of Toronto

Challenging conversations between physicians and patients regarding opioid prescribing for chronic pain, Residents and clinical fellows of Geriatrics, University of Toronto

Service Activities

Journal Referee: American College of Occupational and Environmental Medicine Journal (ACOEM), Annals of Internal Medicine, Canadian Medical Association Journal, Cochrane Back Review Group, Journal of Rehabilitation Medicine, Journal of Rheumatology, Pain Research & Management, Spine

Editorial Board: Journal Rehabilitation Medicine

Co-ordinating Editor, Editorial Board: Cochrane Back Review Group

Postgraduate Medicine: Grant Reviewer

CIHR Grant Review Panel Chair: Gender Work and Health

CIHR Knowledge Synthesis Grant Committee Member

External Grant Reviewer: NIH NCCAM

Conference Abstract Referee, 2nd Pain Management Conference, Toronto Rehab – UHN

GIGNAC, Monique

Teaching/Educational Role:

Senior Scientist: Division of Health Care & Outcomes Research, University Health Network

Associate Professor: Dalla Lana School of Public Health, Faculty of Medicine, University of Toronto
Full Member: Graduate Department of Public Health Sciences, University of Toronto
Course Co-instructor: CHL5203H: Public Health Research Methods. Dalla Lana School of Public Health, University of Toronto
Lecturer: HAD5302H: Measurement in Clinical Research. University of Toronto
Research Mentor, Health Care, Technology & Place (HCT&P) Transdisciplinary Research Training Program, University of Toronto
Post Doctoral Fellowship Advisor: Imelda Wong, Ph.D.
PhD Supervisor: Arif Jetha
MSc Co-Supervisor (with D. Beaton): Stacey Morrison
PhD Committee member: Mayilee Canizares, Ellie Pinsker
PhD External Examiner: Melissa Leigh Harris, University of Newcastle, New South Wales, Australia, 2013

Service Activities:

Associate Editor: Arthritis Care & Research, 2011 –
Member: Strategic Planning Committee, Institute for Musculoskeletal Health and Arthritis (IMHA), Canadian Institutes for Health Research (CIHR), 2013 –
Advisor: The Arthritis Society Strategic Planning Group for “Arthritis Friendly Workplace” Initiative, 2013 –
Member: Ontario Episodic Disabilities Forum (OEDF), 2011 –
Member: Arthritis Research Foundation (ARF) strategic research planning committee for Autoimmune Diseases in Women, University Health Network, 2011 –
Member: Research, Education, and Practice Advisory Committee (REPAC), Canadian Working Group on HIV and Rehabilitation (CWGHR), 2010 –
Member: Toronto Western Research Institute, Space Committee, 2005 –
Member: Finance Committee, Institute for Musculoskeletal Health and Arthritis (IMHA), Canadian Institutes of Health Research (CIHR)
Member: Research Committee, Arthritis Alliance of Canada (AAC), 2011 –
Journal Referee: Journal of the American Medical Association; Arthritis Care & Research; Social Science and Medicine; Journal of Occupational Rehabilitation; European Health Psychology; Journal of Rheumatology

HOGG-JOHNSON, Sheilah

Teaching/Educational Role

Assistant Professor: Dalla Lana School of Public Health, Faculty of Medicine, University of Toronto, 1995-
Assistant Professor: Institute of Health, Policy, Management & Evaluation, University of Toronto, 2001 –
Chair Mentor: CIHR Work Disability Training Program
Instructor: Qualitative and Quantitative Methods Workshop, CIHR Work Disability Training Program
Teaching: HAD 5302 Measurement in Clinical Research, University of Toronto
Instructor: Privacy Policy Training, IWH
PhD Thesis Committee Member: Gayane Hovhannisyanyan, Ken Tang, Orit Schieir
PhD Thesis Supervisor: Nancy Carnide

Service Activities

Journal Referee: Canadian Medical Association Journal, Occupational and Environmental Medicine, Scandinavian Journal of Work, Environment and Health, BMC Musculoskeletal, American Journal of Public Health
Special Consultant to the Editorial Board: The Spine Journal
Assistant Editorial Board: European Spine Journal
Editorial Board: Journal of Occupational Rehabilitation

IBRAHIM, Selahadin

Teaching/Educational Role

Lecturer: University of Toronto, Dalla Lana School of Public Health, 2002 –

Teaching: Module on Exploratory and Confirmatory Factor Analysis, Path Analysis and Structural Equation Modeling, CHL 5424 Advanced Quantitative Methods in Epidemiology, Dalla Lana School of Public Health, University of Toronto.

PhD Thesis Committee Member: Mana Rezai and Alanna Mihic, Dalla Lana School of Public Health.

Guest Lecturer: Factor Analysis & Structural Equation Modeling, Faculty of Nursing, University of Toronto.

IRVIN, Emma

Teaching/Educational Role

Instructor: IWH Systematic Reviews Workshop

Instructor: Privacy Policy Training

Instructor: Systematic Reviews Course, University of Toronto, Health Policy, Management and Evaluation Graduate Program

Service Activities

Convenor: Cochrane Library User Group Meeting; Cochrane Colloquium

Reviewer: 2013 ISCR

KENNEDY-YEE, Carol

Teaching/Educational Role

Lecturer: Physical Therapy, University of Toronto: 1996 –

Service Activities

Patient Safety Champion: College of Physiotherapists of Ontario, 2010 –

Arthritis Health Professionals Association, Research Committee, 2008 –

KRISTMAN, Vicki

Teaching/Educational Role

Assistant Professor, Department of Health Sciences, Lakehead University

Assistant Professor (status-only), Dalla Lana School of Public Health, University of Toronto

Assistant Professor, Northern Ontario School of Medicine

Instructor, Epidemiology I, Department of Health Sciences, Lakehead University

Instructor, Epidemiology II, Department of Health Sciences, Lakehead University

MPH Committee Member: Ashley Czerkas, Nathan Smith, Lakehead University

MPH Supervisor: Brandy Tanenbaum, Lakehead University

PhD Committee Member: Mana Rezai, Dalla Lana School of Public Health, University of Toronto

Service Activities

Member: CIHR Population Health Review Committee

Journal Reviewer: Journal of Occupational and Environmental Medicine; Journal of Occupational Rehabilitation; BMC Musculoskeletal Disorders; BMC Medical Research Methodology; Pain; Arthritis Care & Research; Neuroepidemiology; Archives of Physical Medicine and Rehabilitation; Social Science & Medicine; Annals of Epidemiology; Spine; American Journal of Epidemiology; Journal of Epidemiology and Community Health; Occupational and Environmental Medicine

MACEACHEN, Ellen

Teaching/Educational Role

Associate Professor (Status): Dalla Lana School of Public Health, University of Toronto

Associate Professor (Status Cross Appt): Graduate Department of Rehabilitation Sciences, University of Toronto

Associate Professor (Status): Department of Health Ageing and Society, McMaster University

PhD Supervisor: Margaret Oldfield, Department of Rehabilitation Sciences, University of Toronto

PhD Thesis committee member: Dana Howse, Dalla Lana School of Public Health, University of Toronto

PhD Thesis committee member: Ida Seing, National Centre for Work and Rehabilitation, Department of Medical and Health Sciences, Linköping University, Sweden

PhD Thesis committee member: Sara Saunders, School of Occupational and Physical Therapy, McGill University

PhD Thesis committee member: Rebecca Penn, Dalla Lana School of Public Health, University of Toronto

Instructor: Methodology in Work Disability Prevention, Work Disability Prevention CIHR Strategic Training Program, University of Toronto, 2003 –

Guest Lecturer: Labour Studies 3D03 Occupational Health and Safety, McMaster University

Chair Mentor: Work Disability Prevention CIHR Strategic Training Program, University of Toronto

Guest Lecturer: Ryerson University, OHS 818 System Management II.

Service Activities

Member: Doctoral Admissions Committee, Social and Behavioural Sciences Division, Dalla Lana School of Public Health, University of Toronto 2013

Chair: Socio-political Challenges Symposium Planning Committee, Work Disability Prevention CIHR Strategic Training Program

Member: Plenary Committee, Institute for Work & Health

Member: Syme Doctoral Awards Committee, Institute for Work & Health

Reviewer: Journal of Occupational Rehabilitation, Scandinavian Journal of Work, Environment and Health, Disability and Rehabilitation, International Academy of Law and Mental Health, Small Enterprise Research Journal, Qualitative Health Research, Social Science and Medicine

Internal-External Examiner: Ph.D. Final Exam, Adrian Guta, Dalla Lana School of Public Health, University of Toronto.

External Examiner: PhD Final Exam, Karen Maiwald, Maastricht University, The Netherlands.

Member: Conference Scientific Organising Committee, Canadian Association for Research on Work and Health 2014

Member: Abstract Review Committee, Canadian Association for Research on Work and Health Conference, Saskatoon, 2014

Member: Abstract Review Committee, Work Disability Prevention and Integration, Toronto, 2014

MAHOOD, Quenby

Teaching/Educational Role

Instructor: IWH Systematic Reviews Workshop

Guest Lecturer: "Literature Search for Measurement Articles" - HAD5302: Measurement in Clinical Research. University of Toronto, 2013.

MARIN, Teresa

Service Activities

Reviewer: Health Psychology, Psychosomatic Medicine

MUSTARD, Cam

Teaching/Educational Role

Professor: Public Health Sciences, University of Toronto, University of Toronto Dalla Lana School of Public Health, July 2002 –

Review Panel Member: Comparative Program in Health and Society, Munk Centre for International Studies, University of Toronto

Faculty: CHL5426 Population Perspectives in Epidemiology, Fall 2012 –

Service Activities

Peer Review: Chair, CIHR Public, Community & Population health Grants Committee, 2013 – 2014

Promotion Review: Faculty of Medicine, University of Toronto

Journal Referee: Editorial Advisory Board, Longwoods Review; Journal of Epidemiology and Community Health; Health Services Research Journal; American Journal of Public Health; Medical Care; Injury Prevention; Journal of Psychosomatic Research; Social Science and Medicine; Health Reports; HealthCare Policy; Canadian Medical Association

ROBSON, Lynda

Teaching/Educational Role

PhD Thesis Committee Member: Sharvani Sharma, Schulich School of Business, York University
Sessional Instructor: OHS 818 – System Management II, School of Occupational and Public Health, Ryerson University

Service Activities

Journal Referee: Accident Analysis & Prevention, American Journal of Preventive Medicine, Evaluation and Program Planning, Safety Science

SAUNDERS, Ron

Teaching/Educational Role

Associate Professor: School of Public Policy and Governance, University of Toronto
Instructor: CHL 5308, Tools and Approaches for Public Health Policy Analysis and Evaluation (Dalla Lana School of Public Health, University of Toronto)
Instructor: Knowledge Translation Professional Certificate Program

Service Activities

Chair, IWH Plenary Committee

SCOTT-MARSHALL, Heather

Teaching/Educational Role

Assistant Professor (Status Only): Dalla Lana School of Public Health, University of Toronto

Service Activities

Scientific Reviewer: Social Science & Medicine, Social Indicators Research, Social Forces
Mentor: PHAA/DLSPH Mentorship Program, Mentee: Linda Chan, MSc student, Health Promotion program, DLSPH, University of Toronto.

STEENSTRA, Ivan

Teaching/Educational Role

Assistant Professor (Status Only): Dalla Lana School of Public Health, University of Toronto
Tutor, Determinants of Community Health (DOCH) 1 - DOC 111Y. Course director: Dr. Fran Scott.
Faculty of Medicine, University of Toronto.
Lecturer, Lecture CHL 5110 - Theory and Practice of Programme Evaluation. Lecture on measurement.
Public Health Sciences, University of Toronto
Researcher, Center of Research Expertise for the Prevention of Musculoskeletal Disorders, University of Waterloo, Waterloo, ON, Canada

Service Activities

Reviewer: Spine, Journal of Occupational Rehabilitation, Occupational and Environmental Medicine

SMITH, Brendan

Teaching/Educational Role

Teaching Assistant: CHL 5105H Social Determinants Of Health, Dalla Lana School of Public Health, University of Toronto

Teaching Assistant: CHL5402H Epidemiologic Methods II, Dalla Lana School of Public Health, University of Toronto

Service Activities

Member: PhD Admissions Committee, Division of Epidemiology, Dalla Lana School of Public Health, University of Toronto

Member: Curriculum Committee, Division of Epidemiology, Dalla Lana School of Public Health, University of Toronto

Journal Referee: British Medical Journal Open, Nutrition, Metabolism & Cardiovascular Diseases

SWIFT, Michael

Service Activities

Journal Reviewer: Communications in Statistics – Theory and Methods

TANG, Ken

Teaching/Educational Role

Guest Lecturer: Measurement in Clinical Research (Topic: Theory of Sensibility), Institute of Health Policy, Management and Evaluation, University of Toronto

Teaching Assistant: Biostatistics for Health Researchers II, Institute of Health Policy, Management and Evaluation, University of Toronto

Service Activities

Journal Reviewer: BioMed Central Health Services Research, Journal of Rheumatology, Arthritis Care & Research, General Hospital Psychiatry, Spine, Journal of Clinical Epidemiology

TOMPA, Emile

Teaching/Educational Role

Adjunct Assistant Professor: Public Health Sciences, University of Toronto. 2004 –

Post-doctoral Mentor for Scott-Marshall, funded by a SSHRC CURA, 2011 - 2013

Co-Instructor, Advanced Topics in Health Economics, McMaster University, 2013

Syme Fellowship Committee, Institute for Work & Health, 2013

Planning Committee Member for the Socio-political Challenges Session, Work Disability Prevention CIHR Strategic Training Program, University of Toronto, 2013

Mentor, Work Disability Prevention CIHR Strategic Training Program, University of Toronto, 2013

Second Year Lecturer, Work Disability Prevention CIHR Strategic Training Program, University of Toronto, 2013

External Examiner for Sophie Lederer, Ph.D. Thesis Defence, Université de Montréal (February 24, 2014)

External Examiner for Andrea Chambers, Ph.D. Thesis Defense, Dalla Lana School of Public Health, University of Toronto (December 11, 2013)

Service Activities

Manuscript Reviewer: Canadian Public Policy; Journal of Occupational Rehabilitation; Occupational and Environmental Medicine; Social Science and Medicine; Scandinavian Journal of Work, Environment and Health

External Grant/Report Referee: CIHR; SafeWork Manitoba

WONG, Imelda

Service Activities

Reviewer: PLoS One, Journal of Occupational and Environmental Medicine, Work, Stress and Health Conference, Scandinavian Journal of Work, Environment and Health, Industrial Health, Accident Analysis and Prevention, Canadian Journal of Public Health, BioMed Central Public Health

Adjunct Scientists

Dr. Peri Ballantyne – Associate Professor, Department of Sociology, Trent University (since 2001)

Dr. Peri Ballantyne is an associate professor in the Department of Sociology at Trent University in Peterborough, Ontario. A health sociologist, she has ongoing affiliations with the Institute for Work and Health, the Leslie Dan Faculty of Pharmacy at the University of Toronto and the Department of Sociology at McMaster University in Hamilton. She currently teaches sociology research methods, the sociology of health and illness, and the sociology of medicine. Her current research is focused on the lay experience of illness (with a particular interest in pharmaceutical use) and the sociology of work and health.

Dr. Philip Bigelow – Associate Professor, Department of Health Studies and Gerontology, University of Waterloo (since 2008)

Dr. Philip Bigelow is an associate professor in the Department of Health Studies and Gerontology at the University of Waterloo in Waterloo, Ontario, and has an appointment in the Dalla Lana School of Public Health at the University of Toronto. Bigelow teaches courses in occupational health, risk assessment and epidemiology, and is a faculty member in the Collaborative PhD Program in Work and Health. He has extensive field experience in occupational health and safety. His research is in the area of risk assessment and on the effectiveness of interventions to prevent occupational injuries and disease.

Dr. Cécile Boot – Senior Scientist, Department of Public and Occupational Health, EMGO+ Institute for Health and Care Research, VU University Medical Center in Amsterdam, the Netherlands (since 2011)

Dr. Cécile Boot is a senior scientist in the Department of Public and Occupational Health / EMGO+ Institute for Health and Care Research at the VU University Medical Center in Amsterdam, the Netherlands. Her research interests include work and health, in particular maintaining working with chronic conditions. She is involved in collaborative projects in Canada (IWH), the United States (Liberty Mutual & Harvard School of Public Health) and Denmark (National Research Centre for the Working Environment).

Dr. Sandra Brouwer – Assistant Professor in the Department of Health Sciences, Community & Occupational Medicine at the University Medical Center in Groningen (UMCG), Netherlands (since 2012)

Dr. Sandra Brouwer is an assistant professor in the Department of Health Sciences, Community & Occupational Medicine at the University Medical Center in Groningen (UMCG), the Netherlands. Her current research work focuses on work (dis)ability assessments and return to work outcomes among disabled workers, and on sustainable labour market participation of older workers and young adults with disabilities.

Dr. Ute Bültmann – Professor of Work and Health in the Department of Health Sciences, Community & Occupational Medicine at the University Medical Center in Groningen (UMCG), the Netherlands (since 2007)

Dr. Ute Bültmann is a professor of Work and Health in the Department of Health Sciences, Community & Occupational Medicine at the University Medical Center in Groningen (UMCG), the Netherlands. Her research interests include the epidemiology of work and health, the impact of the psychosocial work environment on workers' health, the measurement of functioning at work, and the prevention of work disability. Her research focuses in particular on workers with mental health problems. She is involved in collaborative projects on work and health in Denmark and Canada.

Dr. Linda J. Carroll – Associate Professor, associate professor of epidemiology in the Department of Public Health Sciences at the University of Alberta in Edmonton (since 2004)

Dr. Linda J. Carroll is an associate professor of epidemiology in the Department of Public Health Sciences at the University of Alberta in Edmonton. She holds a Health Scholar Award from the Alberta

Heritage Foundation for Medical Research. 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.

Dr. J. David Cassidy – Senior Scientist, Division of Healthcare Outcomes Research, University Health Network (since 2001)

Dr. J. David Cassidy is an epidemiologist and senior scientist in the Division of Health Care and Outcomes Research within Toronto's University Health Network, and a professor of epidemiology and clinical epidemiology at the University of Toronto. In September 2011, he was awarded a Danish Government Globalization Professorship in the Faculty of Health at the University of Southern Denmark. He currently splits his time between Denmark and Canada, and is focused on international research collaborations in occupational health, musculoskeletal disorders and neuro-epidemiology.

Alan Clayton – Adjunct appointment, Institute for Safety, Compensation and Recovery Research (ISCRR), Melbourne, Australia (since 2011)

Alan Clayton is an independent research consultant working primarily in the field of accident compensation and injury prevention and, for three decades, has been involved in the design and review of accident compensation schemes in Australasia. He is also an adjunct associate professor at Monash University (associated with the Institute for Safety, Compensation and Recovery Research), an honorary associate at the Centre for Employment and Labour Relations Law at the University of Melbourne, an honorary associate at the National Research Centre for Occupational Health and Safety Regulation at the Australian National University, and an honorary senior research fellow at the Victorian Institute of Occupational Safety and Health at the University of Ballarat.

Dr. Anthony (Tony) Culyer – Ontario Research Chair in Health Policy and System Design, HPME, University of Toronto (since 2007)

Dr. Tony Culyer holds the Ontario Research Chair in Health Policy and System Design in the Faculty of Medicine at the University of Toronto, and he is also a part-time professor of economics at the University of York in England. He is also chair of NICE (National Institute for Health & Clinical Excellence) International and a member of NICE's Citizens Council Committee. From 2003 to 2006, he was the chief scientist at the Institute for Work & Health in Toronto and, from 2006 to 2009, chair of the Workplace Safety & Insurance Board's Research Advisory Council. His current research interests relate to problems in thinking about how equity in health is best achieved and how decisions about cost-effective technologies are best arrived at.

Dr. Paul Demers – Professor, Dalla Lana School of Public Health, University of Toronto and Clinical Professor, School of Population and Public Health, University of British Columbia (since 2012)

Dr. Paul Demers is the director of the Occupational Cancer Research Centre in Toronto, based at Cancer Care Ontario. He is also the scientific director of CAREX Canada, a national workplace and environmental carcinogen surveillance program, as well as a professor with the Dalla Lana School of Public Health at the University of Toronto and a clinical professor with the School of Population and Public Health at the University of British Columbia. He is an epidemiologist whose research focuses on occupational cancer and other chronic diseases.

Dr. Carolyn Dewa – Senior Scientist, Health Systems Research and Consulting Unit, Social and Epidemiological Research Department (since 2012)

Dr. Carolyn Dewa currently heads the Work and Well-being Research and Evaluation Program at the Centre for Addiction and Mental Health (CAMH), where she is a senior scientist in the Health Systems Research and Consulting Unit in the Social and Epidemiological Research Department. She currently holds a Canadian Institutes of Health Research/Public Health Agency of Canada Applied Public Health Chair to develop effective interventions for mental illness and mental health in the working population. Her

research focuses on three major themes: workplace disability associated with mental illness, access and use of pharmacotherapeutics, and the provision of mental health services and support to individuals with severe mental illness.

Dr. Joan Eakin – Sociologist, Dalla Lana School of Public Health, University of Toronto (since 2001)

Dr. Joan Eakin is a sociologist and qualitative research methodologist in the Dalla Lana School of Public Health at the University of Toronto. Her research focuses on work and health, particularly the relationship between health and the social relations of work. Most of her research has centred on prevention and return to work in small workplaces. Recent studies include home health-care work, return-to-work policy and practice, front-line service work in Ontario's Workplace Safety and Insurance Board, and physicians' role in compensation.

Dr. Renée-Louise Franche – Clinical Psychologist and Researcher, British Columbia (since 2008)

Dr. Renée-Louise Franche is a clinical psychologist and consultant in work disability prevention and occupational health. She is an adjunct professor in the Faculty of Health Sciences at Simon Fraser University, in the School of Population and Public Health at the University of British Columbia, and in the Dalla Lana School of Public Health at the University of Toronto. Her research focuses on developing a better understanding of how organizational, health-care and individual factors contribute to safe, sustainable and healthy return to work following injury or ill health.

Dr. David Gimeno – Associate Professor, Division of Occupational and Environmental Health Sciences, University of Texas School of Public Health (since 2008)

Dr. David Gimeno is an associate professor of occupational and environmental health sciences at the San Antonio campus of the University of Texas School of Public Health. He is also an honorary senior research associate in the Department of Epidemiology & Public Health at University College in London, U.K. His research focuses on occupational and social epidemiology, with an emphasis on the measurement of employment status, work organizational exposures and workers' health and health-related productivity, social inequalities in health and aging, and the use of multi-level statistical models. He is involved in collaborative projects on work and health in Spain, Central America and Colombia.

Dr. Jaime Guzmán – Rheumatologist, British Columbia Children's Hospital (since 2006)

Dr. Jaime Guzman is a rheumatologist at B.C. Children's Hospital in Vancouver, as well as an assistant clinical professor of medicine at the University of British Columbia and an adjunct scientist at Toronto Rehab. His 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 and how to best integrate the perspectives of different stakeholders into research.

Dr. Jill Hayden – Assistant Professor, Dalhousie University (since 2007)

Jill Hayden is an assistant professor in the Department of Community Health & Epidemiology, Dalhousie University, Halifax, Nova Scotia. Her research experience and expertise includes systematic review and meta-analysis methods, prognostic research, and musculoskeletal health - specifically low back pain.

Dr. C. Gail Hepburn – Assistant Professor, Department of Psychology, University of Lethbridge (since 2004)

Dr. Gail Hepburn is an assistant professor in the Department of Psychology at the University of Lethbridge in Alberta. She also holds an associate graduate faculty appointment in the Department of Psychology at the University of Guelph. Hepburn specializes in organizational psychology. Her 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

Dr. Linn Holness – Director of the Centre for Research Expertise in Occupational Disease (CREOD) (since 2001)

Dr. Linn Holness is Director of the Centre for Research Expertise in Occupational Disease (CREOD) and Chief of the Department of Occupational and Environmental Health, both at St. Michael's Hospital in Toronto. She is also the director of the Division of Occupational Medicine, a professor in the Department of Public Health Sciences and a professor in the Department of Medicine, all at the University of Toronto. Her main research interests are occupational skin and lung disease, the delivery of occupational health services, and workplace health and safety issues

Dr. Mieke Koehoorn – Professor, School of Population and Public Health, University of British Columbia (since 2004)

Dr. Mieke is a professor in the School of Population and Public Health at the University of British Columbia (UBC). Her research interests focus on the surveillance and epidemiology of work-related injury and illness (e.g. serious injuries, asthma, mesothelioma) and the evaluation of workers' compensation policies and programs (e.g. effect of certification on injury risk of tree-fallers, effect of surgical settings and wait times on return-to-work outcomes). Many of her projects are part of her work as the co-lead of the Partnership for Work, Health & Safety, a research partnership with WorkSafeBC to maximize the use of administrative data for policy-relevant research questions. Mieke is the recent recipient of a CIHR Chair in Gender, Work and Health.

Dr. Agnieszka Kosny – Research Fellow, Monash University, Australia (since 2012)

Dr. Agnieszka Kosny is a research fellow at Monash University in Australia. A former scientist at the Institute for Work & Health, she holds a PhD in public health sciences from the University of Toronto. Her research interests focus on new immigrant workers, return to work after injury and the functioning of workers' compensation systems.

Dr. (Desre) Dee Kramer – Associate Director, Occupational Cancer Research Centre (since 2005)

Dr. Deskre Kramer is associate director of the Occupational Cancer Research Centre in Toronto, housed at Cancer Care Ontario. She is also an adjunct professor at the University of Waterloo and in the School of Public and Occupational Health at Ryerson University. Until the end of 2011, she was the associate director of the Centre of Research Expertise for the Prevention of Musculoskeletal Disorders (CRE-MSD) at the University of Waterloo. Her research interests focus on knowledge transfer, knowledge mobilization, social network analysis, diffusion of innovation and workplace interventions.

Dr. Marie Laberge – Assistant Professor, Faculty of Medicine, University of Montreal (since 2013)

Dr. Marie Laberge is an assistant professor in the Faculty of Medicine at the University of Montreal and a scientist at the CHU Ste-Justine research centre (mother, child and adolescent health). She is also a member of the Centre for Interdisciplinary Research Center on Biology, Health, Society and Environment (CINBIOSE), a Collaborating Centre of the World Health Organization and the Pan American Health Organization (WHO-PAHO). Her primary disciplinary fields are ergonomics and occupational therapy. Her current research activities concern adolescent occupational injuries and disability prevention. Dr. Laberge is interested in the development and implementation of novel interventions in order to facilitate the workplace integration of pediatric populations for whom entering the workforce represents a challenge. She is also interested in sex/gender differences in work and health paths.

Prof. Katherine Lippel – Professor of Law, Faculty of Law (Civil Law Section), University of Ottawa (since 2006)

Prof. Katherine Lippel is professor of law in the Faculty of Law (Civil Law Section) at the University of Ottawa, where she holds the Canada Research Chair in Occupational Health and Safety Law. She is also an associate professor of law at the Université du Québec à Montréal and an adjunct professor in

Carleton University's School of Social Work. She specializes in legal issues relating to occupational health and safety (OHS) and workers' compensation, and her research interests include work and mental health, the health effects of compensation systems, precarious employment and occupational health policy, interactions between law and medicine in OHS, disability prevention and compensation systems, and more. She was made a fellow of the Royal Society of Canada in 2010.

Dr. W. Patrick Neumann – Associate Professor, Department of Mechanical and Industrial Engineering, Ryerson University (since 2006)

Dr. W. Patrick Neumann runs the Human Factors Engineering Lab in Ryerson University's Department of Mechanical and Industrial Engineering in Toronto. A certified ergonomist, Dr. Neumann was once based at the former Swedish National Institute for Working Life in Gothenburg. His work emphasizes both the technical and organizational aspects of operation design, and his research looks at the application of human factors science to achieve design solutions with competitive advantages that are sustainable in both technical and human terms.

Dr. Aleck Ostry – Tier 2 Canada Research Chair in the Social Determinants of Community Health, University of Victoria (since 2003)

Dr. Aleck Ostry is a professor in the Faculty of Social Sciences at the University of Victoria in British Columbia. He is a Canada Research Chair (Tier 2) in the Social Determinants of Community Health. Ostry conducts research on the social determinants of health with a focus on workplace health, nutrition policy and health, and rural and northern health.

Dr. Mark Pagell – Chair in Global Leadership, Professor of Sustainable Supply Chain Management at University College Dublin (since 2012)

Dr. Mark Pagell is an associate professor of operations management and information systems at the Schulich School of Business at York University in Toronto. He is also a visiting professor at University College Dublin in Ireland. His research focuses on sustainable supply chain management, with a focus on creating supply chains that are both environmentally and socially sustainable.

Dr. Glenn Pransky – Director of the Center for Disability Research at the Liberty Mutual Research Center for Safety and Health in Hopkinton, Massachusetts (USA) (since 2001)

Dr. Glenn Pransky is director of the Center for Disability Research at the Liberty Mutual Research Center for Safety and Health in Hopkinton, Massachusetts (USA). He is also an associate professor in the Department of Family Medicine and Community Health at the University of Massachusetts Medical School and is a visiting lecturer at the Harvard School of Public Health and the University of Massachusetts/Lowell. His research interests include disability and outcome measurement, particularly for work-related musculoskeletal disorders.

Dr. Stéphanie Premji – Assistant Professor, Labour Studies and Health, Aging & Society at McMaster University (since 2013)

Dr. Stéphanie Premji is an assistant professor in Labour Studies and Health, Aging & Society at McMaster University in Hamilton, Ont. Her research interests include the occupational health of racialized workers within industrialized countries and social inequalities in work-related health. Whenever possible or advisable she conducts mixed-methods, interdisciplinary research in collaboration with unions and community organizations, and her research usually incorporates a gender-based perspective. She has written the guidance for incorporating gender in healthy workplace initiatives for the World Health Organization.

Dr. Sergio Rueda – Director, Health Research Initiatives, Ontario HIV Treatment Network (since 2012)

Dr. Sergio Rueda is Director of the Health Research Initiatives at the Ontario HIV Treatment Network, as well as an assistant professor of psychiatry at the University of Toronto. He is leading a population health research program that situates labour force participation, working conditions and income security as fundamental determinants of health in HIV/AIDS. He also conducts policy-relevant research on the impact of psychosocial stressors on the mental health of people living with HIV.

Dr. Jeanne Sears – Senior Research Scientist, Department of Health Services at the University of Washington (since 2013)

Dr. Jeanne Sears is a senior research scientist with the Department of Health Services at the University of Washington. Her research interests include occupational injury surveillance, occupational health services, policy and program evaluation, and disparities in health and access to health care. She is a member of the National Center for Health Statistics Injury Severity Advisory Group at the U.S. Centers for Disease Control. She has evaluated role expansion for nurse practitioners and physician assistants in the workers' compensation system, and policy changes to the vocational rehabilitation system for injured workers.

Dr. Harry Shannon – Professor, Department of Clinical Epidemiology and Biostatistics, McMaster University (since 2004)

Dr. Harry Shannon is a professor in the Department of Clinical Epidemiology and Biostatistics at McMaster University in Hamilton, Ontario. He also has an appointment in the Dalla Lana School of Public Health at the University of Toronto. His research interests include workplace health and safety, and he is a co-investigator on the IWH project on breakthrough change. He chairs the Methodology Working Group for the Canadian Longitudinal Study on Aging, and has written on health and safety implications of the aging workforce. He is also involved in several global health projects, including a simulation study of sampling in difficult settings and another study on evaluating humanitarian aid.

Dr. William Shaw – Principal Research Scientist, Liberty Mutual Research Institute for Safety in Hopkinton, Massachusetts (USA) (since 2013)

Dr. William Shaw is a principal research scientist at the Liberty Mutual Research Institute for Safety in Hopkinton, Massachusetts (USA) and holds an appointment with the Department of Family Medicine and Community Health at the University of Massachusetts Medical School. His training background is in engineering and clinical psychology, and his research is focused on issues of workplace disability and return to work, especially with regard to psychosocial factors and organizational support for workers with musculoskeletal conditions and chronic illnesses. He is involved in a number of collaborative projects in Australia, Canada, Sweden, and The Netherlands.

Dr. Nancy Theberge – Professor, Department of Kinesiology and Sociology, University of Waterloo (since 2003)

Dr. Nancy Theberge is a professor in the Departments of Kinesiology and Sociology at the University of Waterloo in Waterloo, Ontario. She teaches courses in the sociology of health, work and health, and social aspects of injuries in sport and work. Theberge conducts research on participatory ergonomics (PE) and the social factors related to successful implementation of PE programs. She has a related research program on the professional practices of ergonomists and human factors engineers.

Dr. Gabrielle van der Velde – Scientist, Toronto Health Economics & Technology Assessment Collaborative (since 2008)

Dr. Gabrielle van der Velde is a scientist at the Toronto Health Economics and Technology Assessment (THETA) Collaborative. Her work focuses on health technology assessment, including economic evaluation (cost-effectiveness analysis) of health technologies, mostly in the area of musculoskeletal conditions. She is a member of the core scientific team and guideline expert panel working on the development of the Minor Injury Guideline for minor traffic injuries in Ontario. Her research expertise also

includes the measurement of health-related quality-of-life and measurement in health care research, including Rasch analysis of health instruments.

Dr. Richard Wells – Professor, Department of Kinesiology, University of Waterloo (since 2001)

Dr. Richard Wells is a professor in the Department of Kinesiology, Faculty of Applied Health Sciences, at the University of Waterloo in Waterloo, Ontario. He is also director of the Centre of Research Expertise for the Prevention of Musculoskeletal Disorders (CRE-MSD), a multi-university centre hosted at the University of Waterloo. His research focuses on work-related musculoskeletal disorders of the upper limb and back.

Partners + affiliates

The Institute for Work & Health has ongoing partnerships with a number of organizations on research and knowledge transfer projects. IWH researchers work with colleagues from universities, research agencies, health and safety associations and other agencies to find ways to collaborate on projects and to share information.

Academic

McMaster University
University of Toronto
University of Waterloo
York University

Government

Association of Workers' Compensation Boards of Canada (AWCBC)
Ontario Ministry of Health and Long-term Care
Ontario Ministry of Labour
Ontario Workplace Safety and Insurance Board (WSIB)
Statistics Canada

Health & safety associations (HSAs)

Public Services Health & Safety Association (formerly the Education Safety Association of Ontario, Ontario Safety Association for Community and Healthcare and Municipal Health and Safety Association of Ontario)
Infrastructure Health & Safety Association (formerly the Construction Safety Association of Ontario, Electrical & Utilities Safety Association and Transportation Health & Safety Association of Ontario)
Workplace Safety & Prevention Services (formerly the Industrial Accident Prevention Association, Ontario Service Safety Alliance, Farm Safety Association Inc.)
Workplace Safety North (formerly the Mines and Aggregates Safety and Health Association, Pulp and Paper Health and Safety Association, Ontario Forestry Safe Workplace Association)
Occupational Health Clinic for Ontario Workers, Inc. (OHCOW)
Workers Health and Safety Centre (WHSC)

Research organizations

Canadian Cochrane Centre
Canadian Institute for Advanced Research (CIFAR)
Canadian Institute for Health Information (CIHI)
Canadian Institutes of Health Research (CIHR)
Centre for Health Economics and Policy Analysis (CHEPA)
Cochrane Collaboration
Institut de recherche Robert-Sauvé en santé et en sécurité du travail (IRSST)

WSIB Centres of Research Expertise

The WSIB Research Advisory Council has established three Centres of Research Expertise to strengthen the research capacity in Ontario. As the largest research agency in Ontario devoted to the protection of the health of workers, the Institute for Work & Health is also committed to expanding research capacity through networking and partnership with the Centres of Research Expertise.

IWH researchers and knowledge transfer and exchange staff actively collaborate with colleagues from:
Centre of Research Expertise for the Prevention of Musculoskeletal Disorders (CRE-MSD)
Centre for Research Expertise in Occupational Disease (CREOD)
Occupational Cancer Research Centre (OCRC)

Other associations

American Academy of Orthopaedic Surgeons (AAOS)
Canadian Physiotherapy Association
College of Physiotherapists of Ontario (CPO)

Related Organizations

Academic

Department of Health Policy, Management and Evaluation (HPME), University of Toronto
Groupe de recherche et d'analyse des aspects sociaux de la santé et de la prévention (GRASP),
Université de Montréal
Groupe de recherche interdisciplinaire en santé, Université de Montréal (GRIS)
Centre for Health Services and Policy Research, University of British Columbia
Ryerson University
Queen's University

Business associations

Canadian Federation of Independent Business
Canadian Labour and Business Centre
Conference Board of Canada
RAND Home Page
W.E. Upjohn Institute

Clinical organizations

Canadian Agency for Drugs and Technologies in Health (CADTH)
Health In Action, Alberta
Institute for Clinical Evaluative Sciences (ICES)
International Clinical Epidemiology Network (INCLIN)

Government

Canadian Centre for Occupational Health and Safety (CCOHS)
Health Canada
Human Resources and Social Development Canada
Networks of Centres of Excellence (NCE)

Health and safety information

Canada National Occupational Safety and Health Information Centre (CANOSH)
eLCOSH - Electronic Library of Construction Occupational Safety and Health
International Labour Organization (ILO)
International Occupational Safety and Health Information Centre
JobQuality.ca, managed by the Work Network of the Canadian Policy Research Networks
Safe Communities Foundation
SMARTRISK
Workers' Compensation Board of British Columbia Health and Safety website

Policy-maker organizations

Institute for Research on Public Policy (IRPP)
International Reform Monitor
Program in Policy Decision-making (PPd)
Workers' Compensation Resources

Research organizations

Agency for Healthcare Research & Quality (AHRQ)
Caledon Institute of Social Policy

Canadian Association for Research on Work and Health (CARWH)
Canadian Health Services Research Foundation (CHSRF)
Canadian Institute for Advanced Research (CIFAR)
Canadian Institute for Health Information (CIHI)
Canadian Institutes of Health Research (CIHR)
Canadian Policy Research Networks (CPRN)
Centre for Health Economics and Policy Analysis (CHEPA)
Centre for the Study of Living Standards (CSLS)
Cochrane Collaboration
Finnish Institute of Occupational Health
Global Applied Disability Research and Information Network on Employment and Training (GLADnet)
Institute for Clinical Evaluative Sciences (ICES)
Institut de recherche Robert-Sauvé en santé et en sécurité du travail (IRSST)
National Institute of Disability Management and Research (NIDMAR)
National Institute for Occupational Safety and Health (NIOSH)
Natural Sciences and Engineering Research Council (NSERC)
Partnership for Work, Health and Safety
Safety Net
Social Science and Humanities Research Council (SSHRC)

Workers' compensation boards and commissions

Association of Workers' Compensation Boards of Canada (AWCBC)
Alberta Workers' Compensation Board
British Columbia Workers' Compensation Board
Manitoba Workers' Compensation Board
New Brunswick Workplace Health, Safety and Compensation Commission (WHSCC)
Newfoundland and Labrador Workplace Health, Safety and Compensation Commission (WHSCC)
Northwest Territories and Nunavut Workers' Compensation Board (WCB)
Nova Scotia Workers' Compensation Board (WCB)
Ontario Workplace Safety and Insurance Board (WSIB)
Prince Edward Island Workers' Compensation Board
Saskatchewan Workers' Compensation Board
Quebec Commission de la santé et de la sécurité du travail (CSST)
Yukon Workers' Compensation Health & Safety Board
American Association of State Compensation Insurance Funds (AASCIF)

Other organizations of interest

British Occupational Hygiene Society (BOHS)
Canadian Abilities Foundation (CAF)
College of Physicians & Surgeons of Ontario (CPSO)
International Association of Industrial Accident Boards and Commissions (IAIABC)
New England Journal of Medicine (NEJM)
Occupational Health Nurses Association of Nova Scotia (OHNANS)
Registered Nurses' Association of Ontario (RNAO)
European Agency for Safety and Health at Work
Workplace Council
World Health Organization (WHO) Home Page
Working on Safety

Glossary

A

- AAOS** American Academy of Orthopaedic Surgeons
- AASCIF** American Association of State Compensation Insurance Funds
- ACE** Association of Canadian Ergonomists
- ACGIH** American Conference of Governmental Industrial Hygienists
- ACOEM** American College of Occupational and Environmental Medicine
- ACRSPS** Association Canadienne pour la recherche sur les services et les politiques de la santé
- ADL** activities of daily living
- AHCPR** Agency for Health Care Policy and Research
- AHFMR** Alberta Heritage Foundation for Medical Research
- AJIM** American Journal of Industrial Medicine
- AJPH** American Journal of Public Health
- ALTENS** acupuncture-like transcutaneous electrical nerve stimulation
- AMA** American Medical Association
- AOOP** Academy of Organizational and Occupational Psychiatry
- APA** American Psychological Association
- AWCBC** Association of Workers' Compensation Boards of Canada

B

- BMJ** British Medical Journal
- BoD** Board of Directors
- BRG** Cochrane Back Review Group

C

- CADMC** Canadian Association of Disability Management Coordinators
- CAHSPR** Canadian Association for Health Services and Policy Research
- CAMH** Centre for Addiction & Mental Health
- CANOSH** Canada National Occupational Safety & Health Information Centre
- CAOT** Canadian Association of Occupational Therapists
- CARP** Canadian Association of Rehabilitation Professionals
- CARWH** Canadian Association for Research on Work and Health (formerly CHERA)
- CAVEWAS** Canadian Assessment, Vocational Evaluation and Work Adjustment Society
- CAW** Canadian Auto Workers
- CCA** Canadian Chiropractic Association

CCDP Centre for Chronic Disease Prevention
CCHS Canadian Community Health Survey
CCOHS Canadian Centre for Occupational Health and Safety
CCOHTA The Canadian Coordinating Office for Health Technology Assessment
CCRW Canadian Council on Rehabilitation and Work
CCS Canadian Cancer Society
CDC U.S. Centers for Disease Control
CEFRIO Centre francophone d'informatisation des organisations
CES Canadian Evaluation Society
CERF Canadian Employment Research Forum
CFI Canada Foundation for Innovation
CHEPA Centre for Health Economics and Policy Analysis
CHRC Canadian Human Rights Commission
CHSRF Canadian Health Services Research Foundation
CIAR Canadian Institute for Advanced Research
CIBC Canadian Imperial Bank of Commerce
CIHI Canadian Institute of Health Information
CIHR Canadian Institutes of Health Research
CIRPD Canadian Institute for the Relief of Pain and Disability
CIWA Canadian Injured Workers Alliance
CJPH Canadian Journal of Public Health
CLC Canadian Labour Congress
CMA Canadian Medical Association
CMAJ Canadian Medical Association Journal
CMCC Canadian Memorial Chiropractic College
CMDB Canadian Mortality Database
CMPA Canadian Medical Protective Association
COHNA Canadian Occupational Health Nurses Association
CPA Canadian Physiotherapy Association
CPHA Canadian Public Health Association
CPHI Canadian Population Health Initiative
CPO College of Physiotherapists on Ontario
CPSA Canadian Political Science Association
CREIDO Centre of Research Expertise in Improved Disability Outcomes
CRE-MSD Centre of Research Expertise for the Prevention of Musculoskeletal Disorders
CREOD Centre of Research Expertise in Occupational Disease
CSAO Construction Safety Association of Ontario

CSIH Canadian Society for International Health
CSME Canadian Society of Medical Evaluators
CSPDM Canadian Society of Professionals in Disability Management
CSSE Canadian Society of Safety Engineering
CSST Commission de la santé et de la sécurité du travail (Quebec)
CURA Community-University Research Alliance
CWGHR Canadian Working Group on HIV and Rehabilitation

D

DAC Designated Assessment Centre
DASH Disabilities of the Arm, Shoulder and Hand
DMEC Disability Management Employer Coalition (U.S.)

E

EAC Employers' Advocacy Council
EBP Evidence-based Practice
ECC Early Claimant Cohort Study
EPICOH Epidemiology in Occupational Health
ERI Effort-reward Imbalance
ESAO Education Safety Association of Ontario
ESWE Employee Survey of the Working Environment (IWH)
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 and Safety Association
HEALNet Health Evidence, Application and Linkage Network of the Centre of Excellence
HIRU Health Information Research Unit
HMOs health maintenance organizations
HRDC Human Resources Development of Canada
HRPA Human Resources Professional Association (Ontario)

HSA health and safety association
HWW Health Work & Wellness Conference

I

IAB Institute Advisory Board (IAPH)
IADPM International Association of Professionals in Disability Management
IAIABC International Association of Industrial Accident Boards & Commissions
IAPA Industrial Accident Prevention Association
IAPH Institute of Aboriginal Peoples' Health
IARP International Association of Rehabilitation Professionals
IBC Insurance Bureau of Canada
ICES Institute for Clinical Evaluative Sciences
ICOH International Commission of Occupational Health
IHPM Institute for Health and Productivity Management
IHSA Infrastructure Health & Safety Association (amalgamation of CSOA, EUSA and THSAO)
IHSPR Institute of Health Services and Policy Research
IJDCR International Journal of Disability, Community & Rehabilitation
ILO International Labour Organization
INCLEN International Clinical Epidemiology Network
IPPH Institute of Population and Public Health (see **CIHR**)
IWH Institute for Work & Health
IRSST L'institut de recherche en santé et en sécurité du travail

J

JAMA The Journal of the American Medical Association
JAN Job Accommodation Network (U.S.)
JANCANA Job Accommodation Network in Canada
JCE Journal of Clinical Epidemiology
JHSC Joint Health and Safety Committee (**IWH**)
JOEM Journal of Occupational and Environmental Medicine

K

KT knowledge transfer
KSTE knowledge synthesis, transfer and exchange
KTE Knowledge, Transfer & Exchange (**IWH**)

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

MHCC Mental Health Commission of Canada

MHSA Municipal Health and Safety Association (Ontario)

MOH Ministry of Health (Ontario)

MOH-LTC Ministry of Health, Long-Term Care (Ontario)

MOL Ministry of Labour (Ontario)

MSD Musculoskeletal Disorder

N

NAOSH North American Occupational Safety and Health

NBGH National Business Group on Health (U.S.)

NCE Networks of Centres of Excellence

NEJM New England Journal of Medicine

NHS National Health Service

NIDMAR National Institute of Disability Management and Research

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 (USA)

NPHS National Population Health Survey

NQI National Quality Institute

O

OCHS Ontario Child Health Study

OEA Office of the Employer Adviser

OECD Organization for Economic Cooperation and Development
OEMAC Occupational & Environmental Medical Association of Canada
OFL Ontario Federation of Labour
OFSWA Ontario Forestry Safe Workplace Association
OHCO Occupational Health Clinic for Ontario Workers
OHRC Ontario Human Rights Commission
OHS occupational health and safety
OHSAH Occupational Health & Safety Agency for Healthcare in British Columbia
OHSCO Occupational Health and Safety Council of Ontario
OHSMS occupational health and safety management system
OHIP Ontario Health Insurance Plan
OMA Ontario Medical Association
OMSOC Occupational Medicine Specialists of Canada
OOHNA Ontario Occupational Health Nurses Association
OSACH Ontario Safety Association for Community & Healthcare
OSHA Occupational Safety and Health Administration (U.S.)
OSSA Ontario Service Safety Alliance
OWA Office of the Worker Adviser (Ontario)

P

PHS Public Health Sciences, University of Toronto
PPHSA Pulp and Paper Health and Safety Association
PREMUS Prevention of Work-Related Musculoskeletal Disorders (scientific Conference)
PSHSA Public Services Health & Safety Association (amalgamation of ESAO, MHSA and OSACH in Ontario)

R

RAC Research Advisory Council (WSIB)
RCT randomized controlled trial
RFP request for proposals
RNAO Registered Nurses Association of Ontario
RSI repetitive strain injury
RTW return to work

S

SAC Scientific Advisory Committee (IWH)
SARS Severe Acute Respiratory Syndrome

SHARP Safety and Health Assessment and Research for Prevention
SLID Survey of Labour and Income Dynamics
SRC Systems Review Committee (IWH)
SRDC Social Research and Demonstration Corporation
SSHRC Social Sciences and Humanities Research Council of Canada
STAR/Song Star/Southern Ontario Newspaper Guild
STD Short-Term Disability
SWPSO Safe Workplace Promotion Services Ontario (the amalgamated IAPA, OSSA and FSA)

T

TDHC Toronto District Health Council
TSAO Transportation Safety Association of Ontario

U

UBC University of British Columbia
UHN University Health Network
UNITE Union of Needle Trades, Industrial & Textile Employers
UQAM Université du Québec à Montréal

V

VRAC Vocational Rehabilitation Association of Canada (or VRA Canada)

W

WCB workers' compensation board (generic reference)
WCHSB Workers' Compensation Health and Safety board (Yukon)
WCRI Workers Compensation Research Institute (U.S.)
WELCOA Wellness Council of American (U.S.)
WHSC Workers Health & Safety Centre
WHSCC Workplace Health, Safety & Compensation Commission (Newfoundland & Labrador)
WHO World Health Organization
WMSD work-related musculoskeletal disorder
WSCC Workers' Safety and Compensation Commission (Northwest Territories and Nunavut)
WSIB Workplace Safety and Insurance Board (Ontario)
WSPS Workplace Safety & Prevention Services (the amalgamation of IAPA, OSSA and FSA in Ontario)
WSN Workplace Safety North (the amalgamation of MASHA, OFSWA and PPHSA in Ontario)