

Institute for Work & Health Accomplishments Report 2014



Institute
for Work &
Health

Research Excellence
Advancing Employee
Health



2014 Accomplishments Report

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2014 ACCOMPLISHMENTS REPORT

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Introduction

The mission of the Institute for Work & Health is to promote, protect and improve the safety and health of working people by conducting actionable research that is valued by employers, workers and policy-makers. 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 disorders, labour market experiences and 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 for use 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.

Research at the Institute

A summary of our 2014 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 2014 are presented in a separate KTE section that describes accomplishments in our stakeholder relationship and exchange activities, as well as our communications activities.

Publications, Awards and Collaborators & Staff

The third and fourth sections report on 2014 publications, 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 2014, 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 and guides that can be used by stakeholders and workplace parties.

Prevention of Work Related Injury and Illness

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Vulnerable Workers

Protecting vulnerable workers from the risks of work-related injury and illness is a central priority of the Ontario prevention system. New workers, some of whom are in temporary employment arrangements and many of whom are young workers, are most at risk of injury during the first month on a job. Immigrant workers, who make up an increasing segment of the Canadian labour force, may also be more vulnerable to workplace injury or illness. The proportion of workers aged 50+ is increasing and there are growing incentives for older workers to continue employment beyond the age of 65. Finally, not all workers enter the workforce with optimum health. Many have pre-existing physical and mental health conditions or develop health problems that may make them vulnerable to workplace injury or illness. In 2014, the Institute completed work to describe parents' perspectives of the risks and benefits to adolescents who work for pay outside their home. We continued work to describe differences in exposures to occupational hazards among workers in 56 economic sectors in the Ontario labour market. In 2014, 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. Specifically, we conducted a survey of Ontario workers designed to obtain information on workers' perceptions of their OHS vulnerability.

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

Project Status: Ongoing

Introduction: The Expert Advisory Panel on Occupational Health & Safety reported to the Minister of Labour (MOL) 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 MOL with responsibility to develop and execute an integrated occupational health and safety (OHS) strategy for the province. The recommendations of the Expert Advisory Panel also included a charge to improve the indicators of OHS 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 one 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 the Ontario prevention system.
- To forecast demand for occupational health and safety services and guide the allocation of prevention system resources.
- To work with the MOL in measurement of hazard exposures and OHS risk for Ontario economic sectors.

Methods: In supporting the implementation of the recommendations of the Expert Advisory Panel, this project has two areas of focus. In assisting the development of a performance measurement framework, the workplan includes consultation with experts and reference to measurement frameworks in other jurisdictions. In assisting 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: In 2014, the research team completed the following elements: 1) projections of occupational health and safety risk for five economic regions in Ontario; and 2) analysis of composite hazard exposure index for 56 economic sectors in Ontario. We also continued our pilot phase analysis of occupational health and safety enforcement activity in two economic sectors.

Researchers: Cameron Mustard (Principal Investigator), Ben Amick, Amber Bielecky, Jacob Etches, Sheilah Hogg-Johnson, Ron Saunders, Peter Smith

Collaborations and Partnerships: A project team within the Ministry of Labour will contribute to the definition of objectives and timelines of this project. Contributions would also be expected from the 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 support the development of a framework for OHS system performance measurement.

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)

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 proposal is to build on a conceptual framework of occupational health and safety vulnerability which has been developed by the research team to generate a 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 among labour market participants that moves beyond demographic worker characteristics towards factors that are more proximal to risk of injury or illness at the level of the worker.
- To develop and refine a measure of OHS vulnerability that can be used for public health surveillance.

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 tested a 64-item measure in a sample of approximately 300 workers, with a goal of reducing the number of questions that consisted our measure, to approximately 30 items.

Status: In 2014, we administered our initial 64-item survey to a sample of 300 workers in Ontario and BC. After this pilot testing we reduced our survey to a 29-item instrument, which was administered to approximately 1,800 respondents in June 2014. We have now analysed this survey and have submitted two manuscripts to peer-review that focus on the development of our measure, and the initial findings. We were also successful in obtaining additional funding from CIHR to continue the work on this project, to use our survey to examine the impacts of mandatory awareness training in Ontario.

Researchers: Peter Smith (Principal Investigator), Curtis Breslin, Morgan Lay, Marni Lifshen, Ron Saunders, Emile Tompa, A LaMontagne (Deakin University)

Collaborations and Partnerships: This project was supported by the Workplace Safety & Prevention Services, and the Public Services Health & Safety Association.

Potential Audiences and Significance: This project generated new knowledge about factors relevant to OHS primary prevention, and reduction in inequalities, and work injuries and illnesses. The measure will lead to a greater understanding of what factors create increased work injury risk; broadening the focus from identifying the types of workers who are more likely to sustain injuries, to understanding and measuring the work they do, and the characteristics of the workplace or industries in which they are employed. A measure of OHS vulnerability will lead to a more comprehensive strategy for the primary prevention of work injury in Canada. This work will be of interest to prevention authorities, workers' compensation authorities, OHS practitioners and researchers.

Publications:

Lay M, Smith PM, Saunders R, Lifshen M, Breslin FC, LaMontagne, AD and Tompa E. The relationship between individual, occupational and workplace factors and type of occupational health and safety vulnerability among Canadian employees. Submitted to Journal of Epidemiology and Community Health.

Smith PM, Saunders R, Lifshen M, Black O, Lay M, Breslin FC, LaMontagne, AD and Tompa E. The development of a measure of occupational health and safety vulnerability. Submitted to Accident Analysis and Prevention.

Presentations:

Smith PM. Developing a measure of OHS vulnerability. 20 Jan 2015; Toronto, ON: Institute for Work & Health Plenary Series.

Funding:

Smith PM, Breslin FC, LaMontagne A, Saunders R, Tompa E. Developing a Conceptual Framework for Understanding and Measuring Occupational Health and Safety Vulnerability. Canadian Institutes of Health Research (CIHR): \$173,975.00 (2012-2015)

Smith PM, Breslin FC, LaMontagne A, Saunders R, Tompa E. Evaluating the impact of mandatory awareness training on OH&S vulnerability in Ontario. Canadian Institutes of Health Research (CIHR): Population Health Intervention Research: \$198,791 (2015-2016)

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

Project Status: Completed

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. A Canada-wide study of emergency department records showed that 82% of 10 to 13 year olds needing treatment for a work-related injury held a service/clerical job, with another 12% performing manual labour. 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. Gender segregation is substantially even among 12 to 14 year olds, so examining gender differences is necessary. 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. This project will focus on exploring parents' perspective. We would expect parents and youth to have different perspective on youth work. However, given that parents presumably give youth permission to work, and might facilitate their work, they are implicated.

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.
- 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 delivery, babysitting, and yard work. Transcripts of 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 was submitted including full results, implications, key messages, and recommended next steps. The main findings of this project were published in 2014 in BMC Public Health.

Researchers: Curtis Breslin (Principal Investigator), M Koehoorn (University of British Columbia), M Laberge (University of Quebec), L Laberge (IRSST), E Ledoux (IRSST), E MacEachen (University of Waterloo), 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. 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 changes and surveillance of work safety for this age group.

Publications:

Usher A, Breslin CF, MacEachen F, Koehoorn M, Laberge M, Laberge L, Ledoux E, Wong I. Employment and work safety among 12 to 14 year olds: Listening to parents. BMC Public Health 2014; 14(1):1021.

Parents of 12- to 14-year-olds see high benefits, low OHS risk, in children's work. At Work, Issue 77, Summer 2014: Institute for Work & Health, Toronto, ON.

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

The Institute has a specific focus on work-related MSD conditions which are responsible for approximately 40 per cent of disability compensation claims involving time lost from work-related injury and illness. In 2008, the Institute completed a systematic review of the effectiveness of participatory ergonomic interventions in the prevention of these conditions. In 2014, the Institute completed work on an update of this systematic review. The Institute also partnered with the Public Services Health and Safety Association to implement and evaluate a participatory ergonomics change program to prevent slip, trip and fall injuries in a sample of facilities in the Ontario long-term care sector.

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.

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 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 conducted a longitudinal study at a worksite where groups were randomly assigned to either intervention or control.

Status: In 2014, the team reanalysed the data to better address several of the research questions. The research team is currently working on a peer review paper, all results tables for the paper have been prepared and the final report to the funder has been drafted.

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

Collaborations and Partnerships: Partners included Liberty Mutual, Public Services Health & Safety Association, Infrastructure Health & Safety Association, and 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, health and safety associations, employers, labour, and training companies.

Publications:

King T. The secret to making training stick. 21 Apr 2014; Canadian HR Reporter, <http://www.hrreporter.com/articleview/20879>

Presentations:

Amick BC. Office ergonomics training. 27 Jan 2014; Toronto, ON: Institute for Work & Health Plenary Series.

Amick BC. An effective way of delivering office ergonomics training. 2 Apr 2014; Toronto, ON: Educationally Influential Ergonomic Stakeholder Meeting.

Amick BC. Ergonomics policies and practices in Ontario. 2 Apr 2014; Toronto, ON: Educationally Influential Ergonomic Stakeholder Meeting.

Van Eerd D, King T, Turner K, Robertson MM, Robson L, Steenstra I, Ibrahim S, Amick BC. Training for Office Ergonomics. 29-30 Sep 2014; Toronto, ON: Work Disability Prevention and Integration (WDPI) Conference.

Funding:

Amick BC, Van Eerd D, Steenstra I, Smith P, Cole DC, Ibrahim S, Tompa E, Bigelow P, Robertson M, Beaton D. A RCT of the Effectiveness of Two Office Ergonomic Training Approaches for Seated Environments: Comparing an In-person to Computer-based Training. Workplace Safety & Insurance Board RAC: \$235,047 (2008-2010)

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

Project Status: Completed

Introduction: Musculoskeletal disorders (MSDs) and 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. This project involved a 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.

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 project. Two of the participating intervention sites focused on reducing MSDs and the other on slips, trips, and falls.

Status: Data collection for the project was completed. In addition, the team completed their mixed method analysis. The team met all investigators and project collaborators to debrief on the program implementation process and evaluation outcomes. The final report was submitted to the Ministry of Labour.

Researchers: Ben Amick (Co-Principal Investigator), Dwayne Van Eerd (Co-Principal Investigator), Sheilah Hogg-Johnson, Trevor King, Cameron Mustard, Lynda Robson, Ivan Steenstra, Emile Tompa, R Wells (Centre of Research Expertise for the Prevention of MSDs)

Collaborations and Partnerships: This project involved an active collaboration with PSHSA who implemented the EPIC program and with the Ontario Long-Term Care Association who helped with recruitment and dissemination of results. We also worked with the Workplace Safety & Insurance Board and the 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 health care stakeholders in Ontario.

Presentations:

Van Eerd D, Amick BC, D'Elia T, Ferron E-M, Munhall C, Van Hulle H. Improving health and safety in long-term care: Employees Participating in Change. 19-21 Oct 2014; Saskatoon, SK: Canadian Association for Research on Work and Health (CARWH) International Symposium.

Van Eerd D, Ferron E-M, D'Elia T, Amick BC. Employee participation in change: Process evaluation and observation outcomes. 7-9 Oct 2014; Montreal, QC: Association of Canadian Ergonomists Annual Conference.

Van Eerd D, Ferron E-M, D'Elia T, Amick BC. Employee participation in change: A process evaluation. 29-30 Sep 2014; Toronto, ON: Work Disability Prevention and Integration (WDPI) Conference.

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: Completed

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 systematic review built on the last five years of research in the field. We conducted this review in two stages; the first stage reviewed the evidence on the effectiveness of interventions to prevent MSDs; and the second stage reviewed the evidence on the implementation and processes used to prevent MSDs. Our research questions were: 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 completed an update to the systematic review and conducted extensive stakeholder consultations throughout the review and at the end of the project. A manuscript was completed.

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 University), C Pinion (University of Texas), D Remel (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 were 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.

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 therapists, and those working in the disability management field.

Presentations:

Irvin E, Munhall C. Preventing musculoskeletal disorders: Findings from a systematic review update. 6 Jun 2014; Toronto, ON: Prevention Knowledge Exchange Group (PKEG).

Irvin E, Munhall C. Preventing musculoskeletal disorders: Findings from a systematic review update. 3 Jun 2014; Toronto, ON: Institute for Work & Health Plenary Series.

Irvin E, Van Eerd D, Munhall C, Amick BC. Effectiveness of OHS workplace interventions in the prevention of upper extremity MSDs: An update of the evidence. 19-21 Oct 2014; Saskatoon, SK: Canadian Association for Research on Work and Health (CARWH) International Symposium.

Van Eerd D. Updated findings on the effectiveness of upper limb interventions for MSDs. 3 May 2014; Etobicoke, ON: The 2013/4 Ergonomics Learning Day.

Van Eerd D. Updating the messages about effective OHS workplace interventions for the prevention of upper extremity MSDs. 2 Apr 2014; Toronto, ON: EI Ergonomists Network Meeting.

Van Eerd D. Workplace-based prevention of upper extremity MSD: Systematic review update. 23 May 2014; Toronto, ON: CBI Ergonomists Meeting.

Van Eerd D, Munhall C, Irvin E, Rempel D, Brewer S, Dennerlein J, Van der Beek A, Tullar J, Amick BC, Skivington K, Pinion C. Effectiveness of OHS workplace interventions in the prevention of upper extremity MSDs: an update of evidence. 7-9 Oct 2014; Montreal, QC: Annual Conference of Association of Canadian Ergonomists.

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)

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 2014, we completed work to benchmark leading organizational indicators for the prevention and management of injuries and illnesses. 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 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 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 had two phases. In Phase 1 workplace parties were interviewed in about 10 plants/facilities in the manufacturing and transportation sectors in Ontario. The information from Phase 1 was used to develop a questionnaire for surveying a larger number of organizations by telephone. In Phase 2, the survey was administered by phone to over 250 plants/facilities across Ontario. For Phase 2, health and safety outcomes were primarily measured with WSIB data. Statistical modeling was undertaken to estimate the impact of health and safety on operational outcomes, and impact of operational outcomes on health and safety.

Status: In the spring, a final report was submitted to the funder, WSIB-RAC, and a draft paper led by the IWH team was prepared. The research team decided to have one key paper led by the Schulich Business School team. In the fall, the Schulich Business School team paper was accepted with revisions, and similar revisions were made to the IWH paper prior to submission to the Scandinavian Journal of Work, Environment and Health.

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 (York University), D Johnston (York University), R Klassen (University of Western Ontario), A Veltri (Oregon 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 to the Ontario Workplace Safety and Insurance Board.

Publications:

Tompa E, Robson L, Sarnocinska-Hart A, Klassen R, Shevchenko A, Sharma S, Hogg-Johnson S, Amick BC, Johnson D, Veltri A, Pagell M. Managing for safety and operations: Symbiosis, coexistence or trade-off? Submitted to Scandinavian Journal of Work, Environment & Health.

Pagell M, Tompa E, Biehl M, Johnston D, Klassen R, Veltri A, Hogg-Johnson S, Robson LS, Amick BC. Safety Case for Business. Final Report for WSIB-RAC. Toronto, ON, 2014.

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)

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

Project Status: Ongoing

Introduction: This project consists of three related mixed methods projects. They address the need to better understand the processes and critical factors involved in making large and intentional improvement in a workplace's rate of injury and illness, i.e. "breakthrough change" (BTC). The first project (P1) involved screening Workplace Safety and Insurance Board (WSIB) claim statistics to find firms that underwent BTC and then studying four of them in-depth. The second project (P2) involves a multiple case study of three sister manufacturing plants with contrasting outcome profiles (BTC, more modest change, no change) and includes nested quantitative analyses. The third project (P3) tests the validity of the BTC factors emerging from the first study, by investigating "stay-the-same" (STS) cases matched to the four in the first study.

Objectives:

- 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 collected using qualitative methods, a survey and an extraction of administrative records. Analysis seeks 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 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 used to understand the basis for differences over time in OHS performance between BTC and STS cases.

Status: For Phase 1: A Manuscript on case study results was furthered, incorporating the previously submitted and rejected methods paper on case selection. There was substantial dissemination to academic and lay audiences. For Phase 2: A manuscript based on the survey results, led by PhD Candidate Sharvani Sharma, was drafted. Coding and thematic analysis of interview data continued. Analysis of joint-health-and-safety-committee minutes was completed. For Phase 3: Coding and thematic analysis of interview data was completed.

Researchers: Lynda Robson (Principal Investigator), Ben Amick, Siobhan Cardoso, Sheilah Hogg-Johnson, Marni Lifshen, Cindy Moser, Kathy Padkapayeva, Sharvani Sharma, Kathryn Skivington, Michael Swift, Emile Tompa, Elizabeth Mansfield (Toronto Rehabilitation Institute), 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 Ontario Ministry of Labour and, for (P2) – manufacturing firms.

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

Publications:

Breakthrough Change Case Study Series (lay summaries of the change processes in four workplaces in the research project). Available from: http://www.iwh.on.ca/btc_case_study_series.

OHS champion has pivotal role in breakthrough change: study. *At Work*, Issue 76, Spring 2014: Institute for Work & Health, Toronto, ON.

Vu U. Study finds H & S professionals can play pivotal role in 'Breakthrough Change'. *Contact* (Canadian Society of Safety Engineering Inc) 2014; 35(1):8-9. <https://portal.csse.org/opendoc.asp?docID=2698>

Presentations:

Robson LS, Amick BC, Moser C, Pagell M, Mansfield E, Cardoso S, South H, Shannon H, Swift M, Hogg-Johnson S. A model of 'breakthrough change' in workplace health and safety performance. 13 May 2014; Toronto, ON: Institute for Work & Health Plenary Series.

Robson LS, Amick BC, Moser C, Pagell M, Mansfield E, Cardoso S, Shannon H, South H. A model of workplace improvement in occupational health and safety (OHS): Results of an exploratory multiple case study. 19-21 Oct 2014; Saskatoon, SK: Canadian Association for Research on Work and Health (CARWH) International Symposium.

Robson LS. Breakthrough change in workplace health and safety. 14-17 Sep 2014; Calgary, AB: Canadian Society of Safety Engineering Professional Development Conference.

Robson LS. Breakthrough change in workplace health and safety. 12 Sep 2014; Mississauga, ON: Business Council on Occupational Health and Safety.

Robson LS. A model of 'breakthrough change' in workplace health and safety performance. 27 May 2014; Toronto, ON: Workers Health & Safety Centre.

Robson LS. Organizational change: Driving change in OHS. 4 Nov 2014; Toronto, ON: IRE2715, Special Topics: Current Issues in Occupational Health and Safety, Centre for Industrial Relations & Human Resources, University of Toronto.

Robson LS. Organizational change and OHS management. 11 Nov 2014; Toronto, ON: CHL5917, Concepts in Safety Management, Dalla Lana School of Public Health, University of Toronto.

Robson LS. Update on the breakthrough change project. Strengthening Knowledge Exchange on Work and Health (IWH KTE forum with labour leaders). 19 Nov 2014; Toronto, ON.

Funding:

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

Robson LS, Amick BC, Pagell M, Mansfield L, Shannon H, 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)

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

Project Status: Completed

Introduction: This study involved 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 several Ontario Health and Safety Associations (HSAs). The total sample was expected to be 4,500-5,000 firms. The key organizational metrics included 70 items collected from various measures. The firm-level survey data was 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 were related to injury and illness claims. We used 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 used a stratified sampling strategy with strata defined by a combination of sector/HSA affiliation, firm size (< 20 versus 20+ FTE), and geographic region. We targeted all firms in all strata of the HSAs. In our nested studies, we used firms for the test-retest and determined who the best informant was. Data collection followed a protocol used in an earlier study resulting in 70% firm-level response rate.

Status: In 2014, the data collection for the Best Key Informant nested study was completed. In addition, the firm size nested study analysis was completed. The team finalized the test-retest, psychometrics, and retrospective claims prediction analyses. The final report to the funder was also completed.

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, L Tetrick (George Mason University)

Collaborations and Partnerships: This was an active collaboration with three health and safety agencies: Workplace Safety & Prevention Services, Public Services Health & Safety Association, and Workplace Safety North. We also worked with the Workplace Safety & Insurance Board and the Ministry of Labour to obtain data to augment the survey data.

Potential Audiences and Significance: The results of this research are relevant to all stakeholders in Ontario, including the Workplace Safety & Insurance Board, the Ministry of Labour, and the HSAs.

Publications:

Williams S. Using leading indicators to prevent injuries: One firm's progress. Workplace Safety and Prevention Services Network News, 10 Jun 2014, Available from: <http://www.wsps.ca/Information-Resources/Articles/Using-leading-indicators-to-prevent-injuries.aspx>

Presentations:

Hogg-Johnson S, Masood S. Safety Culture: The OLIP Project and Employee Engagement. 13 Nov 2014; Thornhill, ON: Partners in Prevention Health & Safety Conference & Trade Show Series.

Amick BC, Hogg-Johnson S, Severin CN, Smith P, Steenstra IA, Swift M, Ibrahim S, Robson L, Mustard C. Distribution of Disability Management policies and practices in a representative sample of employers in Ontario, Canada. 29-30 Sep 2014; Toronto, ON: Work Disability Prevention and Integration (WDPI) 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)

Validation of an Ontario Prevention System Leading Indicator (1230)

Project Status: Completed

Introduction: In 2008, the Ontario Prevention System Partners 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 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 see whether classification by HSA audit tools correlates with classification by OPM tool.

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

Status: The team finalized the analysis of the survey data and connected this to the claims data, at which time the general claims results were posted on the IWH website. In addition, the final analysis for the mode of administration sub-study was completed. The team held a debriefing meeting with the HSAs. There was continued coding and analysis of the cognitive interviews. The recruitment and analysis of the case studies was completed. As well, a paper for the case studies was written.

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 were all involved in this research project.

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

Publications:

Yanar B, Robson LS, Amick BC, Tonima S. Construct validation of a short workplace OHS performance measure. Submitted to Safety Science.

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: Completed

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 2, 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 team completed analyzing the data and ran sensitivity analyses. A presentation of their final findings was given to the OCS Board and the team wrote an executive briefing report. In the spring, the team were awarded a MOL ROP grant titled, "Determinants of health and safety in Ontario's construction sector". At this time the OCS was able to add more classification units and more trade unions to Phase 1, as well as a new timeline. As a result the MOL ROP project, considered Phase 3 was postponed to the fall. The Phase 2 work was completed by mid-October and a manuscript was initiated.

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.

Presentations:

Amick BC, Hogg-Johnson S, Latour-Villamil D. The role and impact of Ontario's trade unions on construction safety in the province of Ontario. 30 Sep 2014; Toronto, ON: Ontario Construction Secretariat's Annual General Meeting.

Funding:

Amick BC (Co-PI), Hogg-Johnson S (Co-PI), Saunders R, Demers P, McLeod C. Understanding the 'Union Safety Effect' in Construction. MOL Research Opportunities Program: \$296,908 (2015-2016)

Workplace Occupational Health and Safety Policies and Practices in the Hotel/Motel, Education and Municipal Sectors (0277/1265)

Project Status: Completed

Introduction: The Ministry of Labour Expert Advisory Panel identified leading indicators as a primary area in need of further research. This project extended 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 were linked to WSIB workers compensation data. The research examined 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, predicted 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) were derived from the data collected from each of the firms in the study. Claims rates data had 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 were examined. The research team examined 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 was assessed using multiple Poisson regression or negative binomial regression as appropriate.

Status: Data analysis of the linkage between the full dataset extracted from the WSIB, which included injury claims from 2001-2010, linked to the OPP survey data, was ongoing in 2014.

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

Collaboration and Partnerships: Partners involved with this project included 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 are 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)

Regulation and Incentives

In the thematic area of regulation and incentives, Institute scientists continued their work evaluating the Ontario prevention system. Specifically, we continued our commitment to examining how non-standard work and risks facing vulnerable workers are identified specifically through the inspection process. In 2014, we completed work examining the Ontario High Risk Firm Initiative and assessing its impact on health and safety practices. We also completed two complementary systematic reviews of the literature on the effectiveness of occupational health and safety regulatory enforcement.

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

Project Status: Completed

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 2014, the analysis for this project was completed. The final report was prepared and submitted to the funder.

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

Collaboration and Partnerships: The Ministry of Labour and the Workplace Safety & 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.

Presentations:

Hogg-Johnson S. Firm Selection Algorithms. 23 Sep 2014; Toronto, ON: Institute for Work & Health Plenary Series.

Saunders R, Hogg-Johnson S. Impact Case Study: Project 432 High Risk Firm Initiative. 19 Feb 2014; Toronto, ON: MOL Presentation.

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)

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

Project Status: Completed

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 was how non-standard work and risks facing vulnerable workers were 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 was conceived in two stages. The first stage involved: 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. Stage 2, involved full analysis of already collected data and further data collection and analysis, with a focus on gender dynamics in the OHS inspection process.

Status: In 2014, the data analysis for this project was completed and papers on the results of stage one and two were initiated.

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

Collaborations and Partnerships: Advisory Committee members were 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)

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

Project Status: Completed

Introduction: This study expanded and updated the systematic review on the effectiveness of OHS regulatory enforcement published by our team in 2007. Since the completion of that review, a number of studies have been published on the topic. Consequently, an update on the review was warranted. Furthermore, we expanded the scope of the review to include a broader set of methodological approaches and outcomes. We also included intermediate outcomes such as safety compliance and safety investment, and documented in greater detail the evidence on how policy levers change behaviours. We also complimented the quantitative review with a qualitative component (see IWH project 1295). This project was undertaken as 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: The systematic review was completed in 2014, and dissemination and stakeholder interactions were initiated.

Researchers: Emile Tompa (Principal Investigator), Sheilah Hogg-Johnson, Emma Irvin, Christina Kalcevich, Quenby Mahood, M Foley (SHARP), E MacEachen (University of Waterloo), C McLeod (University of British Columbia)

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

Potential Audiences and Significance: This study will be of 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.

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: Completed

Introduction: This systematic scientific literature review assembled and synthesized what is known about OHS regulatory levers. 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 had 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: 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 systematic review was completed in 2014, and dissemination and stakeholder interactions were initiated.

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

Collaboration and Partnerships: Stakeholders in this project included: 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 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.

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.

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 2014 as other grant-based projects took priority. It is expected that activity related to this project will increase in the second half of 2015.

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

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

Potential Audiences and Significance: Findings from this study are relevant to policy makers at the MOL and the WSIB, and worker's compensation boards in other provinces.

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: Our post-doctoral fellow, Imelda Wong, has produced several peer-reviewed publications as part of this project throughout 2014.

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

Wong IS, Smith PM, Mustard CA, Gignac MA. For better or worse? Changing shift schedules and the risk of work injury among men and women. *Scandinavian Journal of Work, Environment & Health* 2014; 40(6):621-630.

Wong IS, Smith PM, Mustard CA, Gignac MAM. Work-injury absence and compensation among partnered and lone mothers and fathers. *American Journal of Industrial Medicine* 2014; 57(8):960-969.

Smith BT, Smith PM, Harper S, Manuel DG, Mustard CA. Reducing social inequalities in health: the role of simulation modelling in chronic disease epidemiology to evaluate the impact of population health interventions. *Journal of Epidemiology and Community Health* 2014; 68(4):384-389.

Presentations:

Smith BT. Projections of Socioeconomic Trends in Obesity and Diabetes in Canada from 2001 to 2021: The Population Health Microsimulation Model (POHEM: CVD). 17-21 August 2014; Anchorage, USA: The 20th IEA World Congress of Epidemiology.

Methods for Surveillance of Work Injury in Ontario (1185)

Project Status: Completed

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 addressed 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 evaluated 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, was 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 was 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, was 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, was estimated from labour force and population surveys conducted by Statistics Canada.

Status: After obtaining ethics and data custodian approvals for the record linkage that would enable us to compare emergency department records and workers' compensation claims, we completed this record linkage and analysis. We also prepared a final report, as well as several papers that have been submitted and published.

Researchers: Cameron Mustard (Principal Investigator), Amber Bielecky, Andrea Chambers, Melanie Fortune, C McLeod (University of British Columbia)

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

Potential Audiences and Significance: The results of this work identified 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:

Born K, Tierney M, Winkel G. Stubbornly high rates of health care worker injury. *Healthy Debate*, 3 Apr 2014, <http://healthydebate.ca/2014/04/topic/health-promotion-disease-prevention/health-care-worker-injury>

Chambers A, Richmond SA, Logan L, Macarthur C, Mustard CA. The development of a framework to integrate evidence into a national injury prevention strategy. *Journal of Public Health* 2014; [Epub ahead of print] DOI: 10.1093/pubmed/fdv069

Chambers A, Mustard CA. Needlestick injury prevention: Lessons learned from acute-care hospitals in Ontario. March 2014; Toronto, ON: Institute for Work & Health.

Chambers A, Mustard CA. Trends in needlestick injury incidence following regulatory change in Ontario, Canada (2004 - 2012): an observational study. Submitted to BMC Public Health.

Chambers A, Mustard CA, Holness LD, Nichol K, Breslin CF. Barriers to the adoption of safety-engineered needles following a regulatory standard: Lessons learned from three acute care hospitals. Submitted to Healthcare Policy.

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. *Environmental Research* 2014; 19(23):449-456.

Mustard C, Chambers A, Ibrahim S, Etches J and Smith P. Time trends in musculoskeletal disorders attributed to work exposures in Ontario using three independent data sources, 2004-2011. *Occupational and Environmental Medicine* 2014; [Epub ahead of print] pii: oemed-2014-102442. DOI: 10.1136/oemed-2014-102442.

New study finds decline in work-related MSDs in Ontario. Genesis Rehabilitation Ltd, 10 Apr 2014, <http://www.genesisrehab.ca/new-study-finds-decline-in-work-related-msds-in-ontario>

Work related musculoskeletal disorders on the decline in Ontario: IWH study. *Canadian Safety Reporter*, 17 Oct 2014. <http://www.safety-reporter.com/articleview/22543-work-related-musculoskeletal-disorders-on-the-decline-in-ontario-iwh-study>

Work-related musculoskeletal disorders on the decline in Ontario. *At Work*, Issue 76, Spring 2014: Institute for Work & Health, Toronto, ON.

Presentation:

Chambers A, Mustard CA, Etches J. Emergency department visits for the treatment of work-related injury and illness. 6 Jun 2014; Toronto, ON: Prevention Branch, Ontario Ministry of Labour, Invited Presentation.

Fortune M, Mustard CA. Injury attributable to adverse weather conditions. 9 Jan 2014; Blaine, USA: Annual Occupational, Environmental and Public Health Conference.

Fortune M, Mustard CA, Brown P. Comparison of occupational and non-occupational morbidity risk associated with meteorological conditions. 19-21 Oct 2014; Saskatoon, SK: Canadian Association for Research on Work and Health (CARWH) International Symposium.

Mustard CA, Etches J, Smith PM. Declining incidence of work-related musculoskeletal disorders in Ontario 2004 - 2011. 19-21 Oct 2014; Saskatoon, SK: Canadian Association for Research on Work and Health (CARWH) International Symposium.

Mustard CA, Chambers A, Ibrahim S, Etches J, Smith PM. Declining incidence of work-related musculoskeletal disorders. 25 Apr 2014; Toronto, ON: Workplace Safety and Insurance Board, Invited Presentation.

Funding:

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

Examining Gender/Sex Differences in the Relationships Between Work Stress and Disease, Work Injury Risk, and the Consequences of Work Injury (1310)

Project Status: Ongoing

Introduction: Women make up nearly half of labour force participants, yet much of what we know about the relationship between working conditions and health is based on measures developed on men and frameworks tested in male-dominated workplaces. Little is known about why work-related risk factors for disease or injury may differ for men and women. These are: (1) The psycho-social work environment, including job control, psychological demands and social support, and the development of hypertension and diabetes among men and women; (2) Gender and sex differences in work-related risk factors for occupational injury and disease; (3) Individual, workplace and health-care provider factors leading to differences in the return-to-work outcomes after work-related injury among men and women.

Objectives:

- To create a more nuanced understanding of how sex/gender shape injury risk, the relationship between the work environment and chronic illnesses, and time off work after a work-related injury.
- To help shape the development of gender- and sex-sensitive policies and practices to improve the health of all working Canadians.

Methods: This project is a five-year research program focusing on gender, work and health. It is supported by a well-developed capacity building and training program and a knowledge transfer and exchange program.

Status: In 2014, the Research Chair program was officially launched with a well-attended event and positive media coverage.

Researchers: Peter Smith (Principal Investigator)

Collaborations and Partnerships: This project has an advisory committee with members from the Ontario Public Employees Union, the Ministry of Labour, the Office of the Worker Advisor, and Public Health Ontario.

Potential Audiences and Significance: The program of research will lead to both an increase in the momentum and capacity in gender, work and health research, and to the development of gender- and sex-sensitive policies to improve the health of working Canadian.

Publications:

De Guzman M. New study to probe gender factors in work injury, health risk. *Massage Therapy Canada: Annex Business Media*, 21 Oct 2014. Available from <http://www.massagetherapycanada.com/content/view/2465/61/>

Silliker A. IWH to study gender, sex differences in workplace injuries. *Canadian Occupational Safety: Thomson Reuters Canada*, 17 Oct 2014. Available from <http://www.cos-mag.com/safety/safety-stories/4155-iwh-to-study-gender-sex-differences-in-workplace-injuries.html>

IWH to explore how work affects health of women and men differently. *At Work*, Issue 78, Fall 2014: Institute for Work & Health, Toronto, ON.

Presentations:

Smith P. Examining gender/sex differences in work injury risk, consequences of work injury and the Relationship Between Work Stress and Chronic Disease. 14 Oct 2014; Toronto, ON: Institute for Work & Health Plenary Series: Special Gender Chair Launch Event.

Funding:

Smith PM. Examining gender/sex differences in the relationships between work stress and disease, work injury risk, and the consequences of work injury. Canadian Institutes of Health Research (CIHR) Chair: Gender, Work and Health: \$800,000 (2014-2021)

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, we received additional funding in order to develop a training workshop for workplace parties on the economic evaluation of health and safety programs. In 2014, we also released an office ergonomics e-learning training program in co-operation with health and safety associations.

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

Project Status: Completed

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 were 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 facilitated the customizing of the workshop and will be the basis for a manuscript. To create and execute the workshop, the ADDIE model of instructional design was used. ADDIE is a five-phase design approach that consists of Analysis, Design, Development, Implementation, and Evaluation.

Status: On January 21st we held a full-day workshop for system partners' at the Centre for Health & Safety Innovation in Mississauga, Ontario. A second full-day workshop was held for health and safety workplace parties on June 13th at the Workers' Compensation Board of Manitoba in Winnipeg, Manitoba. A third, half-day workshop was held on September 23rd for the Workplace Safety & Prevention Services Distribution Action Team Meeting, in Brampton Ontario. On the research side, the in-depth interviews undertaken to develop the workshops were transcribed and are being synthesized by Hanneke van Dongen, a post-doctoral fellow at the Vrije University in Amsterdam.

Researchers: Emile Tompa (Principal Investigator), Emma Irvin, Sara Macdonald, Lynda Robson, Anna Sarnocinska-Hart, K Grant (Workplace Safety & Prevention Services), K Kapoor (Workplace Safety & Prevention Services), H van Dongen (Vrije University)

Collaborations and Partnerships: Workplace parties were involved in in-depth interviews and participated in the workshops. The project team also includes representatives from the Workplace Safety & Prevention Services as co-investigators.

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

Publications:

Tompa E, Grant K, Kapoor K, Robson L, Irvin E, van Dongen H, Macdonald S, Sarnocinska-Hart A. Economic Evaluation of Health and Safety Programs: A Training Workshop for Workplace Parties. Final Report to WSIB (August 2014). WSIB RAC #10116. p. 1-52

Presentations:

Tompa E, Macdonald S, Sarnocinska-Hart A. An Introductory Workshop on the Economic Evaluation of Workplace Health and Safety Programs: A Workshop for Workplace Parties. 21 Jan 2014; Mississauga, ON: Educational/Policy Presentation.

Tompa E, Macdonald S, Sarnocinska-Hart A. An Introduction to the Economic Evaluation of Workplace Health and Safety Programs: A Workshop for Workplace Parties. 13 Jun 2014; Winnipeg, MB: Workers' Compensation Board of Manitoba.

Tompa E, Macdonald S. An Introduction to the Economic Evaluation of Workplace Health and Safety Programs. 23 Sep 2014; Brampton, ON: Workplace Safety & Prevention Services Distribution Action Team Meeting.

Funding:

Tompa E, Grant K, Kapoor K, Robson L, Keown K, Irvin E. Economic Evaluation of Health and Safety Programs: A Training Workshop for Workplace Parties. WSIB RAC: \$58,880 (2010-2011)

E-learning for Office Ergonomics (1300)

Project Status: Completed

Introduction: Office environments are in all industrial sectors of Ontario. Consequently, office workers across all sectors may be at risk for MSDs and reduced productivity due to less than optimal computer workstation set up. Often, the changes required to achieve an optimal workstation setup are relatively straightforward and can be made by workers with appropriate training. In-person training (IPT) is considered time and cost intensive. E-learning has been shown to be just as effective as IPT in knowledge transfer/acquisition and changing behaviours. E-learning 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). This project partnered with the sector based HSAs to continue the development of an office ergonomics e-learning program. While the Beta version was functional, it required further work to meet current standards. The final product is an evidence-based/standards-compliant office ergonomics e-learning that can be used on multiple platforms as well as an internet version. This e-learning can be used by workplace parties to identify and reduce office ergonomic hazards.

Objectives:

- To create an evidence-based/standards-compliant office ergonomics e-learning program.

Methods: Working with the Beta-version of the e-learning, we updated the content, re-evaluated usability, added quizzes to modules, and produced (published) two versions of the e-learning. The new and updated content was supplied by the research team at IWH who collected and refined suggestions from ergonomic experts, and the feedback from pilot testing and ongoing evaluations. The research team worked closely with an instructional designer to complete this update of the content. The updates were completed using the same course authoring software (Articulate) used to create the Beta-version.

Status: In 2014, the team completed the editing, revisions and usability testing of the ergonomics e-learning program. As well, a host was identified for the program.

Researchers: Dwayne Van Eerd (Principal Investigator), Ben Amick, Trevor King, Lynda Robson, M Fernley (Centre for Addiction & Mental Health), C MacGregor (University of Waterloo)

Collaborations and Partnerships: We partnered with the sector based Health and Safety Associations to disseminate the e-learning broadly throughout Ontario. The HSAs will host the e-learning on a learning management system (LMS) and provide links to the e-learning on the Health & Safety Ontario (HSO) website.

Potential Audiences and Significance: The evidence-based and standards compliant office ergonomics e-learning training program can be used by workplace parties in combination with other office ergonomic hazard control technologies, policies and programs.

Presentations:

Van Eerd D. E-learning for computer workers. 29-30 Sep 2014; Toronto, ON: Work Disability Prevention and Integration (WDPI) Conference.

Van Eerd D, King T, Amick BC, Fernley M, Robertson MM, MacGregor C. E-learning for computer workers: Development for final release version. 7-9 Oct 2014; Montreal, QC: Association of Canadian Ergonomists Annual Conference.

Van Eerd D, King T, Turner K, Robertson M, Robson L, Steenstra I, Ibrahim S, Amick BC. Training for Office Ergonomics: A Field Study. 29-30 Sep 2014; Toronto, ON: Work Disability Prevention & Integration Conference.

Funding:

Van Eerd D, King T, Amick B, Robson L, MacGregor C. E-learning for Office Ergonomics. WSIB RAC: \$39,718 (2013-2014)

CIHR-IWH Summer Program in Aging on the Topic of Work and Health (1305)

Project Status: Ongoing

Introduction: In 2014, the Institute for Work & Health was invited to host a 2015 training program sponsored by the CIHR Institute of Aging, the CIHR Institute of Gender and Health and the CIHR Institute of Musculoskeletal Health and Arthritis. The theme of the 2015 summer school is 'more years, better lives: the health, wellness and participation of older adults in the world of work. We anticipate more than 40 trainees will participated in the four day summer school, designed to provide advanced research training to graduate students and post-doctoral fellows involved in research relevant to aging, work and health.

Objectives:

- To gain an understanding of processes critical to academic success, through plenary and practical sessions.
- To examine multidisciplinary research collaboration in the context of aging and work and health.
- To learn skills in grant preparation, peer review, communication and knowledge transfer in the context of aging and work and health research.
- To explore professionalism and ethics in the context of research on aging and work and health.
- To network with other emerging researchers in aging and work and health, and with academic mentors.

Methods: The Institute in collaboration with the CIHR Institutes posted a request for applications and conducted a review process to select program participants. A core group of mentors assisted in the development of the training program agenda and will guide groups of trainees through the program sessions.

Status: A group of core mentors were invited to participate in the training program and supervise groups of participants. The venue and event logistics were finalized. A call for applications was released and we received a good number of strong applications from students across Canada.

Researchers: Cameron Mustard (Principal Investigator), Monique Gignac

Collaborations and Partnerships: Partners in this project include the Canadian Institutes of Health Research.

Potential Audiences and Significance: 40 research trainees from across Canada will be supervised by 5 academic mentors during a four day training program to be hosted by the Institute for Work & Health in Toronto on June 2015.

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 2014, our portfolio of research included the continued 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. We also initiated new research on optimal approaches to integrate health care providers in workplace return-to-work. On a related theme, Institute scientific staff have focused on developing methods for improved physician prescribing of opioid medications for a number of years. The Institute for Work & Health also continued to host the Cochrane Back Review Group, which 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.

Prevention and Management of Work Disability

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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.

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 IWH Project 0670. 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. We will apprise stakeholders of our activities via our website, news bulletins, and social media.

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: The Cochrane Collaboration follows the methods described in the Cochrane Handbook in order to conduct a series of reviews on neck and spinal disorders.

Status: Throughout 2014, the Cochrane Back Review Group summarized findings across intervention reviews and presented this information in user-friendly formats on the IWH and CBRG websites. In addition, we completed two knowledge synthesis projects to inform stakeholders. An example may be found on the IWH website at <http://www.iwh.on.ca/cbrg-quickdecks>. The team also completed a survey of consumer groups in Ontario and the Netherlands to identify priority review topics and evaluate patient-centered outcomes in their field. In the fall, a pre-conference workshop on methodological developments in conducting systematic reviews in conjunction with the International Low Back Forum in Brazil was offered. Also, a workshop was organized for current authors, with a focus on review completion; 3 webinars were presented; and an update of method guidelines was completed.

Researchers: Claire Munhall (Institute Coordinator), Claire Bombardier, Andrea Furlan, Shireen Harbin, Emma Irvin, Allison Kelly, Jaemin Kim, Teresa Marin, 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:

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: An Update of the Cochrane Review. *Spine* 2014; 39(7):556-563.

Furlan AD, Irvin E, Kim J, Van Eerd D, Carnide N, Munhall C, Fortune M, Mahood Q, van Tulder MW. Impact of long-term opioid use for chronic non-cancer pain on misuse, abuse or addiction, overdose, falls and fractures (Protocol). *Cochrane Database of Systematic Reviews* 2014;(4): DOI: 10.1002/14651858.CD011062.

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)

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: Data preparation was completed. Ms. Carnide (a lead on the project) returned from maternity leave in May 2014 and subsequently engaged in data exploration activities and modifications to preliminary decisions made while on leave. We also continued work on data cleaning and resolving outstanding data quality issues. We finalized the establishment of the cohort and choosing of an index claim. We also explored and developed a number of decision rules to identify low back pain prescriptions in the PharmaNet data.

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 (2011-2013)

Predicting Successful Return to Work in Workers on Disability Due to Low Back Pain (2210)

Project Status: Ongoing

Introduction: Low back pain costs in Canada are estimated at 11 to 23 billion dollars. Most costs are caused by productivity losses and compensation. Some of the costs and suffering can be diminished by identifying those at high risk. Workers that are at low risk will most likely return to function and work with limited assistance. Those at high risk might benefit from early or more intensive intervention. In this study, we will examine which combination of factors best predicts important outcomes for injured workers that enter a rehabilitation program aimed at improving function and return to work. We will review information routinely collected at the Ontario Workplace Safety and Insurance Board (WSIB). Next, we will add data collected by the healthcare provider (CBI Health) and data on outcomes like function and successful return to work specifically collected for this study. We will use well established (but currently underused) statistical approaches to build predictive rules. The final product will be an easy to use prediction tool. The tool will provide projections of different injured worker outcomes such as return to productivity, function, job satisfaction, successful return to work and recurrences.

Objectives:

- To determine what combination of factors measured at the start of rehabilitation predicts successful work re-entry in the two years follow-up.
- To determine what combination of factors best predicts the length of the first episode of LBP until successful work re-entry in the two years follow-up.
- To determine what combination of factors best predicts successful work retention in two years follow-up.
- To determine what combination of factors measured at the start of rehabilitation best predicts successful career advancement in the two year follow up.
- To identify prognostic factors needed to develop prediction tools (also known as clinical decision rules) for clinicians and work disability prevention professionals.

Methods: The study design is a prospective cohort study including injured workers with low back pain entering a WSIB sponsored POC. There will be one year of accrual and one year of follow-up for each recruited subject. The study will utilize both routinely collected administrative data from the WSIB and CBI, and data collected specifically for this study via questionnaire at 3 months, 6 months, 12 months, 18 months and 24 months.

Status: In 2014, we initiated the recruitment of injured workers for the study, which is currently ongoing.

Researchers: Ivan Steenstra (Principal Investigator), Ben Amick, Andrea Furlan, Sheilah Hogg-Johnson, G McIntosh (CBI Health Group)

Collaborations and Partnerships: The project team includes Greg McIntosh from CBI Health Group and collaboration with the CBI Health Group.

Potential Audiences and Significance: The tool will be of interest to injured workers, workers' compensation board professionals, rehabilitation professionals, employers and researchers. We will reach these communities through specific audience briefings, presentations and by the publication of papers in trade and scientific journals.

Presentations:

Steenstra IA, Santos B, Hogg-Johnson S, Furlan AD, McIntosh G, Amick III BC, MacDonald S. CBI Health-IWH study on prognosis of work related LBP. 29-30 Sep 2014; Toronto, ON: Work Disability Prevention and Integration (WDPI) Conference.

Funding:

Steenstra IA, McIntosh G, Amick BC, Furlan AD, Hogg-Johnson S. Predicting successful return to work in worker on disability due to low back pain. Canadian Institutes of Health Research (CIHR): \$322,946 (2013-2017)

Engaging Healthcare Providers in the Return to Work Process (2245)

Project Status: Ongoing

Introduction: International research has generated strong evidence that health care providers (HCPs) have an important role in the return to work (RTW) process. This research also suggests that HCPs can struggle managing return to work (RTW) consultations. Pressure on consultation time, administrative challenges and limited knowledge about a patient's workplace can thwart active engagement. This two year study will focus on HCPs' experience within the workers' compensation system and how their role in the RTW process can be enhanced.

Objectives:

- To identify programs, guidelines, forms and policies developed by workers' compensation boards designed to facilitate HCPs' engagement in the RTW process.
- To examine the development, benefits and challenges of various approaches used to facilitate HCP engagement in the RTW process through a series of interviews with senior policy makers.
- To understand the perceived role of HCPs in the RTW process including the challenges they face related to interacting with the WCB, injured workers, employers, and other HCPs. Determine practical ways of facilitating meaningful HCP engagement in RTW.

Methods: The study involves the following: 1) A policy/document analysis of materials aimed at HCPs, in Canada and internationally, including communication and reporting protocols, engagement strategies and workers' compensation reporting/health care forms; 2) Interviews with senior policy makers, along with the policy/document analysis, to form a series of in-depth case studies focussing on the development, benefits and challenges of various approaches to HCP engagement with RTW; 3) Interviews with HCPs in British Columbia, Manitoba, Ontario and Newfoundland to examine their experiences seeing workers' compensation patients, perceived barriers to active involvement in the RTW process, and strategies to facilitate engagement; and 4) Interviews with case managers in British Columbia, Manitoba, Ontario and Newfoundland focussed on how they use medical evidence in decision-making, interact with HCPs and perceive HCPs role in RTW.

Status: In 2014, we completed the policy/document analysis and a secondary analysis focussed specifically on doctor's certificates in each jurisdiction. As well, two ethics review applications were completed – one for the policy maker interviews and one for the HCP and case manager interviews. We also conducted ten in-depth policy maker interviews.

Researchers: Agnieszka Kosny (Principal Investigator), Dorcas Beaton, Andrea Furlan, J Cooper (University of Manitoba), M Koehoorn (University of British Columbia), E MacEachen (University of Waterloo), B Neils (Memorial University)

Collaborations and Partnerships: Partners in this project include workers' compensation boards in Ontario, Newfoundland, Manitoba and British Columbia.

Potential Audiences and Significance: The results of this study will be relevant to healthcare providers, disability prevention policymakers, case managers, and RTW coordinators. The findings will help identify policies and practices that facilitate healthcare provider involvement in RTW.

Funding:

Kosny A, Beaton DE, Cooper J, Furlan A, Koehoorn M, MacEachen E, Neis B. Engaging health care providers in the return to work process. Workers Compensation Board of Manitoba: \$174,252 (2013-2015)

Strategies to Support Appropriate Use of Prescription Opioids: A Systematic Review Using Narrative and Best Evidence Synthesis Methods (3160)

Project Status: Ongoing

Introduction: Abuse of prescription opioids is a serious health and safety problem in North America. Canada is the second largest consumer of prescription opioid per capita globally, second only to the United States. In Canada, total prescription opioids consumed in Canada increased 203% from 2000 to 2010, which is steeper than that observed in the US. The scientific literature of the efficacy of opioids has been traditionally synthesized in various meta-analyses, and currently, our group is conducting a systematic review of observational and epidemiological evidence on the outcomes of long-term use of opioids. However, an area that has not been the subject of any systematic review is strategies to promote the appropriate use of prescription opioids.

Objectives:

- To conduct a systematic review (using narrative and best-evidence syntheses methods) of existing strategies, frameworks, collaborative networks and materials to promote the appropriate use of prescription opioids and/or to reduce the abuse of these drugs.
- To provide knowledge users and stakeholders with a database of all the material found in this review and a synthesis report.
- To identify gaps, inconsistencies and duplication among strategies in the literature to guide future research and practices.

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 2014, the review was completed and the report was delivered to the funder. An extensive stakeholder engagement with all stakeholders, the Ministry of Health and Long Term Care and the College of Physicians and Surgeons of Ontario was undertaken and is ongoing.

Researchers: Andrea Furlan (Institute Coordinator), Nancy Carnide, Emma Irvin, Jaemin Kim, Quenby Mahood, Claire Munhall, Dwayne Van Eerd

Collaborations and Partnerships: Amy Porath-Waller (Canadian Centre for Substance Abuse), Anita Srivastava (CAMH), Tom Girling (Organized Crime Enforcement Bureau), Heather Divine (People in Pain Network), Norman Buckley (McMaster University), Marty McLeod (CAMH), Trevagi Satkunendran (Ontario Ministry of Health), Dianne Vermilyea (Community and Population Health), Jennifer Fillingham (College of Physicians and Surgeons of Ontario), Heather Dickinson (RCMP), Amol Deshpande (WSIB), Hannan Ambamovici (Controlled Substances & Tobacco Directorate), J.W. Melenchuk (WCB Saskatchewan), Rabiea Haider (Great West Life), Ian Goldstein (WCB Manitoba), Michael Parkinson (Region of Waterloo Crime Prevention Council), Reggie Caverson (Strategic Planning and Solutions).

Potential Audiences and Significance: The knowledge users interested in this topic are not limited to healthcare professionals, but rather are representatives of diverse groups, public health, prevention services, government, law enforcement, regulators, and insurance payers all of whom are interested in programs, strategies, policies and regulations to solve the problem of inappropriate opioid use.

Publications:

Furlan AD, Irvin E, Van Eerd D, Carnide N, Munhall C, Kim J, Mahood Q, Macdonald S. Strategies to support the appropriate use of prescription opioids: A systematic review using narrative and best evidence synthesis methods. PROSPERO 2014: CRD42014009675. Available from http://www.crd.york.ac.uk/PROSPERO/display_record.asp?ID=CRD42014009675

Furlan AD, Macdougall P, Pellerin D, Shaw K, Spitzig D, Wilson G, Wright J. Overview of four prescription monitoring/review programs in Canada. Pain Research and Clinical Management 2014; 19(2):102-106.

Presentations:

Furlan AD, Macdonald S, Irvin E, Carnide N, Van Eerd D, Radhakrishnan A, Hitzig S. Opioids Strategies Systematic Review. 28 Nov 2014; Toronto, ON: Stakeholder meeting for Opioids Strategies Systematic Review.

Furlan AD. Strategies to support the appropriate use of prescription opioids: a systematic review using narrative and best evidence synthesis methods. 4 Nov 2014; Toronto, ON: Institute for Work & Health Plenary Series.

Funding:

Furlan A, Irvin E, Carnide N, Van Eerd D, Macdonald S, Radhakrishnan A, Hitzig S. Strategies to support the appropriate use of prescription opioids. Canadian Institutes of Health Research (CIHR): \$96,496 (2013-2014)

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. In 2014, the Institute completed an update of a systematic review on effective workplace practices for return-to-work that was first published in 2007. Institute scientists have also been engaged for a number of years in research evaluating disability management practices in the workplace. Institute scientists continued a project documenting the costs and benefits of improved workplace disability management practices in a large Ontario health care institution.

Organizational Change to Protect Workers' Health (1250)

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 WSIB by 25% and 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 (2012-2014).
- 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 2014, the team completed a report to the NHS, and prepared a manuscript on the supervisor case study for submission to a journal. We also initiated work on the case study of the experiences of disabled workers.

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.

Publications:

Skivington K, Lifshen M, Mustard CA. Implementing a comprehensive return-to-work policy: lessons from a case study of a large employer in Canada. Submitted to Journal of Occupational Rehabilitation.

Presentations:

Mustard CA, Skivington K, Lifshen M, Kosny A. Implementation of a return-to-work/accommodation policy in a large employer. 29-30 Sep 2014; Toronto, ON: Work Disability Prevention and Integration (WDPI) Conference.

Funding:

Mustard CA, Amick BC, Van Eerd D. Organizational change to protect workers health. Canadian Institutes of Health Research (CIHR): \$306,706 (2012-2015).

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

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

Project Status: Ongoing

Introduction: This 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.

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 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.

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 2014, the team extracted and prepared the Ontario WSIB data. At this point the team initiated a comparison of measures and an analysis to compare jurisdictions.

Researchers: Ben Amick (Co-Principal Investigator), Sheilah Hogg-Johnson (Co-Principal Investigator), Chris McLeod (Co-Principal Investigator) (University of British Columbia), Cameron Mustard, A Collie (Institute for Safety, Compensation and Recovery Research), M Koehoorn (University of British Columbia), A Kraut (University of 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.

Presentations:

Amick BC. Measuring work functioning: towards cross-national comparisons and applications in different worker populations. 29-30 Sep 2014; Toronto, ON: Work Disability Prevention and Integration (WDPI) Conference.

Funding:

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

Factors at the Transition: Understanding Return to Work Decisions in Injured Workers, and Comparing Those to People Managing Chronic Conditions at Work (2215)

Project Status: Completed

Introduction: Return to work (RTW) is that point when a worker's ability to work has met or exceeded the demands of the job offered. But there is ambiguity at that threshold. Two very similar people can have different success at returning to similar work. Often "blame" is placed on the job or on the worker. We believe that we do not yet have a full understanding of the factors that are influencing that decision point to RTW. In this project we will return to the injured workers and also to people trying to work with the chronic disease of arthritis to try to understand the kind of things that were part of that decision to be at work or not. We will talk to them about their experiences on the day they went off or returned to work, looking for better ways to understand this in clinical assessments, research, workplace policy and insurance systems. Our results will not only improve our ability to measure and understand things, like how dynamic RTW is, but will also provide a framework for clinicians, policy makers and payers to think of when trying to improve success at RTW.

Objectives:

- To understand what factors, in addition to disorder activity/severity, are influencing the situation that leads to work absence versus work presence (at varying levels of productivity) in persons with a disorder deemed work-related and with a health conditions (inflammatory arthritis) that episodically impacts on work ability.

Methods: This is a qualitative study, using constructivist grounded theory. The team interviewed injured workers with inflammatory arthritis who were attending the WSIB Shoulder & Elbow Specialty Clinic.

Status: In 2014, the team completed the interviews with injured workers, and the coding of interviews. In consultation with project partners, they developed a toolkit and submitted a final report to the funder.

Researchers: Dorcas Beaton (Principal Investigator), Monique Gignac, Carol Kennedy-Yee, I MacRitchie (Sunnybrook Health Sciences Centre), R Richards (Sunnybrook Health Sciences Centre), K Tang (St. Michael's Hospital)

Collaborations and Partnerships: Partners in this project include the WSIB Shoulder and Elbow Specialty Clinic – Holland Centre, as well as the Outcome Measurement in Arthritis Research (OMERACT).

Potential Audiences and Significance: The results of this project are relevant to WSIB specialty clinics, injured workers, and clinicians.

Presentations:

Kennedy C, Beaton DE. Factors at the transition: Understanding RTW decisions in injured workers, and comparing those to people managing chronic conditions at work. 1 Apr 2014; Toronto, ON: KTE Stakeholder Research Advisory meeting.

Beaton DE, Kennedy C. Return to Work Transitions. 1 Apr 1 2014; Toronto, ON: Scientific Advisory Committee Meeting.

Beaton DE, Kennedy C, Tang K, Richards R, MacRitchie I, Gignac M. Factors at the transition: Understanding RTW decisions. 6 Oct 2014; Toronto, ON: Physiotherapy & Occupational Therapy Educational Influential (EI) Meeting.

Funding:

Beaton DE, Kennedy C, Tang K, MacRitchie I, Richards R, Gignac MAM. Factors at the Transition: Understanding RTW Decisions in Injured Workers, and Comparing Those to People Managing Chronic Conditions at Work. WSIB RAC: \$52,155 (2013-2014)

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 the province of 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 2014, we finalized the data extraction and evidence synthesis. We also organised workshops in Manitoba that were attended by over 50 work disability professionals. Data was collected at the workshop concerning stakeholders' perceptions about prognosis in low back pain.

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

Collaborations and Partnerships: Partners in this project include work disability prevention professionals and the Workers Compensation Board of Manitoba.

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

Publications:

Steenstra IA. Factors Affecting Return to Work Following Low-Back Pain. [Webinar]. Canadian Institute for the Relief of Pain and Disability, 2014. Available from: <https://vimeo.com/60590542>

Presentations:

Steenstra IA. Prognosis of return to work in low back pain: Is it different in the early phases compared to later phases of disability. 18 Nov 2014; Toronto, ON: Institute for Work & Health Plenary Series.

Steenstra IA, Munhall C, Irvin E, Van Eerd D, Mahood Q, Hogg-Johnson S, Oranye N, Passmore S.. Prognostic factors for time away from work in workers with chronic low back pain: A systematic review. 29-30 Sep 2014; Toronto, ON: Work Disability Prevention and Integration (WDPI) Conference.

Steenstra IA, Macdonald S, Oranye N, Passmore S, Munhall C. Prognostic factors for time away from work in workers with chronic low back pain: A systematic review. 9 Oct 2014; Winnipeg, MB: University of Manitoba & Workers Compensation Board of Manitoba.

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)

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

Status: The team completed the quantitative component of this review and conducted a number of stakeholder consultations.

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

Collaboration and Partnerships: Partners in this project include the Ontario Workplace Safety & 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.

Presentations:

Amick BC, Irvin E, Saunders R, King T. Workplace-based and System-based Return-to-Work Interventions: a systematic review of the literature. 26 Feb 2014; Toronto, ON: Stakeholder Teleconference.

Irvin E, Amick BC, Collie A, Cullen K. Seven Years Later: What's new in Return to Work? 29-30 Sep 2014; Toronto, ON: Work Disability Prevention and Integration (WDPI) Conference.

Irvin E. Seven Years Later: What's new in Return to Work? 19-21 Oct 2014; Saskatoon, SK: Canadian Association for Research on Work and Health (CARWH) International Symposium.

A Review of the Role of Aging in Return to Work and Stay at Work (3165)

Project Status: Ongoing

Introduction: The health of workers is increasingly in the public eye. It has always played a key role in the Canadian economy but attention is growing, because of an aging workforce. Older workers need to stay employed. A number of reviews show the benefits of work participation and the importance of 'good work' to health and well being. However, negative impacts of aging on work are also reported. Older workers are also more likely to return to work following an injury. The established consensus of work being a positive experience for individuals has encouraged clinicians and policy-makers to focus on improving work participation through preventing an early end to work—that is, before the standard retirement age—and encouraging return to work. Research to date has been unable to untangle these interacting and concurrent trends. It is unclear to what extent these factors have been examined in understanding the return to work of older injured workers. For this reason, this project will synthesize the literature on return to work in older workers to identify factors that would help these workers to maintain employment, avoid re-injuries and successfully return to work. By doing this, researchers can identify gaps in the literature, evaluate the success of existing interventions and propose new areas of focus. Moreover, what we find may help those active in work disability prevention to apply the summarized evidence that is often generated by different academic research disciplines and, as a result, difficult to clarify for stakeholders.

Objectives:

- To summarize the effectiveness of interventions for older injured workers to successfully return to work.
- To summarize the factors which play a role for older injured workers to successfully return to work to further invention development.
- To involve stakeholders in the review process and post-grant activities.

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 2014, the research team completed the literature search, relevance screening, and quality appraisal. They also initiated data extraction from relevant papers.

Researchers: Ivan Steenstra (Principal Investigator), Dorcas Beaton, Kim Cullen, Monique Gignac, Emma Irvin, Dwayne Van Eerd, G McIntosh (CBI Health Group), G Pransky (Liberty Mutual Research Institute for Safety), M Puts (University of Toronto), R Wilkie (Keele University)

Collaborations and Partnerships: Partners in this project include the Ontario Workplace Safety and Insurance Board, the Workers' Compensation Board of Manitoba, physiotherapists, occupational therapists, kinesiologists, ergonomists, chiropractors, and disability managers. Stakeholders also include injured workers and injured workers organizations, such as the Injured Workers Consultants and the Ontario Network of injured Workers.

Potential Audiences and Significance: The results of this work will be relevant to policymakers, work disability prevention specialists, employers, employees, and clinicians.

Presentations:

Steenstra IA, Lowe G, McIntosh G, Saunders R, Chappel J, Geary J, White M, Beaton DE, Gignac M, Gross D, Irvin E, Loisel P, Pransky G, Puts M, Scott-Marshall H, Tompa E, Van Eerd D, Wilkie R. The role of aging in return to work and stay at work: a systematic review. 29-30 Sep 2014; Toronto, ON: Work Disability Prevention and Integration (WDPI) Conference.

Steenstra IA, Alavinia M, Beaton D, Cullen K, Geary J, Gignac M, Gross D, Irvin E, Loisel P, MacDonald S, Mahood Q, Pransky G, Puts M, Scott-Marshall H, Tompa E, Van Eerd D, Wilkie R, Yazdani A. A systematic review on the role of aging in return to work and stay at work. 19-21 Oct 2014; Saskatoon, SK: Canadian Association for Research on Work and Health (CARWH) International Symposium.

Steenstra IA, Alavinia M, Beaton D, Cullen K, Geary J, Gignac M, Gross D, Irvin E, Loisel P, MacDonald S, Mahood Q, Pransky G, Puts M, Scott-Marshall H, Tompa E, Van Eerd D, Wilkie R, Yazdani A. Role of aging in return to work and stay at work: A systematic review. 16-18 Oct 2014; Niagara Falls, ON: The Canadian Association on Gerontology Conference: Landscapes of Aging.

Funding:

Steenstra IA, Lowe G, McIntosh G, Saunders R, Chappel J, Geary J, White M, Beaton DE, Gignac MAM, Gross D, Irvin E, Loisel P, Pransky G, Puts M, Scott-Marshall H, Tompa E, Van Eerd D, Wilkie R, Ceilen B, Thorpe K. A review of the role of aging in return to work and stay at work. Canadian Institutes of Health Research (CIHR): \$89,622 (2013-2014)

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.

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

Project Status: Completed

Introduction: The number of days of benefit payment has been steadily increasing since 1998 in Ontario. Work in progress using Workplace Safety & Insurance Board (WSIB) administrative data suggests that changes in worker, injury and 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 six years between the two cohorts to determine differences.
- To determine whether the duration and patterns of benefit receipt are different between the two cohorts.

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 determined a set of inclusion criteria to select two similar "comparison cohorts". A database was assembled including the eligible claimants of the comparison cohorts and the measures identified as comparable between two cohorts. Baseline attributes (worker, injury and workplace) were compared. Health outcomes (pain grade, health-related quality of life) and work outcomes reported by the worker were compared. Claim milestones such as delays in registration or adjudication indicative of claims management were examined and compared across the two cohorts to examine its role in the health and claims outcomes. Predictive models were 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: This project was completed in 2014 after a full comparison of the two cohorts.

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

Collaboration and Partnerships: Partners in this project include 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 WSIB Act in 1998.

Presentations:

Hogg-Johnson SA, Amick BC, Bültmann U, Chen C, Franche RL, Lee H, Steenstra IA, Tompa E. Comparing work disability outcomes under two different compensation schemes. 29-30 Sep 2014; Toronto, ON: Work Disability Prevention and Integration (WDPI) Conference.

Hogg-Johnson S. Comparison of Baseline Prognosis and Outcomes for Two Cohorts of Ontario Workers Compensation Claimants. 22 May 2014; Toronto, ON: WSIB Statistical Staff and Senior Management.

Amick BC, Hogg-Johnson S, Bültmann U, Chen C, Franche RL, Lee H, Steenstra I, Tompa E. Comparing work disability outcomes under two different compensation schemes. 19-21 Oct 2014; Saskatoon, SK: Canadian Association for Research on Work and Health (CARWH) International Symposium.

Funding:

Hogg-Johnson S, Toluoso D, Franche RL, Bültmann 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)

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 in the period 1999-2006.

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) 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 2014, a first set of benefit adequacy calculations were estimated for three Ontario workers' compensation legislations—Bill 99 (Loss of Earning Program), Bill 162 (Future Economic Loss Program) and Bill 101 (Permanent Disability Program). The analysis was based on a seven years post-accident time period in which labour-market earnings plus workers' compensation benefits received by injured workers were compared to that of their uninjured control counterparts. This analysis was presented to senior executives at the WSIB on June 10th. Over the summer and fall, the remainder of the variables for linkage were prepared for the three programs and an analysis of 10 years (rather than seven) post accident was completed.

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

Collaborations and Partnerships: In August 2010, Institute staff briefed senior management of 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 during the period 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, Saunders R, Mustard CA, Liao Q. Labour-market earnings recovery and benefits adequacy: new data linkage. Are outcomes better or worse for Ontario workers' compensation claimant today. 10 Jun 2014; Toronto, ON: Workplace Safety & Insurance Board, Invited Presentation.

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 (2155)

Project Status: Completed

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 Canadians 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 examined 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 were 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 were 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 2014, we completed the majority of analyses for this project (cross-sectional and longitudinal). Planning for the manuscripts from this project was initiated and will be submitted for publication.

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

Collaborations and Partnerships: This was a secondary data analysis so stakeholder involvement was 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.

Publications:

Bielecky A, Chen C, Ibrahim S, Beaton DE, Mustard CA, Smith PM. The impact of co-morbid mental and physical disorders on presenteeism: adding water to the fire? Submitted to Scandinavian Journal of Work, Environment and Health.

Bielecky A, Smith PM. Methods of soliciting self-reported chronic conditions in population surveys: don't ask, don't report? *Quality and Quantity* 2014; 48(5):2463-2477.

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: 2000-2005. *Ageing and Society* 2014; 34(10):1730-1748.

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)

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

Project Status: Completed

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 used the linkage of a 20% sample of workers' compensation claimants to a Revenue Canada tax file that was undertaken in 2007. The claimant sample included workers who sustained a permanent impairment from a work accident and were 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 drew on two methodological approaches. The first was a claimant-control matching process in which claimants were matched with uninjured controls in the LAD, based on age, gender, pre-accident earnings source and amounts, and family characteristics. Descriptive analysis consisted of a difference-in-differences approach in which within and across time period/program differences in poverty were compared. Regression modeling techniques were used to estimate the significance and magnitude of factors that bear on low income at the individual and family level.

Status: In 2014, the analysis for this study was completed and a final report submitted to the funder. Several presentations of the findings were given to various stakeholder audiences, both locally and internationally. Over the summer, a presentation was given to IWH staff at an internal plenary, followed by a presentation to injured workers representatives at Injured Workers Consultants. Lastly, the methods and results of this study were presented at Victorian WorkCover Authority to a mixed audience of insurers and researchers.

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

Collaborations and Partnerships: We met with Workplace Safety & Insurance Board (WSIB) policymakers to discuss the findings from this study at several points over the time frame of this study. We 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. 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. Another critical audience to target for dissemination is the injured worker community and their representatives, as well as service providers.

Publications:

Tompa E. The Impact of Work Injury and Permanent Impairment on the Probability of Poverty. *International Journal of Disability Management* 2014;9:e22.

Tompa E, Scott-Marshall H, Ballantyne P, Saunders R, Hogg-Johnson S, Liao Q. Work Injury and Poverty: Investigating Prevalence across Programs and Over Time. Final Report to WSIB-RAC. July 2014: Institute for Work & Health. p 1-81.

Presentations:

Tompa E, Scott-Marshall H, Ballantyne P, Saunders R, Hogg-Johnson S, Liao Q. Work Injury and Poverty: Investigating Prevalence across Programs and Over Time. 9 Jun 2014; Toronto, ON: Institute for Work & Health Plenary Series.

Tompa E, Scott-Marshall H, Ballantyne P, Saunders R, Hogg-Johnson S, Liao Q. Work Injury and Poverty: Investigating Prevalence across Programs and Over Time. 23 Jul 2014; Toronto, ON: Presentation at Injured Workers' Consultants (IWC).

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)

Centre for Research on Work Disability Policy (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 mobilize knowledge developed within and outside of the centre in order to inform policy
- To build capacity for research and knowledge mobilization on the topic of work disability policy.

Methods: The Centre for Research on Work Disability Policy (CRWDP) will lay the foundations for a national, evidence-informed, coordinated approach to supporting people with work disabilities in Canada. The centre's overall objective is to identify how people, when disabled, can be better retained and integrated into the Canadian labour market. The ultimate goals of the centre's research program are to improve public policy that fosters paid labour-market engagement of people with disabilities, and to establish the field of work disability policy in Canadian universities. The centre is unique in that it bridges the divide between workers' compensation programs, social security programs such as Canada/Quebec Pension Plan-Disability (CPP-D or QPP-D) and Employment Insurance Sickness Benefits (EI-SB), employer short- and long-term disability benefit programs, and other work disability support programs. There are three research themes: Population analysis; the Labour-market analysis; and the Law, policy and program analysis

Status: In 2014, the Centre for Research for Work Disability Policy had its national launch at the McMaster Health Forum. A print and radio release accompanied the national launch. Preceding the event we launched the centre website (www.crwdp.ca) the first newsletter (*Working Policy*) and several worker video stories. At the launch, the opening keynote was given by David Onley, the then Lieutenant Governor of Ontario. The closing keynote was given by Mike Bradley, the Mayor of Sarnia and a longstanding disability advocate. Several presentations about the centre were given at various venues. Several leaders, executive and provincial cluster meetings were held over the year. The first seed grant call was launched in the spring with seven awards announced in September. An employer round table was held in June, and a second issue of the CRWDP e-newsletter was released in August. The first CRWDP Annual Activity Report was released in September. A large student event was also held that month in conjunction with the WDPI conference. In October we held a daylong International Advisory Committee Meeting and in November we hosted seven Swedish delegates for three days who were visiting the centre to get ideas on how to undertake a similar initiative in Sweden. We also launched two scans, one of published literature addressing program coordination issues, and one on past policy efforts to coordinate disability support programs in Canada.

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 (CIRRIIS), 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.

Publications:

Working Policy, CRWDP E-newsletter (Issue 1.1), Jan 2014; Toronto, ON: Centre for Research on Work Disability Policy.

Working Policy, CRWDP E-newsletter (Issue 1.2), Aug 2014; Toronto, ON: Centre for Research on Work Disability Policy.

Annual Activity Report, CRWDP, Improving Canadian work disability policy to health all people access employment: Yesterday, Today, Tomorrow. 2013-2014. Toronto, ON: Centre for Research on Work Disability Policy

Presentations:

Tompa E, MacEachen E. National Launch of the Centre for Research on Work Disability Policy. 4 Feb 2014; Hamilton, ON: McMaster Health Forum.

Tompa E, MacEachen E. The Centre for Research on Work Disability Policy: Opportunities and Challenges. 11 Feb 2014; Toronto, ON: Institute for Work & Health Plenary Series.

Tompa E, MacEachen E. The Centre for Research on Work Disability Policy: Opportunities and Challenges. Jun 2014; Toronto, ON: Presentation given at the CRWDP Employer Round Table.

Tompa E, MacEachen E. Centre for Research on Work Disability Policy: Improving Work Disability to Health All People Access Employment. 5 Nov 2014; Workshop for the Canadian Living Benefits Seminar.

CRWDP Student Event. 29-30 Sep 2014; Toronto, ON: Work Disability Prevention and Integration (WDPI) Conference.

Swedish Delegate Visit, Intensive Three-Days of Presentations, Meetings and Visits with CRWDP Academics and Partners. 3-5 Nov 2014; Toronto, ON.

Tompa E, MacEachen E. The Centre for Research on Work Disability Policy: Opportunities and Challenges, 4 Dec 2014; Toronto, ON: Presentation to Swedish Welfare Academy (via Skype).

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)

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. Morbidity and mortality burden will be estimated separately before aggregation. Both types of cases will include lifetime costs associated with medical expenses, market productivity losses, and losses in health related quality of life.

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 2014, the economic burden methods for the study were fully developed and applied to the case of occupational lung cancer. Weekly meetings were held with the core team to source data for the direct, indirect and intangible cost of lung cancer and prepare summary estimates of the burden for Canada by sex and five-year age brackets. A summer student was also recruited to assist with the methods development and prepare a paper on approaches to quantifying intangible costs. Monthly meetings were held with representatives from the epidemiology group on the study, and quarterly reports were prepared for Cancer Care Ontario.

Researchers: Emile Tompa (Principal Investigator), Christina Kalcevich, Anna Sarnocinska-Hart, D Hyatt (University of Toronto), C McLeod (University of British Columbia)

Collaborations and Partnerships: We will effectively communicate the findings by: integrating the Canadian Cancer Society (CCS) as a research partner; engaging in multiple communication strategies with CCS's collaboration; and 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 prioritize research and development. Key audiences are policy makers, workers, employers and physicians.

Publications:

Tompa E, Sarnocinska-Hart A, Kalcevich C, Constante A. The Economic Burden of Occupational Cancer. Interim Report to Occupational Cancer Research Centre. Aug 2014; Toronto, ON: Institute for Work & Health. p. 1-53

Funding:

Demers P, 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): \$1,000,000 (2012-2016). Sub-project: 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.

In 2014, the Institute strengthened its focus on the impact of chronic illness on the incidence of work disability and premature exit from the workforce. This issue is likely to be of increasing importance given the aging of the population and advances in treatment of many chronic diseases that enable individuals across the life course who have left the workplace or who were previously unable to work, to participate in employment.

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: In 2014, the measurement group completed a review of critical appraisal tools and submitted a grant application. A paper undertaking a factor analysis of the DASH was published along with the OMERACT handbook.

Researchers: Dorcas Beaton (Institute Coordinator), Claire Bombardier, Cynthia Chen, Kim Cullen, Jocelyn Dollack, Sheilah Hogg-Johnson, Carol Kennedy-Yee, Peter Smith, Ivan Steenstra, 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), S Solway (Centre for Addiction and Mental Health), G van der Velde (University of Toronto), J Wright (Hospital for Sick Children, 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:

Boers M, Idzerda L, Kirwan J, Beaton DE et al. Towards a generalized framework of core measurement areas in clinical trials: A position paper for OMERACT 11. *Journal of Rheumatology* 2014; 41(5):978-85.

D'Agostino MA, Boers M, Kirwan JR et al. Updating the OMERACT filter: Implications for imaging and soluble biomarkers. *Journal of Rheumatology* 2014; 41(5):1016-24.

Kirwan J, Barlett SJ, Beaton DE et al. Updating the OMERACT filter: Implications for patient-reported outcomes. *Journal of Rheumatology* 2014; 41(5):1011-15.

Kirwan J, Boers M, Hewlett S, Beaton DE. Updating the OMERACT filter: Core areas as a basis for defining core outcome sets. *Journal of Rheumatology* 2014; 41(5):994-9.

Novak CB, Anastakis DJ, Beaton DE, Mackinnon SE, Katz J. Validity of the Patient Specific Functional Scale in Patients Following Upper Extremity Nerve Injury. *Hand* 2014; 8(2):132-138.

Stupar M, Beaton DE, Cote P, Boyle E, Cassidy JD. A new framework to clarify the debate on measurement properties between clinimetrics and psychometrics: A scoping review. Accepted for Publication in Journal of Clinical Epidemiology.

Tugwell P, Boers M, D'Agostino MA, Beaton DE et al. Updating the OMERACT filter: Implications of Filter 2.0 to select outcome instruments through assessment of "Truth": content, face and construct validity. Journal of Rehabilitation 2014; 41(4):1000-4.

Wells G, Beaton DE, Tugwell P, Boers M, Kirwan JR, et al. Updating the OMERACT filter discrimination and feasibility. Journal of Rheumatology 2014; 41(5):1005-10.

Employment Needs and Experiences of Workers with Arthritis and Diabetes: Keeping the Boomers in the Labour Market (2230)

Project Status: Ongoing

Introduction: The large size of the Canadian baby boomer generation (born 1946 to 1964) has created concerns for older workers. A loss of skills in the labour market as older workers retire has meant the need for strategies to keep individuals working and delay retirement. Yet, not everyone enjoys good health when working. Individuals are more likely to report chronic diseases and activity limitations with age. To date, we don't have information about how characteristics of many chronic health conditions that arise with age may create unique challenges for workers, including conditions like arthritis and diabetes that do not have a continuous impact but result in episodes of disability, unpredictable symptoms, and stress related to working and disclosing health problems to colleagues. This study focuses on women and men 50-67 years of age who work with arthritis and/or diabetes compared to workers with no disabling health conditions. With increased life expectancies and the disappearance of mandatory retirement, Canadians are expected to age while working. This study forms an important step in understanding the interplay of health and work and will provide information to help sustain employment.

Objectives:

- To describe extent to which remaining employed is a priority among baby boomers as they age.
- To examine the experiences and perceived impact of working with an episodic health condition, as well as factors that act as barriers or facilitate working.
- To examine characteristics of episodic health conditions (e.g., symptom unpredictability, invisibility) and their association with work outcomes (e.g., job disruptions, absenteeism).

Methods: A cross-sectional survey design was used to examine study objectives. The study team created a questionnaire using existing standardized measures, as well as items developed for this research. A survey research firm was hired to recruit participants from across the country using their panel of nearly 80,000 Canadians. The survey went to 13,522 valid emails of people born from 1945-1964 (i.e., 50-67 years of age). The survey was sent to individuals in all provinces and was available in English and French. Potential participants had a choice of an online questionnaire or telephone interview. Initial invitation sent by email and 3 subsequent invitations were sent. Data collected in a four week period in September/October 2014. Participants who chose a telephone interview were interviewed by a trained interviewer. Participants were told that the survey was voluntary, that they could skip any item(s) they wished. Informed consent was received from all participants. A total of 7,965 individuals responded (58.9%). Of them, 6,329 were screened out as ineligible: 3,392 (53.6%) were not currently employed; 52 (.8%) were screened out because of age; 296 (4.7%) were screened out because of other disabling illnesses, recovering from surgery or had an injury in the previous 6 months that required more than a week off work. The remaining 2,589 (40.9%) individuals were screened out because we had already reached quota's established for numbers of participants in the healthy older adult and arthritis groups. The final sample consisted of 1,566 individuals (538 healthy controls; 631 people with arthritis; 286 people with diabetes; 111 people with both arthritis and diabetes).

Status: To date, study data have been cleaned and descriptive statistics run on all variables. Scales have been examined for internal consistency. Analyses are well underway for two papers: 1) a paper comparing the retirement planning and expectations of meeting retirement plans across the four groups, along with factors associated with retirement; 2) a paper examining the availability, need for, use of and helpfulness of diverse accommodations and workplace policies. This latter paper may compare all four groups or may focus primarily on the arthritis and diabetes groups. A third paper examining the role of intermittent and unpredictable symptoms will be undertaken in the future.

Researchers: Monique Gignac (Principal Investigator), Dorcas Beaton, Vicki Kristman, Cameron Mustard, Peter Smith, E Badley (Toronto Western Research Institute)

Collaborations and Partnerships: As part of this study, we will bring together members of the IWH network of educationally influential practitioners in the fields of ergonomics, occupational therapy and physiotherapy, as well as a network of disability management professionals.

Potential Audiences and Significance: Data from this research will provide insight into the experiences, needs, and expectations of working baby boomers. It will enable a comparison of healthy baby boomers and those who may experience difficulties working related to a chronic disease. It can also provide concrete information and potential strategies to inform and enhance policies, practices and interventions to help older workers sustain their employment. Results of this research will be relevant for older workers and especially those living with chronic diseases. It will also be relevant to employers, disability managers, human resource professionals, occupational health professionals, insurers, and consumer/ patient organizations.

Funding:

Gignac MAM, Badley E, Beaton DE, Kristman V, Mustard CA, Smith PM. Employment needs and experiences of workers with arthritis and diabetes: Keeping the Boomers in the labour market. Canadian Institutes of Health Research (CIHR): \$176,466 (2013-2015)

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 tool developed for managers and caregivers of Ontario mental health facilities in supporting them in reducing patient on staff violence-related injuries. We also describe how Institute researchers are contributing to a Canadian based international training initiative for young researchers interested in work disability prevention.

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 the first quarter the IWH team reviewed the practicum proposals for the Fall. Throughout the year, Dr. MacEachen continued her work on the executive committee, and organized the summer session theme which was on ethical conduct. Dr. Hogg-Johnson continued her liaising with the WDPI Conference committee throughout the year until the fall. A two week e-course was held in the spring and the two week summer session was held in June with Drs. Hogg-Johnson and Tompa acting as mentors. The WDPI conference was successfully held in the third quarter. In the third and fourth quarter Dr. Hogg-Johnson supervised a practicum visit to the Institute. In addition, Drs. Tompa and Breslin also supervised practicum students.

Researchers: Sheilah Hogg-Johnson (Institute Coordinator), Curtis Breslin, Emile Tompa, P Côté (Ontario University Institute of Technology), J Guzman (University of British Columbia), E MacEachen (University of Waterloo)

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:

Saunders SL, MacEachen E, Nedelec B. Understanding and building upon effort to return to work for people with long-term disability and job loss. *Work* 2014; Nov 25. [Epub ahead of print]

Seing I, MacEachen E, Ekberg K, Stahl C. Return to work or job transition? Employer dilemmas in taking social responsibility for return to work in local workplace practice. *Disability and Rehabilitation* 2014; Oct 30:1-10.

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 to *Journal of Occupational Rehabilitation*.

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)

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/QuickDASH User's 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, DASH Outcome Measure app). In 2012, we developed the DASH Outcome Measure application for use on the iPad (allows for real-time administration, scoring and longitudinal tracking of DASH outcomes) and the app is available from the Apple App Store.

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: In 2014, the team continued to monitor and promote the DASH app. In addition, they initiated a paper that focussed on factor analysis and the results of their own analyses. They completed a paper on the DASH User's survey focussing on the MCID and interpretability. They also secured a workshop at the International Federation of Societies for Hand Therapy in 2016 in order to celebrate the 20th anniversary of the DASH.

Researchers: Dorcas Beaton (Institute Coordinator), Claire Bombardier, Kim Cullen, Sheilah Hogg-Johnson, Carol Kennedy-Yee, Quenby Mahood, Greer Palloo, 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: There is already great interest in the DASH among clinicians, researchers and educators, professional organizations such as the Canadian Physiotherapy Association and various regulatory colleges. These projects will be important to anyone interested in outcome measurement that reflects the "real world" experience of employees, clients and patients. 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.

Presentations:

Kennedy C, Beaton DE, Palloo G, Saunders R, Maccarone D, Irvin E. An iPad application allows for real time administration, scoring and longitudinal tracking of DASH outcomes. 25 Feb 2014; Toronto, ON: KTE Chiropractor Annual EI meeting.

Kennedy C, Beaton DE. DASH (Disabilities of the Arm, Shoulder and Hand): What's new with the DASH Outcome Measure. 17 Jun 2014; Toronto, ON: Institute for Work & Health Plenary Series.

Assessing the Validity and Reliability of a Tool to Support Reducing Patient on Staff Violence-related Injuries (2220)

Project Status: Completed

Introduction: Client on staff violence is a significant problem in facilities providing care to clients with mental illness or disease. In 2010, 18% of lost-time claims were related to violence. Violent episodes occur in response to the clinical care environment. In more supportive environments, clients are less likely to 'act out'. However, there does not exist a valid and reliable tool that allows mental health care organizations to assess how to create a supportive environment. The Public Services Health & Safety Association (PSHSA) developed a tool set for managers and caregivers, Clinical Practice Assessment Tool to Safeguard Staff and Clients in a Mental Health Facility (CPAT), and piloted the tool at Ontario Shores (OS). Already many other organizations are requesting to use the CPAT. Before it is distributed, the PSHSA seeks to understand the CPAT's validity and reliability in collaboration with IWH and OS. This project uses health and safety administration and survey data from CPAT administered to approximately 800 clinical and managerial staff. The final product is a tool set for use in Ontario mental health facilities.

Objectives:

- To examine whether items are internally consistent within each scale, and whether responses to questions are stable over time in order to assess the reliability.
- To examine whether the measures reflect the construct to be measured in order to assess content validity.
- To determine whether the items measure independent constructs in order to assess construct validity.
- To determine whether the scales co-vary with violent episode events and 'near misses' across units in order to assess discriminant validity.

Methods: This was an instrument development study. The initial study plan was to examine the validity and reliability of the CPAT by conducting one focus group with workplace violence experts and administering the CPAT at Ontario Shores. Focus group findings revealed that the CPAT required important changes. The revised study plan was to get consensus from both clinical staff and experts on the caregiver CPAT version.

Status: In 2014, recruitment and sampling was completed and then focus groups were held, coded and analysed. Based on the analysis, the tool was refined and the final report was written. Findings were published on the Ontario Shores' website.

Researchers: Ben Amick (Principal Investigator), Dorcas Beaton, Era Mae Ferron, Sheilah Hogg-Johnson, Lynda Robson, Dwayne Van Eerd, S Riahi (Ontario Shores Centre for Mental Health Sciences), H Van Hulle (Public Services Health & Safety Association)

Collaboration and Partnerships: Partners in this project include the Public Services Health & Safety Association (PSHSA) and the Ontario Shores Centre for Mental Health Sciences.

Potential Audiences and Significance: This project aims to provide inpatient clinical managers and inpatient clinical caregivers with a valid and reliable tool that assesses the work environment factors that reduce client on staff violence in mental health facilities.

Funding:

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)

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.

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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 a 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: In 2014, the team continued to use the wiki structure to document internal and external data resources used at IWH. Staff were educated through a number of vehicles (e.g. orientation(s), plenary etc) on the policies/procedures for documenting/storing all types of data. In addition, the tasks of the Data Documentation Coordinator were documented as a guide for all staff.

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 and Insurance Board Data Routine Statistics (0307/0835/0845)

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.
- To develop set of core competencies regarding WSIB data.

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 2014, staff responded to ad hoc requests for WSIB data as required. Research agreements for feasibility studies were completed and submitted prior to ad hoc requests. The project researchers updated the codebook and made it available to researchers to help them when submitting a data extraction request. A data request procedure on the wiki was maintained.

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.

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: In 2014, a Masters student initiated work looking into methods with regard to adverse events. This work was ongoing throughout 2014. As well, review updates were ongoing. A workshop was held at the Low Back Pain Forum in the third quarter. Also, the massage review was updated and circulated to the team for a pre publication review.

Researchers: Andrea Furlan (Principal Investigator), Claire Bombardier, Emma Irvin, Teresa Marin, Claire Munhall, Dwayne Van Eerd, C Ammendolia (Mount Sinai Hospital), 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.

Potential Audiences and Significance: Results will interest clinicians, decision-makers and payers who may benefit from a concise and critical summary of knowledge on the treatment of chronic low-back pain. Up-to-date 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 by patients, health care professionals, policy makers and payers.

Publications:

Ammendolia C, Stuber K, Tomkins-Lane C, Schneider M, Rampersaud YR, Furlan AD, Kennedy CA. What interventions improve walking ability in neurogenic claudication with lumbar spinal stenosis? A systematic review. *European Spine Journal* 2014; 23(6):1282-1301.

Moulin D, Boulanger A, Clark AJ, Clarke H, Dao T, Finley G, Furlan AD, et al. Pharmacological management of chronic neuropathic pain: revised consensus statement from the Canadian Pain Society. *Pain Research & Management* 2014; 19(6):328-335.

Presentations:

Moulin DE, Boulanger A, Clark AJ, Clarke H, Dao T, Finley GA, Furlan AD, Gilron I, Gordon A, Morley-Foster PK, Sessle BJ, Squire P, Stinson J, Taenzer P, Toth C, Velly A, Ware MA, Weinberg EL, Williamson OD. Pharmacological management of chronic neuropathic pain – Revised Consensus Statement from the Canadian Pain Society. 20-23 May 2014; Quebec City, QC: 35th Annual Scientific Meeting of the Canadian Pain Society.

Funding:

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

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 Cochrane reviews and develop a database of prognosis reviews.
- To write a paper on adapting the established SR methodology to non-clinical literature.
- To develop a process for conducting realist and rapid reviews and classifying review typologies.
- To recommend a methodology for conducting reviews of complications.

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: In 2014, the team submitted a number of papers from a variety of methodological projects. A database of prognosis reviews was established for the Cochrane Collaboration Prognosis methods group.

Researchers: Andrea Furlan (Institute Coordinator), Emma Irvin (Institute Coordinator), Dwayne Van Eerd (Institute Coordinator), Ben Amick, Nancy Carnide, 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:

Salbach NM, O'Brien KK, Brooks D, Irvin E, Martino R, Takhar P, Chan S, Howe JA. Reference values for standardized tests of walking speed and distance: A systematic review. *Gait Posture* 2014 Oct 12. pii: S0966-6362(14)00728-0. DOI: 10.1016/j.gaitpost.2014.10.002. [Epub ahead of print]

Salbach NM, O'Brien KK, 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* 2014; 95(1):117-128.e11. DOI: 10.1016/j.apmr.2013.06.017. [Epub ahead of print]

An Assessment of Knowledge Transfer and Exchange: Researcher and Stakeholder Perspectives (3155)

Project Status: Completed

Introduction: Knowledge transfer and exchange (KTE) is a burgeoning practice for researchers in many fields. Work and health research funders have indicated that knowledge transfer activities are valued. Funders often request specific information about targeted audiences and how the research findings will be communicated and disseminated to the identified groups. There is an emphasis on linking with research users in the completion of the research and going beyond peer-review publication when disseminating the findings. This project examined the use of research within the Ontario prevention system and the KTE practices of researchers in work and health. A broad model of engagement was employed involving dialogue with key knowledge users/stakeholders and using the framework of an existing self assessment questionnaire adapted for use in work and health research. In addition, we contacted known researchers in this field regarding their KTE practices. The analysis was descriptive in nature and provide a picture of research use and KTE practices in Ontario with a goal to understand how best to deliver useful results and products to workplaces.

Objectives:

- To examine the use of research within the Ontario prevention system and the KTE practices of researchers in work and health

Methods: The team employed qualitative analysis of a web based survey and focus group interviews.

Status: The team completed the knowledge user web forum/survey and knowledge user interviews and focus groups. Analysis of both data sources was completed. In addition, the team completed the researcher survey and interviews, transcription, coding and data analysis.

Researchers: Dwayne Van Eerd (Principal Investigator), Siobhan Cardoso, Emma Irvin, Trevor King, Ron Saunders

Collaborations and Partnerships: We partnered with the Health and Safety Associations to share findings about knowledge users experiences regarding evidence seeking and use.

Potential Audiences and Significance: The findings will be useful for funders, researchers and knowledge users.

Presentations:

Saunders R, Van Eerd D, Irvin E, King T, Macdonald S, Cardoso S. Knowledge Use in the Occupational Health and Safety System (OHS) in Ontario. 9-10 Jun 2014; Saskatoon, SK: Canadian Knowledge Mobilization Forum.

Van Eerd D, Cardoso S, Saunders R, King T, Macdonald S, Irvin E. Occupational health and safety: Stakeholder perspectives on research use. 19-21 Oct 2014; Saskatoon, SK: Canadian Association for Research on Work and Health (CARWH) International Symposium.

Funding:

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 (2013-2014)

Synthesizing Occupational Health and Safety Knowledge for Local Stakeholders (3170)

Project Status: Ongoing

Introduction: Through a collaboration involving researchers and an advisory panel of OHS stakeholders in Manitoba (MB), Memorial University's SafetyNet Centre for Occupational Health & Safety Research (SafetyNet), and the Institute for Work & Health (IWH), we will develop and test an innovative methodology for synthesizing current scientific knowledge and tailoring it for use in specific provincial and local contexts. The methodology will combine features of the approach used by the 'Contextualized Health Research Synthesis Program' (CHRSP) at the Newfoundland and Labrador Centre for Applied Health Research (NLCAHR) with the systematic review techniques and synthesis reports pioneered by the Systematic Review Program at IWH. In addition to developing an innovative set of methods suitable for OHS stakeholders in MB and other similar jurisdictions, the project will produce a handbook on this approach and a sample knowledge synthesis on a topic selected by the MB Stakeholder Advisory Panel and contextualized for the specific resources, capacities, and challenges of the province. Our findings—the new methodology, the Handbook, and the synthesis reports—will be transferred to end users in MB through the direct participation of the Stakeholder Panel in the project and through other modes of dissemination as detailed below. The methodology will also be transferred to end users in Newfoundland and Labrador and Ontario through a set of end-of-project webinars.

Objectives:

- To produce a practical and relatively inexpensive way for OHS stakeholders in MB, as well as in other provinces, to develop increased research synthesis capacity.
- To enhance the utilization of current knowledge about the causation, prevention, and treatment of occupational injuries and diseases tailored to the context of the province's industries, workplaces, and compensation system.

Methods: To utilize the CHRSP approach to contextualize a series of systematic reviews generated using the IWH systematic review approach for stakeholders in Ontario, Manitoba and Newfoundland and Labrador.

Status: This project is almost at the half way mark. To date, the team has presented to their stakeholder group in Manitoba and contextualized an IWH Systematic review for a Newfoundland and Labrador set of stakeholders. A draft methods paper was written.

Researchers: Emma Irvin (Co-Principal Investigator), S Bornstein (Co-Principal Investigator) (Memorial University), Kim Cullen, Ron Saunders, Dwayne Van Eerd, L Johnson (University of Manitoba), R Kean (Memorial University), S Passmore (University of Manitoba)

Collaborations and Partnerships: Partners in this project include the Workers Compensation Board of Manitoba, Memorial University, and the University of Manitoba.

Potential Audiences and Significance: The findings from this study will be of interest to workplaces, and to the workers compensation systems.

Presentations:

Irvin E, Bornstein S, Van Eerd D, Cullen K. Evidence in Context - what works in OHS. 19-21 Oct 2014; Saskatoon, SK: Canadian Association for Research on Work and Health (CARWH) International Symposium.

Funding:

Bornstein S, Irvin E, Van Eerd D, Saunders R, Passmore S, Kean R, Johnson L. Synthesizing Occupational Health and Safety Knowledge for Local Stakeholders. Workers Compensation Board of Manitoba: \$196,126 (2014-2016).

Guidelines on Health-Related Rehabilitation (3175)

Project Status: Ongoing

Introduction: Unmet needs for rehabilitation services can result in poor outcomes for people with disabilities including deterioration in general health status, activity limitations, participation restrictions and reduced quality of life. These negative outcomes can have broad social and financial implications for individuals, families and communities. The World report on disability highlighted that while some people with disabilities have complex rehabilitation needs that require management in specialized settings, the majority of people require fairly low-cost, modest rehabilitation services that can be delivered in mainstream health settings. Priorities for service delivery include strategies for the integration of rehabilitation services into mainstream health care settings, decentralization of rehabilitation services, and the provision of coordinated and multidisciplinary rehabilitation services to ensure continuity of care.

Objectives:

- To determine what service provision models work for different health conditions/resource settings/phases to ensure the provision of rehabilitation services.
- To determine what types of assessment tools can be used to ensure individual's rehabilitation needs are adequately identified.

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 completed a review to determine what service provision models work for different conditions/resource settings/phases to support the provision of rehabilitation services and what types of assessment tools can be used to support individual's rehabilitation needs. The final review was submitted to the World Health Organization (WHO) in order to support the development of a guideline for health-related rehabilitation.

Researchers: Andrea Furlan (Principal Investigator), Dorcas Beaton, Cynthia Chen, Mary Cicinelli, Jocelyn Dollack, Emma Irvin, Carol Kennedy-Yee, Claire Munhall, M Bayley (University of Toronto), R Bhide (University of Toronto), A Costante (University of Toronto), C Borkhoff (University of Toronto), S Danak (University of Toronto), J David (Christian Medical College Hospital), J Flannery (University of Toronto), L Fullerton (University of Toronto), S Marchenko (University of Toronto), R McMaster (Centre for Addiction and Mental Health), K Pitzul (University of Toronto), M Prieto (Hospital Universitario San Vicente Fundación), M Sachdeva (University of Toronto), G Tardif (University of Toronto)

Collaborations and Partnerships: Partners in this project include the World Health Organization, the University of Toronto, the Institute of Rehabilitation, and the Faculty of Medicine of the University of Sao Paulo - Institute of Physical Medicine and Rehabilitation.

Potential Audiences and Significance: The results from this review will become part of the World Health Organization's guideline on health related rehabilitation.

Funding:

Furlan A, Irvin E, Kennedy C, Bayley M, Flannery J, Tardif G, Borkhoff C, Prieto M, David JA. Guidelines on health-related rehabilitation. WHO: \$94,268 (2014-2105).

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 for Work & Health often have implications for decision makers in government, the Ontario Workplace Safety and Insurance Board (WSIB), and the 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.

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 identifying 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 2014, "Suppression of workplace injury and illness claims in Ontario and Manitoba."

Researchers: Ron Saunders (Project Leader), Kristina Buccat, Cindy Moser, Cameron Mustard. Individual Issue Briefings are sometimes authored or co-authored by others.

Collaboration and Partnerships: Advance copies of 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, the CCOHS, the Industrial Relations Centre at U of T, several key Ontario stakeholders, and others who have signed up to receive this series. The individuals are invited to post the link to Issue Briefings 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:

Costante A, Mustard C, Saunders R. (Oct 2014). Issue Briefing. Suppression of workplace injury and illness claims in Ontario and Manitoba.

Clinical Networks (0617)

Project Status: Ongoing

Introduction: Many clinical provider groups and other work and health professionals 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, as providers who may also work within, or in close association with, workplaces (in primary/secondary prevention roles and/or in return to work, delivering treatment 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, injury prevention, 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 individuals across the province (by distributing our online questionnaire) who are informal opinion leaders, i.e. individuals who are 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”. The network serves the purpose of 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. We also sometimes look to EIs to participate in research projects as advisors. In 2014 we held the first meetings of the renewed EI Chiropractors and Ergonomists networks.

Objectives:

- To plan and implement annual face-to-face contact with each discipline group.
- To plan and implement projects to bring EIs into IWH's work.
- To disseminate monthly research alert notices to all EI groups.
- To remain active contributors to association trade publications.

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

Status: The renewed network of 14 Chiropractors met at the annual event on February 25, 2014. The renewed Ergonomists Network met on April 2, 2014 with 10 member attendees. The OT/PT annual meeting was held on October 6th, 2014 with 7 attendees. The Kinesiologists' meeting was held on Dec. 4th, 2014 with 10 attendees. EIs (and past EIs) were contacted for letters of support and to participate in various research projects as stakeholders/advisory committee members. A survey of all EI network groups is being planned to begin in 2015. Monthly research alerts were delivered as planned.

Researchers: Siobhan Cardoso (Co-Lead), Trevor King (Co-Lead), Sara Macdonald (Co-Lead), Ron Saunders

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.

Tracking KTE and 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: Five new impact case studies were completed, and several others were initiated. The KTE Activities Tracking sheets continued to be used for each active IWH research project to track stakeholder engagement and project outcomes. In 2014, 300 new contacts were added to our Contact Relations Manager in Q1 (113 being new e-alert sign-ups through the website), 368 in Q2 (97 being e-alert sign-ups through the website and 244 through the Partners in Prevention conference where we used a badge scanner), 118 in Q3 (113 being e-alert sign-ups through the website), and 154 in Q4 (125 were e-alert sign-up through the website). Over the course of the year, more than 900 people were added to our CRM, about half through website sign-ups. However, At Work was converted to a digital-only publication in Q3 2014 to save on printing and mailing costs. People who once received the print edition of At Work were converted to the digital edition if we already had an e-mail available or were able to find an e-mail through a web search. Nonetheless we lost about 400 subscribers for whom we had mailing information only. The net result was that IWH News subscribers (a proxy for e-alert subscribers) increased from 3,533 to 4,166 during 2014, even though the total number of contacts in our database decreased from 6,889 to 6,672 during 2014. This is due to the fact that those signing up for our products since the loss of the print version have been signing up for both IWH News and At Work, making up for the shortfall. In 2014, the number of unique visitors to the website in Q1 was 118,142 and the number of unique page views was 174,787 (up 33% and 22%, respectively, compared to the same quarter the previous year). For Q2, unique visitors numbered 154,376 and unique page views numbered 215,712 (up 60% and 42%, respectively). In Q3, there were 170,986 unique visitors and 233,964 unique views (up 114% and 82% respectively). And, in Q4, the number of unique visitors was 239,776 and number of unique page views was 319,387 (up 167% and 126%, 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.

Disability Managers Network (0638)

Project Status: Ongoing

Introduction: In 2012, IWH established a new network of disability management professionals. The group is currently composed of 62 active members. Approximately 20 members have joined the private LinkedIn group that was created per a suggestion at the first meeting of the network. The site is used to disseminate relevant research findings, generate discussion, and provide networking opportunities. All members also receive regular e-Alerts via email and are notified about new Research Alerts (which are posted on the IWH website). Members are also approached for interest in participating in research projects when applicable.

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 facilitate participation in IWH research projects or IWH events (e.g. Workshops, seminars).
- To provide KTE support for research projects with messages for RTW audiences.

Methods: Support stakeholder meetings for research projects (e.g., multi-morbidity study). Interview disability managers and develop project plan to create network of disability managers and expand our contact list. Highlight completed research articles on RTW in IWH newsletter. Identify key research priorities at annual event, and communicate with DMs on next steps to keep the group active and worthwhile. Send monthly notice of Research Alerts.

Status: The annual event was held on April 25, 2014, with 13 attendees. There were presentations by Jill Hayden (IWH adjunct scientist) and Dr. Vicki Kristman, 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. Monthly research alerts were delivered as scheduled.

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

Collaborations and Partnerships: Health and safety association consultants, workplace parties, disability managers, health care and nursing organizations, Office of the Employer Adviser, Office of the Worker Adviser, Injured Worker Consultants, Ontario Network of Injured Workers Groups, Workers United, PSHSA, OHSAA and Hospital Employees' Union, 60 Summits Group.

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

Prevention Partners Networks (0640)

Project Status: Ongoing

Introduction: KTE will continue to build relationships with the prevention partner community. In particular, we will continue to host and chair the quarterly meetings of the Prevention Knowledge Exchange Group (PKEG) (formerly known as the Health and Safety Association Liaison Committee), and we will continue to participate in the Partners in Prevention conference and trade show. Organizations participating in PKEG include: the six Ontario health and safety associations, the three Centres of Research Excellence (CREs) (including the Occupational Cancer Research Centre (OCRC)), the Prevention Office and the Policy and Operations divisions of the Ontario Ministry of Labour (MOL), and the Workplace Safety and Insurance Board (WSIB). Capacity building in the use of evidence in programming and planning will continue through the review of evidence from the research organizations. PKEG is also a vehicle for dialogue about how to improve knowledge exchange, both among the members of the committee and with workplace parties.

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 foster dialogue and prevention system networks about strengthening knowledge exchange.
- To coordinate input into the Partners in Prevention conference and assist with research posters.

Methods: We will continue to meet quarterly with prevention partners and utilize HSA networks for dissemination of IWH research and guides.

Status: Members of the HSALC agreed to change the name of the group to the Prevention Knowledge Exchange Group to recognize the participation of prevention partners beyond researchers and HSAs, i.e. MOL and WSIB. PKEG met on March 7, June 6, September 5, and December 5, 2014, chaired by the Director of KTE at IWH. There were presentations from the MOL about the small business outreach program, from the IWH (on leading indicators and the MSD systematic review) and from the PSHSA on the Safety Climate Assessment Project. IWH had a booth at the annual Partners in Prevention conference, and had one presentation in the main program (on leading indicators of OHS), as well as several scientific posters. IWH also participated in the Prevention System Ergonomists' Network. The IWH KTE Director participated on two advisory councils of the Public Services Health and Safety Association.

Researchers: Ron Saunders (Project Leader), Kristina Buccat, Siobhan Cardoso, Trevor King, Sara Macdonald, Cindy Moser

Collaborations and Partnerships: HSA Community, Ministry of Labour, OCRC, CRE-MSD, CREOD, and IWH researchers.

Potential Audiences and Significance: For PKEG: Health and safety associations (HSAs), Ministry of Labour, (MOL), Workplace Safety and Insurance Board (WSIB) and Centres for Research Expertise (CREs). For the Partners in Prevention conference: workplace parties and OHS professionals are also among the audience.

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, the Institute participates in key events and conferences where targeted information can be made available to stakeholder groups to raise the awareness and profile of IWH. In addition, the Institute uses these opportunities to market its products to stakeholders. As workplace parties are priority audiences for IWH research, this project also explores ways to reach employers and organized labour. In 2014, we continued to host meetings of knowledge exchange forums with leaders from the employer and labour communities. We also reach workers and employers through intermediaries (organizations with members or subscribers with an interest in work and health) and direct communication. In 2014, the KTE program also continued to identify and interview “influential knowledge users” about ways to improve knowledge exchange.

Objectives:

- To continue implementing the plan for engagement with influential knowledge users.
- To continue to develop and enhance plan for working with intermediaries.
- To continue implementing academic outreach plan.
- To continue to develop themed displays to meet targeted audiences, profiling key research initiatives.
- 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 promote a calendar of key events.
- To seek opportunities for IWH scientists to present research to workplace parties and other stakeholders.

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: Two new guides to IWH products were produced and disseminated. One was the IWH Product Guide: Using IWH research at work, designed to let workplace stakeholders and policy-makers know about the tools, guides, events and newsletter available that can help them in their jobs. The other was the IWH Resources for Students: Using IWH research at school, designed to let students know about the products and information we have available that can help them in their studies. At our booth at the Partners in Prevention conference, we signed up 244 new names to our subscription list. A new handout called “5 things we think you should know”—outlining five IWH research findings of interest to workplace parties—was distributed. We strengthened relationships with several intermediary organizations, notably the Canadian Society of Safety Engineering (CSSE), the Ontario Occupational Health Nurses Association (OOHNA), and the Canadian and Ontario physiotherapy associations. This resulted in articles on IWH research in their publications. The OOHNA relationship resulted in an IWH Scientist being asked to speak at the OOHNA 2015 conference and in its executive director agreeing to be included as a partner on a grant application. We made presentations of IWH research to targeted OHS groups, e.g. the Business Council on Occupational Health & Safety and Health & Safety Association Advisory Committees. We also continued to strengthen our relationships with media specializing in OHS issues. In 2014, IWH hosted forums in the spring and fall with OHS leaders from the labour and employer communities. The annual Alf Nachemson memorial lecture took place in October 2014. It was well attended (114 attendees) and continues to be a major OHS networking event hosted by the Institute.

Researchers: Ron Saunders (Lead), Kristina Buccat, Siobhan Cardoso, Trevor King, Sara MacDonald, Cindy Moser, Greer Palloo

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.

Tool Development and Dissemination (0636)

Project Status: Ongoing

Introduction: Stakeholders have told us that they need tools and guidelines to help them apply research findings in the workplace. Research in knowledge transfer has also shown the advantage of having evidence-based tools. IWH has developed several tools for our various stakeholder groups, e.g., DASH Outcome Measure; Prevention is the Best Medicine; Participatory Ergonomics (PE) Guide; Red Flags/Green Lights Return to Work (RTW) Guide; Health & Safety Smart Planner; and Seven Principles for Successful Return to Work. As research continues to develop and mature at the Institute, there will be a need for additional tools and guides, and to update existing ones to meet the needs of the Institute's stakeholders.

Objectives:

- To look for new opportunities for tool development, e.g., from systematic reviews.
- To update, repackaging 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 the DASH website. We will use information garnered from research and surveys to revise the DASH Manual and to update FAQ pages on the DASH website. We will review user profile 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 four licences: Yoruba, Hindi, Estonian and Filipino were issued. There are currently 14 translations in progress listed on the DASH website. 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. There were 162 user profiles submitted and it was determined that 14 of these fit into the conditions for commercial use. Updates to the DASH website and user profile form began, and it is anticipated that the update to Drupal 7 will be completed in 2015. There were 237 iPad apps sold in 2014. A registration application for "DASH Outcome Measure" as a trademark was submitted in September of 2013 and is currently in progress with the Canadian Intellectual Property Office. Four new products were made available on the IWH website: IWH Product Guide: Putting IWH research to work (a two-page summary of key IWH products for stakeholders), IWH Resources for Students: Using IWH research at school (a two-page summary of key IWH products for OHS students), CBRG QuickDecks (summarizing the best evidence in neck and back care) and Breakthrough Change Case Study Series (plain-language capsule summaries showcasing stories from four companies that made large and sustained improvements in their OHS performance. As well, the Seven Principles for Successful RTW was redesigned and promoted; resulting in an increase in downloads. Alberta also began planning to use the Organizational Performance Metric as part of their leading indicators guide for workplaces. The OPM questionnaire was also made available to all workplaces via the OPM webpage and corresponding Qualtrics questionnaire link. Organizations now have the ability to score their workplace and compare their scores to other (similar) organizations in Ontario.

Researchers: Siobhan Cardoso (Co-Lead), Jocelyn Dollack (Co-Lead), Trevor King (Co-Lead), Sara MacDonald (Co-Lead), Kristina Buccat, Jan Dvorak, Carol Kennedy-Yee, Cindy Moser, Greer Palloo, Ron Saunders

Collaboration and Partnerships: Partners involved in this project include the health and safety community, workplace parties, clinicians, labour and workplace parties from Ontario and other provinces, 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.

Workshops (0643)

Project Status: Ongoing

Introduction: IWH has considerable expertise in conducting systematic reviews to support evidence-based practice. Many researchers and students at the Institute are involved with the Cochrane Collaboration and the Institute's Systematic Review Program. The Institute has many requests to share its expertise and to contribute to the education and training of educators, researchers, clinicians and students. Institute personnel and colleagues have been offering a series of Systematic Review workshops that range from two hours to two-days since 2001 which continued through 2014.

Objectives:

- To build capacity in our audiences to understand, use and conduct research.
- To evaluate and determine lessons learned.

Methods: The format of the Systematic Review workshop combines a series of short lectures and interactive exercises.

Status: Registration and preparation for the Systematic Review workshop was ongoing. We held the first workshop from April 30th-May 2nd, 2014 with a total of 12 participants. From December 1st-5th, 2014, we held a combined workshop: the first module, December 1st-2nd was the IWH Systematic Review workshop, while the second module, December 3rd-5th was an intensive meta-analysis workshop. For the 5 days we had a total of 21 participants.

Researchers: Emma Irvin (Project Leader), Andrea Furlan, Quenby Mahood, Lyudmila Mansurova, Dwayne Van Eerd

Collaborations 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.

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.

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 through website, e-mail, social media, slidecasts, videos and print products, as well as through external media and stakeholder events/ publications.
- 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. We will continue to develop a new contact management system.

Status: 2014 saw IWH's research messages reach further through the Institute's website, e-alerts, social media and videos/slidecasts. The biggest changes in 2014 were the replacement of quarterly e-alerts tied to the production of At Work with monthly e-alerts rebranded as IWH News, and the discontinuation of the print version of At Work. IWH News has proven to be popular and versatile, with subscriptions rising from 3,533 at the end of 2013 (i.e. number of subscribers to the old quarterly e-alerts) to 4,166 by the end of 2014. This monthly e-alert includes items on IWH research (via links to At Work stories), news, events and scientist accomplishments, as well as items from the Centres for Research Expertise (CREs). At Work was converted to a digital-only publication in Q3 2014 to save on printing and mailing costs. People who once received the print edition were converted to the digital edition if we already had an e-mail available or were able to find an e-mail through a web search. A letter was mailed to the remaining 400 people for whom we had mailing information only, informing them of the cessation of the print version and asking for their e-mail address. The response was low—18. As a result, we lost about 400 subscribers. Nonetheless, the number of subscribers to each of our individual products or notifications increased in 2014, almost across the board. This was due to the fact that those signing up for our products since the loss of the print version of At Work have been signing up for both IWH News and At Work, as well as other products. The number of subscribers to the digital At Work grew slightly over the year, from 1,723 to 1,746. The total number of subscribers to any IWH product (excluding DASH) decreased just slightly, despite the loss of the 400 At Work print-only subscribers, from 4,793 at the end of 2013 to 4,735 at the end of 2014.

Social media outreach continued to grow in 2014. The number of Twitter followers grew from 835 to 1,406; the number of LinkedIn subscribers grew from 621 to 1,004, and the number of video views grew from 876 to 1,646. 2014 marked the posting of IWH's first research-based videos—videos written, shot and edited in-house. Three research videos were created in 2014.

The website's features, as seen by the public, changed only slightly in 2014, including the posting of a new At Work landing page, a reformatted media page, and a gender chair research page. Much work was done behind the scenes to upgrade the website platform from Drupal 6 to Drupal 7. Website hits continued to grow strongly throughout the year. The number of unique page views in Q4 2014 was 319,387 (up 126 per cent from Q4 2013). Although What Researchers Mean By (WRMB) continued to account for the bulk of the increase in unique page views, other web pages more directly related to IWH research and events also went up. Notably, At Work unique

page views were almost 6,500 higher than they were the same quarter last year (67% increase). Research Highlights unique page views also increased steadily over the year, over 2,700 more page views in Q4 2014 compared to Q4 2013 (112% increase).

Media relations during the year continued to implement the plan approved in 2012 to increase the number of research-based releases. Seven releases were issued in 2014, with four related to research: on declining MSD rates, declining work injury rates, making training effective and using participatory ergonomics. The last of these was tied to RSI Day, a new attempt to publish releases tied to external events to help increase their uptake. The other three releases were related to events: the launch of the CIHR research chair in gender, work and health, the Nachemson lecture and the launch of the Centre for Research on Work Disability Policy. This last event created the most media attention of the year for IWH. We created an extensive media package, which we offered on embargoed terms to selected newspaper and radio outlets before sending out more broadly. And, for the first time, IWH worked with a press release service, Cision, to deliver our release package through MarketWired. Our embargoed release resulted in an article in The Toronto Star (front page of the GTA section), as well as interviews on three CBC radio programs: Ontario Morning, Windsor Morning and Here and Now. The Cision release resulted in nine verbatim website posts and 35 web headlines. Finally, sending the release to our own media list resulted in six articles. IWH News items (IWH News is sent to our media list) are also resulting in media mentions, and sometimes seem to be just as effective as releases. All in all, the average of quarterly media mentions went up slightly. In 2013, it was averaging around 35 to 45 per quarter. In 2014, quarterly media mentions ranged from a low of 38 to a high of 84, with an average of almost 55.

IWH hosted its annual Nachemson lecture, featuring Dr. Paul Schulte of NIOSH, who talked about NIOSH's efforts to measure its impact. The event was attended by 114 people. IWH also staffed a booth at the Partners in Prevention trade show, where the handouts included a new lay-friendly document that communicated five key IWH research findings from the previous year. A badge scanner was used again and, after eliminating people who were already in our CRM, it collected 244 new IWH News subscribers.

The 2013 annual report, released in 2014, was themed "The changing nature of work and the workforce." The informal feedback on the content and design of the annual report was certainly positive. Internally, 2014 saw the weekly production of the staff newsletter, thisweek@iwh. A Q3 staff survey to find out how IWHers like and use the internal newsletter was very positive (and had a 75-per-cent response rate), However, there are challenges with the use of the wiki as the Institute's intranet. A Q1 survey indicated that IWHers tended to fall equally into one of two camps: they really liked the wiki and understood how to use it, or the opposite. Work on making the wiki easier continued in the year.

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

Collaborations 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.

2014 Accomplishments

Publications

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2014 Publications

(not included in project listings)

Published

Bastawrous M, Gignac MAM, Kapral MK, Cameron JI. Adult daughters providing care to a parent who has suffered a stroke: Perceptions of the parent-to-child relationship and its influence on well-being. *Clin Rehabil.* 2014 Sep 25. pii: 0269215514552035. [Epub ahead of print]

Carruthers EC, Rogers P, Backman C, Goldsmith CH, Gignac MAM, Marra C, Village J, Li L, Esdaile JM, Lacaille D. "Employment and arthritis: making it work" a randomized controlled trial evaluating an online program to help people with inflammatory arthritis maintain employment (study protocol). *BMC Med Inform Decis Mak.* 2014; 14:59. DOI: 10.1186/1472-6947-14-59.

Chahal J, Whelan DB, Jaglal SB, Smith PM, MacDonald PB, Levy BA, Davis AM. The multiligament quality of life questionnaire: development and evaluation of test-retest reliability and validity in patients with multiligament knee injuries. *Am J Sports Med.* 2014; 42(12):2906-16.

Halpern SD, Ubel PA, Caplan AL. Solid-organ transplantation in HIV-infected patients. *N Engl J Med.* 2002; 347(4):284-7.

Jetha A, Badley E, Beaton D, Fortin PR, Shiff NJ, Rosenberg AM, Tucker LB, Mosher DP, Gignac MA. Transitioning to employment with a rheumatic disease: the role of independence, overprotection, and social support. *J Rheumatol.* 2014; 41(12):2386-94.

Kosny A, MacEachen E, Lifshen M, Smith PM. Another Person in the Room: Using Interpreters During Interviews With Immigrant Workers. *Qual Health Res.* 2014; 24(6):837-845.

Kristman VL, Borg J, Godbolt A, Salmi LR, Cancelliere C, Carroll L, Coronado VG, Holm LW, Nygren-de Boussard C, Hartvigsen J, Cassidy JD. Methodological issues and research recommendations for prognosis after mild traumatic brain injury: results of the International Collaboration on Mild Traumatic Brain Injury Prognosis. *Arch Phys Med Rehabil.* 2014; 95(3 Suppl):S265-77. DOI: 10.1016/j.apmr.2013.04.026.

Kristman VL, Côté P, Yang X, Hogg-Johnson S, Vidmar M, Rezai M. Health care utilization of workers' compensation claimants associated with mild traumatic brain injury: a historical population-based cohort study of workers injured in 1997-1998. *Arch Phys Med Rehabil.* 2014; 95(3 Suppl):S295-302. DOI: 10.1016/j.apmr.2013.08.296.

McInnes JA, Clapperton AJ, Day LM, MacFarlane EM, Sim MR, and Smith P. Comparison of data sets for surveillance of work-related injury in Victoria, Australia. *Occupational and Environmental Medicine* 2014; 71(11):780-87.

McLeod K, McLeod C, Koehoorn M, Davies H, Amick BC. The injury prevention effects of regulatory workplace safety inspections in British Columbia, Canada from 2001 to 2011. *Occupational and Environmental Medicine* 2014; 71(Suppl 1):A54. DOI: 10.1136/oemed-2014-102362.168.

Nolet PS, Kristman VL, Côté P, Carroll LJ, Cassidy JD. Is low back pain associated with worse health-related quality of life 6 months later? *Eur Spine J.* 2015; 24(3):458-66. DOI: 10.1007/s00586-014-3649-4.

Ramada JM, Delclos Clanchet GL, Amick BC, Abma FI, Pidemunt Moli G, Castaño Asins JR, Bültmann U, Serra Pujadas C. Responsiveness of the work role functioning questionnaire (Spanish Version) in a general working population. *Journal of Occupational and Environmental Medicine* 2014; 56(2):189-94.

Robertson A, Hitzig SL, Furlan AD. An evaluation of the performance of the Opioid Manager clinical tool in primary care: A qualitative study. *J Opioid Manag.* 2014; 10(3):187-99. DOI: 10.5055/jom.2014.0207.

Sears JM, Bowman SM, Hogg-Johnson S. Using injury severity to improve occupational injury trend estimates. *American Journal of Industrial Medicine*. 2014 May 8. DOI: 10.1002/ajim.22329. [Epub ahead of print] PMID: 24811970

Sears JM, Bowman SM, Hogg-Johnson S, Shorter ZA. Linkage and concordance of trauma registry and hospital discharge records: lessons for occupational injury surveillance and research. *Journal of Occupational and Environmental Medicine* 2014; 56(8):878-85. DOI: 10.1097/JOM.0000000000000198.

Sears JM, Bowman SM, Hogg-Johnson S, Shorter ZA. Occupational injury trends derived from trauma registry and hospital discharge records: Lessons for surveillance and research. *J Occup Environ Med*. 2014; 56(10):1067-73. DOI: 10.1097/JOM.0000000000000225.

Shaw WS, Kristman VL, Williams-Whitt K, Soklaridis S, Huang YH, Côté P, Loisel P. The Job Accommodation Scale (JAS): Psychometric Evaluation of a New Measure of Employer Support for Temporary Job Modifications. *J Occup Rehabil*. 2014; 24(4):755-65. DOI: 10.1007/s10926-014-9508-7.

Smith PM. Potentially misleading conclusions: Job strain and health behaviors. *Am J Public Health*. 2014; 104(3):e4. DOI: 10.2105/AJPH.2013.301758.

Smith PM, Berecki-Gisolf J. Age, occupational demands and the risk of serious work injury. *Occup Med (Lond)*. 2014; 64(8):571-6. DOI: 10.1093/occmed/kqu125.

Smith PM, Bielecky A, Ibrahim S, Mustard C, Scott-Marshall H, Saunders R, Beaton DE. How much do preexisting chronic conditions contribute to age differences in health care expenditures after a work-related musculoskeletal injury? *Med Care*. 2014 Jan;52(1):71-7. DOI: 10.1097/MLR.0000000000000017.

Smith PM, Bielecky A, Koehoorn M, Beaton DE, Ibrahim S, Mustard CA, Saunders R, Scott-Marshall H. Are age-related differences in the consequence of work injury greater when occupational physical demands are high? *Am J Ind Med*. 2014 Apr;57(4):438-44. DOI: 10.1002/ajim.22303.

Smith PM, Black O, Keegel T and Collie A. Are the predictors of work absence following a work-related injury similar for musculoskeletal and mental health claims. *J Occup Rehabil*. 2014; 24(1):79-88. DOI: 10.1007/s10926-013-9455-8.

Stergiou-Kita M, Mansfield E, Bayley M, Cassidy JD, Colantonio A, Gomez M, Jeschke M, Kirsh B, Kristman V, Moody J, Vartanian OJ. Returning to work after electrical injuries: workers' perspectives and advice to others. *Burn Care Res*. 2014; 35(6):498-507. DOI: 10.1097/BCR.0000000000000041.

Forthcoming

Badley EM, Canizares M, Perruccio A, Hogg-Johnson S, Gignac M. Benefits gained-benefits lost: a longitudinal cohort study (1994-2010) of the differential impact of changes in socio-economic status, smoking and obesity on self-rated health comparing baby boomers to other generations. Conditionally Accepted: *The Millbank Quarterly*.

Berolo S, Steenstra IA, Amick BC, Wells RP. A comparison of two methods to assess the usage of mobile hand-held communication devices. Accepted: *Journal of Occupational and Environmental Hygiene*.

Shim MJ, Gimeno D, Pruitt SL, McLeod CB, Anderson MJ, Amick BC. Retirement as a risk factor for mortality: A Systematic Review. In press: *Social Science & Medicine*.

Submitted

Amick BC, Bazzani L, Robertson M, DeRango K, Rooney T, Moore A. The Effect of an Office Ergonomics Intervention on Reducing Musculoskeletal Symptoms: A Replication Study. Submitted to *Applied Ergonomics*.

Carrasco C, MacEachen E, Saunders R, Lippel K, Mansfield L, Kosny A. "They're temps for a reason": Examining discourses of managerial control and worker resistance in temporary work agencies. Submitted to *Work, Employment and Society*.

LaMontagne AD, Martin A, Page KM, Reavley NJ, Noblet AJ, Milner AJ, Keegel T and Smith PM. Workplace mental health: Developing an integrated intervention approach. Submitted to *BMC Psychiatry*.

McGuire C, Kristman VL, Shaw W, Williams-Whitt K, Reguly P, Soklaridis S. Supervisor autonomy and considerate leadership style are associated with supervisors' likelihood to accommodate back injured workers. Submitted to *Journal of Occupational Rehabilitation*.

Contributions to Books/Book Chapters

Kristman VL, Shaw WS, Williams-Whitt K. Supervisors' perspectives on work accommodation for the chronically ill. In *Working Bodies: Chronic Illness in the Workplace*, edited by Stone SD, Crooks VA, Owen M. Montreal & Kingston: McGill-Queen's University Press, 2014.

Tompa E, Foley M, Van Eerd D. Chapter 37: Economic Analysis of Ergonomic Interventions. In: Wilson JR and Corlett N. (Eds.) *Evaluation of Human Work*, 4th Edition. Taylor & Francis Group, 2014.

Research Project Funding: Awarded in 2014

Amick BC, Hogg-Johnson S, Saunders R, Jacobs K, Demers P, McLeod C. Determinants of Health and Safety in Ontario's Construction Sector. Ministry of Labour Research Opportunities Program: \$257,795 for 2 years.

Amick BC, Van Eerd D, Village J, Lambraki I. How are Leaders using Benchmarking Information on Occupational Health and Safety Performance? Ministry of Labour Research Opportunities Program: \$257,795 for 2 years.

Bornstein S (Co-PI), Irvin E (Co-PI), Van Eerd D, Saunders R. Synthesizing occupational health and safety knowledge for local stakeholders. Workers Compensation Board of Manitoba: \$196,126 for 2 years.

Furlan A, Irvin E, Kennedy C, Bayley M, Flannery J, Tardif G, Borkhoff C, Prieto M, David JA. Guidelines on health-related rehabilitation. WHO: \$94,268 US for 1 year.

Gignac M, Badley E, Beaton D, Kristman V, Mustard CA, Smith P. Employment needs and experiences of workers with arthritis and diabetes: Keeping the Boom(ers) in the labour market. CIHR Operating Grant: \$176,466 for 2 years.

Gignac MAM (Co-PI), Irvin E (Co-PI), McLeod C, Backman C, Van Eerd D, Beaton D, Mahood Q. Osteoarthritis and Work: A Systematic Review. WorkSafeBC: \$62,813 for 1 year

Kosny A, Beaton D, Cooper J, Furlan A, Koehoorn M, Neis B. Engaging health care providers in the return to work process. Workers Compensation Board of Manitoba: \$174,252 for 2 years.

Smith PM, Brisson C, Glazier R, Mustard C. Developing a gender/sex-sensitive understanding of how the psychosocial work environment is related to chronic disease. CIHR Operating Grant: \$329,946 for 3 years.

Smith PM, Hogg-Johnson S, Mustard C. Understanding why gender and age differences exist in return-to-work following a musculoskeletal injury. CIHR Operating Grant: \$162,616 for over 2 years.

Steenstra IA, Lowe G, McIntosh G, Saunders R, Chappel J, Geary J, White M, Beaton DE, Gignac M, Gross D, Irvin E, Loisel P, Pransky G, Puts M, Scott-Marshall H, Tompa E, Van Eerd D, Wilkie R, Ceilen B, Thorpe K. A review of the role of aging in return to work and stay at work. CIHR Knowledge Synthesis: \$89,622 for 1 year.

Non-IWH Research Project Funding: Awarded in 2014

Astrakianakis G, McLeod C, Amick BC. Evaluating the Effectiveness of Violence Prevention Programs in Health Care. WorkSafeBC Specific Research Priorities Grant: \$180,727 for 2 years.

Davis AM, Mahomed N, Perruccio A, Chesworth B, Gandhi R, Hogg-Johnson S, Waddell J, Rajgopa V. 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. The Arthritis Society: \$329,832 for 3 years.

Furlan A, Salisbury G, Dubin R, Borsook T, Flannery J, French S, Gordon A, Jaglal S, Kahan M, Smith A, Stevens B, Stinson J, Taenzer P. Evaluation of the Extension for Community Healthcare Outcomes (ECHO) model for pain and opioid stewardship in Ontario. CIHR Partnerships for Health System Improvement: \$399,810 for 3 years.

Gignac MAM (Co-PI), Johnson S (Co-PI), Davis A, Badley EM, Jetha A. New perspectives on arthritis and work: The role of gender in employment across the life course. SeXX Matters Research Initiative, Arthritis and Autoimmunity Research Foundation: \$60,000 for 2 years.

Khumbare D, Furlan A, Bayley M, Alleyne J, Flannery J. The Development of a Comprehensive Assessment for Chronic Pain Patients at the Toronto Rehabilitation Institute. AFP Innovation Fund: \$53,095 for 1 year.

Kristman VL. Factors associated with employer non-participation in workplace-based research: a cross-sectional study. Lakehead University Senate Research Committee, Research Development Fund: \$5,000 for 1 year.

Laberge M, Breslin FC. L'utilisation des TIC pour soutenir l'accès à l'emploi des adolescents handicapés ou en difficultés d'apprentissage ou d'adaptation (HDAA), CRWDP: \$10,000 for 1 year.

Laberge M, Breslin FC. Les stratégies développées lors d'évènements imprévus par des adolescents apprentis en métier semi-spécialisé et leurs impacts sur les risques de SST (Work strategies developed by semi-skilled apprentices in unexpected situations. and OHS risks). Institut de recherche Robert-Sauvé en santé et en sécurité du travail (L') (IRSST): \$44,958 for 1 year.

Laberge M, MacEachen E, Breslin FC. Outil bref d'évaluation des risques de santé et sécurité au travail en milieu de stage à la Formation menant à un métier semi-spécialisé. IRSST: \$97,000 for 2 years.

McLeod C, Amick BC, Collie A, Hogg-Johnson S, Koehoorn M, Smith P, Wren J. Return to work after work injury and illness: An international comparative effectiveness study of Canada, Australia and New Zealand. CIHR Operating Grant: \$525,825 for 3 years.

McLeod C, Koehoorn M, Amick BC. SafeCare Leading Indicators Baseline Pilot: Applying the Organizational Performance Metric to the long-term health care sector in British Columbia. WorkSafeBC: \$74,950 for 1 year.

Mori B, Herold J, Norman KE, Brooks D, Beaton DE. Developing a New Assessment Tool for Canadian Physical Therapy Students in Clinical Education. University of Toronto, Faculty of Medicine. Funding Agency: Education Development Fund and the Canadian Council of University Physiotherapy Programs: \$12,418 for 1 year.

Newman K, Van Eerd D, Cornelissen E, Dainty K, Urquhart R, & DeForge R. What works, for whom, and in what circumstances? A mixed methods pilot study of knowledge brokering in the context of the healthy aging in Canada. Ryerson Health Services Research Fund: \$7,000 for 1 year.

Sale J, Beaton DE, Bogoch E, Gignac MAM, Hawker G, Ho J. How do fracture patients with comorbidities manage bone health treatment? CIHR: \$153,832 for 2 years.

Williams A, Tompa E, Fast J, Lero D, Zeytinoglu. Evaluation of Caregiver-Friendly Workplace Policy (CFWPs) Interventions of the Health of Caregiver-Employees (CEs): Implementation and Cost-Benefit Analysis. CIHR Operating Grant: \$330,954 for 3 years.

Research Project Funding: Submitted in 2014

Beaton DE, Saunders R, Bombardier C, Cullen K, Hogg-Johnson S, Irvin E, MacDermid J, Mahood Q, Milani D, Offringa M, Riley M, Schemitsch E, Smith PM, Steenstra I, Swift M, Tang K, Touma Z, van Eerd D, Vincent J, Wilson K. The DASH (Disabilities of the Arm Shoulder and Hand) Outcome Measure: Synthesis and User-Based Dissemination of Evidence of its Measurement Properties CIHR Knowledge Synthesis: \$100,000 for 1 year.

Gignac MAM. Health and Work: Work disability prevention and improvement of employment outcomes among those with chronic diseases. CIHR Foundation Scheme, \$1,250,000 for 7 years.

Hogg-Johnson S, Van hulle H, Amick BC, Kapoor K, McLeod C. Workplace Violence Prevention Program Implementation in Ontario Workplaces. MOL ROP R4W, \$298,025 for 2 years.

Irvin E, Van Eerd D, Hogg-Johnson S, Beaton D, Amick BC, Tompa E, Cullen K, Munhall C, Mahood Q. Implementation of effective MSD prevention: A practical guide . MOL ROP E4P, \$59,480 for 1 year.

Kosny A, Lifshen M, Rhooms R. Falling through the cracks? Immigrant women, work and health. Women's College Hospital, \$72,999 for 1 year.

Kosny A, Lifshen M, Rhooms R. The health and safety of recent immigrants at work: a gender -based analysis. Women's College Hospital, \$15,000 for 1 year.

Kosny A, Saunders R, Premji S, Lifshen M. How can agencies serving immigrants help their clients stay safe and healthy at work? MOL ROP R4W, \$193,968 for 2 years.

MacEachen E, Lippel K, Saunders R, Sanford S. Occupational health and safety regulation for small businesses: considering the contemporary business environment. MOL ROP R4W, \$270,325 for 2 years.

Mustard CA. Preventable morbidity arising from exposures at work: research to strengthen regulatory policy and workplace practice. CIHR Foundation Scheme, \$1,300,000 for 7 years.

Mustard CA, Chambers A, Kosny A. Examining implementation of workplace violence legislation in Ontario. MOL ROP R4W, \$104,698 for 2 years.

Robson L, Amick BC, Bigelow P, Hasle P, McLeod C, Van Eerd D, Yazdani A, Yanar B. Understanding the Company Processes Related to Achieving COR Certification. MOL ROP R4W, \$298,845 for 2 years.

Saunders R, Breslin FC, Myers K. Addressing essential skills gaps among participants in an OHS training program: a pilot study. Max Bell Foundation, \$225,312 for 2 years.

Saunders R, Myers K, Breslin FC. Addressing essential skills gaps among participants in an OHS training program: a pilot study. MOL ROP R4W, \$225,312 for 2 years.

Smith PM, De L'Orme W, Cullen K, Koehoorn M, Luckhardt N, Mahood Q, Slade-Traynor K, Tchernikov L, Verall B. How do work hazards and OHS outcomes differ for men and women? A systematic review of the literature. CIHR Knowledge Synthesis, \$100,000 for 1 year.

Smith PM, Breslin FC, LaMontagne A, Saunders R, Tompa E. Evaluating the impact of mandatory awareness training on OH&S vulnerability in Ontario. CIHR Operating Grant Intervention Research, \$198,791 for 2 years.

Smith PM, Breslin FC, LaMontagne A, Saunders R, Tompa E. Evaluating the impact of mandatory awareness training on OH&S vulnerability in Ontario. The Ontario Ministry of Labour, \$262,794 for 2 years.

Smith PM, Harvey D, Beaton D, Dupuis S, Gignac M, Irvin E, Lowi-Young M, Mahood Q, Shannon H. A scoping review to examine how the work context impacts the ability of people dementia and those who care for them to participate in the labour market. CIHR Knowledge Synthesis, \$50,000 for 1 year.

Smith PM, Saunders R, Tompa E, Breslin FC, LaMontagne A. Examining the impact of mandatory awareness training on worker OH&S vulnerability in Ontario. MOL ROP R4W, \$263,994 for 2 years.

Tompa E. A population health research program on the Canadian health & safety and work disability policy systems. CIHR Foundation Scheme, \$1,750,000 for 7 years.

Wong I, Gignac M, Boivin D, Smith PM, Neumann P. Shift work, fatigue and cognitive performance among hydroelectric dam operators. MOL ROP R4W, \$274,335 for 2 years.

Wong I, Irvin E, Smith PM. Work-related commuting among Canadians: practices, accident risk and policies. WorkSafeBC 2014 Innovation at Work, \$50,000 for 2 years.

Non-IWH Research Project Funding: Submitted in 2014

Barton M, Slade K, Van Eerd D, Amick BC, Steenstra I, King T. Developing and evaluating a multifaceted OHS patient handling program among nurses to improve safety culture. MOL OHSPIP, \$153,300 for 1 year.

Bigelow P, Tompa E (Co-Leads). Tracking the true (complete) costs of musculoskeletal disabilities (MSDs) MOL ROP E4P, \$56,559 for 1 year.

Demers P, Diamond M, Amick BC, Hystad P. Identification of cancer prevention opportunities: Evaluation of the TRA. CIHR Operating Grant Intervention Research, \$190,331 for 2 years.

Furlan A, Elzohairy Y, Babineau J, Bartolini A, Campos J, Hebert D, Irvin E, Naglie G. A systematic review of the effectiveness of cognitive training (brain exercise) in helping drivers to improve their driving skills. CIHR Knowledge Synthesis, \$100,000 for 1 year.

Holland L, Farquahr A, Irvin E, Kirsh B, Mantis S, McDougall C, Stergiou-Kita M. Systematic review of qualitative research on workplace disclosure and accommodations for people with physical disabilities: Implications for research, policy and practice. CIHR Knowledge Synthesis, \$100,000 for 1 year.

Kristman VL, Amir Z, Whitt-Williams K, Amir E, Shaw WS, Gignac M, Van Eerd D, Reguly P. Perspectives on Work Accommodation for Workers with Cancer Canadian Cancer Society Quality of Life Grants, \$300,000 for 3 years.

Kristman VL, Shaw W, Loisel P, Amick B, Boot C, Hogg-Johnson S. A supervisor training program for work disability prevention: a randomized controlled trial. Ontario Ministry of Economic Development and Innovation Early Researcher Awards, \$150,000 for 5 years.

Premji S, MacEachen E, Smith PM, Koehoorn M, Saunders R, Kosny A, Linguistic minorities' access to workers' compensation in Ontario and British Columbia: a comparative case study. SSHRC Insight Grant, \$244,000 for 3 years.

Rampersaud Y, Taenzer P, Alleyne J, Ammendolia C, Furlan A, Irvin E, McGlasson R, Perruccio A, Schabert I, van Tulder M. Do clinical guidelines accurately reflect the natural history of patients with acute low back pain presenting to primary care providers? CIHR Knowledge Synthesis, \$50,000 for 1 year.

Touma Z, Beaton DE, Urowitz M, Gladman D, Cook R. Improving the assessment of systemic lupus erythematosus (SLE) disease activity. Canadian Institutes of Health Research (CIHR) – Operating Grant, \$605,230 for 3 years.

Van Hulle H, Slade-Traynor K, Chapovalov O, Cullen G, Amick BC. What can we learn from the patient/ client experience at the primary care/ home care interface that will help us improve safety. Patient Safety Institute Small Scale Pilot Grant, \$45,000 for 1 year.

Research Personnel Funding

Kristman VL, Shaw W, Loisel P, Amick B, Boot C, Hogg-Johnson S. Preventing Work Disability through Accommodation. Canadian Institutes of Health Research (CIHR): New Investigator Salary Award, Community-based Primary Healthcare: \$300,000 (2014-2019).

2014 Institute for Work & Health Staff

* denotes staff no longer at the IWH

Research

Amick, Benjamin; PhD, Senior Scientist
Beaton, Dorcas; PhD, Senior Scientist
Bielecky, Amber; MSc, Research Coordinator
Bombardier, Claire; MD, FRCP(C) Senior Scientist
Buettgen, Alexis; Research Associate, PhD Student
Breslin, Curtis; PhD, Scientist
Canga, Albana; BA, Administrative Assistant
Chen, Cynthia; MSc, Research Associate, Analyst
Cole, Donald; MD, Senior Scientist
Costante, Alicia; MPH Practicum Student *
Cullen, Kim; Research Associate, PhD Student
D'Elia, Teresa; MA, Project Coordinator
Danak, Shivang; MD, Research Associate
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
Habrin, Shireen; Dip. Library and Information Technician, Library Technician
Heath, Charmaine; Dip. Business Administration, Administrative Assistant
Hogg-Johnson, Sheilah; PhD, Senior Scientist
Ibrahim, Selahadin; MSc, Associate Scientist
Irvin, Emma; BA, Director, Research Operations
Kalcevich, Christina; MA, Research Associate
Kelly, Allison; Dip. S.T. Administrative Editorial Assistant
Kennedy-Yee, Carol; MSc, Research Associate
Kim, Jaemin; PhD, Project Coordinator *
Kosny, Agnieszka, PhD, Scientist
Kristman, Vicki; PhD, Associate Scientist
Latour-Villamil, Desiree; MA, Research Assistant
Lay, Morgan; MPH, Research Associate
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; MI, Manager, Library Services

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, Manager, Research Operations

Munhall, Claire; MA, Project Coordinator/ Managing Editor, Cochrane Back Review Group

Padkapayeva, Kathy; BA, Administrative Assistant

Pelcowitz, Matthew, MA, Student Fellowship *

Pisac, Dianna; BA, Project Coordinator *

Posen, Andrew: MHP Practicum Student

Raktoe, Shanti; BSc, Administrative Assistant

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

Sharma, Sharvani; PhD Student, Research Associate *

Smith, Brendan; PhD Student

Smith, Peter, PhD, Senior Scientist

Steenstra, Ivan; PhD, Associate Scientist

Subrata, Peter; MSc, Research Associate *

Swift, Michael; MSc, Research Associate, Data Manager/Programmer

Tompa, 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

Yau, Jason; Dip. Computer Security, Systems Support

Knowledge Transfer & Exchange

Buccat, Kristina; Dip. Radio and Television Production, Administrative Assistant

Cardoso, Siobhan; MPH, Research Associate/KTE Associate

Dvorak, Jan; BA, Web & Design Coordinator

King, Trevor; MA, KTE Associate

Macdonald, Sara; QEHS Management Diploma, KTE Associate

Moser, Cindy; BA, Communications Manager

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; CHRL, Director, Human Resources & Corporate Services

Maccarone, Dylan; Accounting Clerk

Mansurova, Lyudmila; BSc, Administrative Coordinator, Office of the President

Mustard, Cameron; ScD, President, Senior Scientist

Sir, Cathy; CMA, Manager, Financial Services

Stevens, Alexandra; Administrative Coordinator, Office of the President *

2014 Institute for Work & Health Research Trainees

Adihetty, Chamila; PhD Student

Bogaert, Laura; PhD Student

Carnide, Nancy; PhD Student

Chambers, Andrea; PhD Student (graduated September 2014)

Giraldo-Prieto, Mario; PhD, Post Doctoral Fellow

Tang, Ken; PhD Student

Touma, Zahi; Post Doctoral Fellow

Van Eerd, Dwayne, PhD Student

Wong, Imelda; PhD, Mustard Fellow

2014 Research/Professional Collaborations and Networks, Appointments and Offices

AMICK, Benjamin

Adjunct Professor, University of Texas School of Public Health
Advisory Board Member, Harvard Center For Work and Health

BEATON, Dorcas

Member, Executive committee, OMERACT (Outcome Measurement in Rheumatology), November 2014 - present
Member, Fragility Fracture Network (FFN), August 2013 – Present.
Member, Scientific advisory committee, OMERACT (Outcome Measurement in Rheumatology), November 2013 - present
Co-Chair, Worker Productivity Measurement Initiative, OMERACT (Outcome Measures in Rheumatology 2006-present.
Course Instructor Committee, Institute of Health Policy, Management and Evaluation, Faculty of Medicine, University of Toronto (2009-present)
Ontario Graduate Scholarships (OGS) Review Panel, Department of Occupational Sciences and Occupational Therapy, University of Toronto (2008-present)
Executive Committee, Institute of Health Policy, Management and Evaluation, Faculty of Medicine, University of Toronto (2006-present)
Member, Research Support & Partnership Committee, St. Michael's Hospital (2011-present)
Member, Clinical Research Subcommittee (2009-present)
Research Ethics Board, St. Michael's Hospital. March 2001-April 2004 (adhoc member: 2004- present)

BRESLIN, F. 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, Department of English and Liberal Studies

FURLAN, Andrea

Staff Physician: Physiatry, Toronto Rehabilitation Institute
Associate Professor: Department of Medicine, Division of Physiatry, University of Toronto
Associate Member: Institute of Medical Science, University of Toronto
Scientist: Health Services Research, Monitoring and Evaluation, Institute for Work & Health
Member: Ontario Ministry of Health Narcotics Monitoring Working Group
Member: Ontario Ministry of Health Opioid Education Working Group
Co-chair: ECHO Ontario
Member: Canadian Association of Physical Medicine and Rehabilitation
Member: Canadian Pain Society
Member: Canadian Academy of Pain Medicine
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

Affiliate 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
Chair: Institute Advisory Board (IAB), Institute for Musculoskeletal Health and Arthritis (IMHA), Canadian Institutes of Health Research (CIHR), 2011to present
Co-Scientific Director: Canadian Arthritis Network (CAN), Networks of Centres of Excellence (NCE), 2008 – August 2014
Director: Board of Directors, Canadian Arthritis Network (CAN), A Network of Centres of Excellence (NCE), 2008 – August 2014

Member: Advisory Council, Community Health Solutions, Simon Fraser University, British Columbia, 2013 to present

Member: Advisory Committee, "Work with Us," Mood Disorders Society of Canada (MDSC) and The Arthritis Society (TAS), 2013 to present

Member, Strategic Planning Committee, Institute for Musculoskeletal Health and Arthritis (IMHA), Canadian Institutes for Health Research (CIHR), 2013 – September 2014

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 to present

Member: Technical Advisory Group (TAG) on Data Strategy on People with Disabilities, Human Resources & Skills Development Canada (HRSDC) in partnership with Statistics Canada, 2011 to present

Member: American Psychological Association (APA)

Member: Canadian Association on Gerontology (CAG)

Member: Gerontological Society of America (GSA)

Member: Association of Rheumatology Health Professionals (ARHP)

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

Member: Canadian Association for Research on Work and Health

Member CIHR Spring/Fall 2014 Knowledge Synthesis Grant Competition Review Committee

KOSNY, Agnieszka

Steering Committee: Bancroft Institute

CRWDP Co-Investigator/Academic Partner

KRISTMAN, Vicki

Member: Canadian Association for Research on Work and Health

Board Member & 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

Conference Scientific Committee Member, 3rd Work Disability Prevention and Integration (WDPI) Conference, Hyatt Regency Hotel, Toronto, Ontario, Canada

Member of clinical, quality and research platform project, Ontario Concussion Care Strategy

MUSTARD, Cameron

Member, Expert Advisory Committee, Parachute, July 2014 to June 2016.

Member, Advisory Group, Mining Health Safety and Prevention Review. Ontario Ministry of Labour, December 2013 to February 2015

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
Member CIHR Spring 2014 Knowledge Synthesis Grant Competition Review Committee

SMITH, Peter

Associate Editor with the Australian Journal of Social Issues.
Reviewer: CIHR New Investigator Awards 2014 and 2015
Member: Scientific Committee for the 2014 International Commission of Occupational Health, Work, Organisation and Psychosocial Factors (ICOH-WOPS) Conference.
Member: WorkSafe Victoria's Leading Thinkers Network. WorkSafe Victoria is the workers' compensation authority in Victoria, Australia. The Leading Thinkers Network was set up by WorkSafe Victoria and includes leading academics from around Victoria to provide WorkSafe Victoria with input on their future strategies related to improving the health of the working population in Victoria
Member: Institute for Safety, Compensation and Recovery Research (ISCRR) Compensation Research Database Committee. The ISCRR Compensation Research Database Committee reviews data access requests for the use of compensation data from WorkSafe Victoria and the Transport Accident Commission in Victoria for the purpose of research. It contains representatives from WorkSafe Victoria, the TAC, ISCRR and Monash University.

STEENSTRA, Ivan

Member: Canadian Association for Research on Work and Health
Member: Workers' Compensation Research Group
Member: Canadian Evaluation Society
Member: Editorial Board, Journal of Occupational Rehabilitation

TOMPA, Emile

Co-director: Centre for Research on Work Disability Policy
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: Steering Committee, Bancroft Institute for Studies in Workers' Compensation and Work Injury
Member: Mustard Post-doctoral Fellowship Selection Committee, 2014

VAN EERD, Dwayne

Researcher, Centre for Research Expertise for Musculoskeletal Disorders, University of Waterloo

Member, Knowledge Translation Trainee Collaborative supported by KTCanada

WONG, Imelda

Member: Scientific Director - International Commission on Occupational Health: Scientific Committee on Shiftwork and Working Time 2012 -

Member: Human Factors and Ergonomics Society 2014 -

Teaching, Educational and Service Activities

AMICK, Benjamin

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, Ontario. February 2001 – present.

Associate Professor, Department of Occupational Sciences and Occupational Therapy, Faculty of Medicine, University of Toronto. July 2008 – present.

Senior Scientist, Measurement Stream of Research, Institute of Work & Health, Toronto, Ontario. February 2014 – present.

Full Member, Rehabilitation Sciences Institute, University of Toronto, Toronto, Ontario. July 2001 – present.

Full Member, School of Graduate Studies (SGS), Appointed to: Institute of Health Policy, Management and Evaluation, Clinical Epidemiology Program, University of Toronto, Toronto, Ontario. September 2001 – present.

Course Coordinator, Graduate Course, Clinical Epidemiology. Measurement in Clinical Research. 2002 – present.

Lecture. Measurement in rehabilitation research. 1999 – present.

Lecturer: Advanced measurement course, University of Toronto

Lecturer: Advanced quantitative methods in Epidemiology, University of Toronto

Service Activities

Operating Grants: CIHR, SSHRC, The Arthritis Society, Hospital for Sick Children Foundation, The Liver Foundation, Workers Safety and Insurance Board Research Advisory Committee, Work Safe BC.

Journals: Journal of Clinical Epidemiology, Medical Care, JAMA, Journal of Rheumatology, Quality of Life Research, International Journal of Epidemiology, Journal of Hand Therapy, Journal of Bone and Joint Surgery (American), Physical Therapy, Arthritis Care Research, Spine, Archives of Physical Medicine and Rehabilitation.

BRESLIN, F. Curtis

Teaching/Educational Role

Associate Professor: Dalla Lana School of Public Health, University of Toronto

Associate Member: School of Graduate Studies, University of Toronto

PhD Thesis Committee Member, Andrea Chambers, Safer Needle Regulation in Ontario, 2010 – 2014

Guest Lecturer: CHL 5804, Health Behavior Change, University of Toronto

Service Activities

Editorial Board, Journal of Occupational Health Psychology

Reviewer: Journal of Adolescent Health Social Science and Medicine Journal; American Journal of Industrial Medicine; Occupational & Environmental Medicine

FURLAN, Andrea

Teaching/Educational Role

Associate Professor: Department of Medicine, Faculty of Medicine, University of Toronto

Instructor: IWH Systematic Reviews Workshop

PhD Thesis Committee member: N. Carnide,

MSc Thesis Committee member: B. Rafat, M. Pelcowitz, A. Bartolini

Post-graduate Supervisor, M. Prieto

Undergraduate teaching:

Undergraduate MD:

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

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

CIHR Grant Review Panel Chair: Partnership for Health systems improvement

CIHR Knowledge Synthesis Grant Committee Member

External Advisory Board, NIH NCCAM

GIGNAC, Monique

Teaching/Educational Role:

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, Sabrina Koehler

Service Activities:

Associate Editor: Arthritis Care & Research, 2011 to present

Advisor: The Arthritis Society Strategic Planning Group for “Arthritis Friendly Workplace” Initiative, 2013 to present

Member: Ontario Episodic Disabilities Forum (OEDF), 2011 to present

Member: Arthritis Research Foundation (ARF) strategic research planning committee for Autoimmune Diseases in Women, University Health Network, 2011 – 2014

Member: Research, Education, and Practice Advisory Committee (REPAC), Canadian Working Group on HIV and Rehabilitation (CWGHR), 2010 – 2014

Member: Toronto Western Research Institute, Space Committee, 2005 – 2014

Member: Finance Committee, Institute for Musculoskeletal Health and Arthritis (IMHA), Canadian Institutes of Health Research (CIHR), 2011-2014

Member: Research Committee, Arthritis Alliance of Canada (AAC), 2011 – 2014

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

Associate Professor: Dalla Lana School of Public Health, Faculty of Medicine, University of Toronto, 1995-
Associate 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, Mayilee Canizares Perez
PhD Thesis Supervisor: Nancy Carnide

Service Activities

Journal Referee: 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

CIHR Knowledge Synthesis grant Spring and Fall 2014 peer reviewer
Reviewer for the Journal of Rheumatology
Reviewer for CADTH

KOSNY, Agnieszka

Teaching, Educational and Service Activities

Assistant Professor (Status Only) – Dalla Lana School of Public Health (Social and Behavioural Sciences)
PhD candidate entrance review committee - Dalla Lana School of Public Health (Social and Behavioural Sciences)
Guest lecturer – Labour Studies

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 II, Department of Health Sciences, Lakehead University
Instructor, Whole group Sessions on Epidemiology, Research and Statistics and Framework for Critical Appraisal & Evidence-based Medicine, Northern Ontario School of Medicine
MPH Committee Member: Erica Sawula, Department of Health Sciences, Lakehead University
MHSc Supervisor: Connor McGuire, Shayna Parker, Andrea Hantjjs, Department of Health Sciences, Lakehead University
PhD Committee Member: Mana Rezai, Dalla Lana School of Public Health, University of Toronto

Service Activities

Member: CIHR Population Health Review Committee & CIHR Foundation Scheme Reviewer
Journal Reviewer: Movement Disorders, Ammons Scientific, Medicine and Science in Sport and Exercise, 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
Member: Lakehead University Research Ethics Board
Acting CIHR Lakehead University Delegate

MUSTARD, Cameron

Teaching/Educational Role

Primary Supervisor for Laura Bogaert, PhD candidate, Dalla Lana School of Public Health, University of Toronto.
Co-instructor. CHL 5426. Population Perspectives for Epidemiology. Dalla Lana School of Public Health. September-December 2014.
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

Guest lecturer: CHL5917 Concepts in Safety Management, Dalla Lana School of Public Health, University of Toronto; IRE 2715 Special Topics: Current Issues in Occupational Health and Safety, Centre for Industrial Relations & Human Resources, University of Toronto

Service Activities

Journal Referee: American Journal of Industrial Medicine, International Journal of Occupational and Environmental Health, Journal of Occupational Health Psychology, Safety Science

Member, Public Services Health & Safety Association Advisory Council for Municipal and Community Affairs, 2014-

Member, Technical Subcommittee for CSA Z1000-15, Occupational Health and Safety Management Standard, 2nd ed., Canadian Standards Association, 2012-2014.

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 January – August, Member September – December

SMITH, Peter

Teaching/Educational Role

Associate Professor: Dalla Lana School of Public Health, University of Toronto

Associate Professor: School of Public Health and Preventive Medicine, Monash University

Reviewer for Masters in Public Health Admissions for the Dalla Lana School of Public Health, University of Toronto, 2014

Reviewer for PhD Admissions for the Dalla Lana School of Public Health, University of Toronto, 2015

Member, Curriculum Review Committee for Epidemiology Program, Dalla Lana School of Public Health, University of Toronto.

Course Instructor: CHL5426: Population perspectives in epidemiology

Guest Lecturer: Developing a measure. HAD5302 – Measurement in Clinical Research.

STEENSTRA, Ivan

Teaching/Educational Role

Assistant Professor (Status Only): Dalla Lana School of Public Health, 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, Biomed Central, Occupational and Environmental Medicine, Scandinavian Journal Occupational and Environmental Health.

TOMPA, Emile

Teaching/Educational Role

Adjunct Associate Professor: Department of Economics, McMaster University, 2012-present
Adjunct Assistant Professor: Public Health Sciences, University of Toronto. 2004 –present
Sessional Lecturer: Centre of Industrial Relations and Human Resources, 2014
Co-Instructor, Advanced Topics in Health Economics, McMaster University, 2014
Guest Lecturer, Theory and Practice of Program Evaluation, Department of Public Health Sciences, University of Toronto, 2014
Committee Member for Kenneth Scott, Ph.D. candidate, Colorado School of Public Health, University of Colorado at Denver (September 2014-)
Committee Member for Pam Lahey, Ph.D. candidate, School of Rehabilitation Sciences, McMaster University (September 2014-)
Practicum Student Mentor for Andrew Posen, MPH student from Dalla Lana School of Public Health, University of Toronto (2014-2015)
Practicum Student Mentor for Alicia Costanti, MPH student from Dalla Lana School of Public Health, University of Toronto (summer 2014)
Mentor for Masters in Public Health students at Dalla Lana School of Public Health, University of Toronto (2014-2015)
Mentor, Work Disability Prevention CIHR Strategic Training Program, University of Toronto, 2014
Second Year Lecturer, Work Disability Prevention CIHR Strategic Training Program, University of Toronto, 2014
External Examiner for Sophie Lederer, Ph.D. Thesis Defence, Université de Montréal (February 24, 2014)

Service Activities

Manuscript Reviewer (2014): Applied Ergonomics, Australia and New Zealand Journal of Public Health, Ergonomics Australia, Health Education Research, Journal of Applied Mechanical Engine, Journal of Cancer Survivorship, Journal of Occupational Rehabilitation, Journal of Labour Research, Social Science and Medicine, Safety Science
Grant Reviewer: Centre for Research on Work Disability Policy Seed Grant Initiative (2014)
Grant Reviewer: Canadian Institutes for Health Research (2014)
Report Reviewer: Veterans Affairs Canada (2014)

VAN EERD, Dwayne

Teaching/Educational Role

Course Instructor, The Systematic Review Workshop Module 1 December 2, 2014 – Toronto, Ontario. Topic taught: Systematic Reviews of Observational Studies
Lecturer, The Social Aetiology of Mental Illness [SAMI] Training Program, November 14, 2014. The lecture topic was Knowledge Transfer and Exchange.
Course Instructor, The Systematic Review Workshop May 2, 2014 – Toronto, Ontario. Topic taught: Methodological quality of randomized controlled trials.

WONG, Imelda

Service Activities

Reviewer: Ergonomics, PLoS One, Journal of Occupational and Environmental Medicine, 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. Carlo Ammendolia is a clinical epidemiologist and an assistant professor in the Department of Health Policy, Management and Evaluation at the University of Toronto. In 2012, he was appointed to the first "professorship in spine" at the University of Toronto, a new position funded by the Canadian Chiropractic Research Foundation. Dr. Ammendolia is also a staff clinician in the Department of Medicine at Mount Sinai Hospital. His research interests include designing and implementing workplace health promotion and return-to-work programs, developing and testing non-operative treatments for spinal stenosis and herniated discs, and conducting systematic reviews on interventions for back pain.

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 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. Claire Bombardier is a professor of medicine and director of the Division of Rheumatology at the University of Toronto. She holds a Canada Research Chair in Knowledge Transfer for Musculoskeletal Care, as well as a Pfizer Research Chair in Rheumatology. She's a rheumatologist at Mount Sinai Hospital and a senior scientist at the Toronto General Research Institute. From 1995-2013, she was a co-editor at the Cochrane Back Review Group housed at the Institute for Work & Health, where she now serves on the editorial board as a founding editor emeritus. Professional interests include the improvement of clinical effectiveness, optimum use of technology and drugs, clinical economics, performance measurement/program evaluation, health research methods (clinical trials), knowledge transfer and workplace/rehabilitation, with a focus on musculoskeletal disorders.

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 is a 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, as well as people with long-term illnesses.

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 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 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.

Dr. Donald Cole is head of the Division of Global Health and associate professor of public health and preventive medicine at the University of Toronto's Dalla Lana School of Public Health. He is also a fellow of the Royal College of Physicians and Surgeons of Canada in occupational medicine and community medicine. He is interested in health research capacity development and global health in Canada, Latin America and sub-Saharan Africa, as well as in occupational and environmental epidemiology and intervention research, particularly related to reducing musculoskeletal disorders in workplaces and promoting healthy and sustainable agriculture for human health.

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 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 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 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 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 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. Jill Hayden is an assistant professor in the Department of Community Health & Epidemiology at Dalhousie University in 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. Gail Hepburn is an assistant professor in the Department of Psychology at the University of Lethbridge in Alberta. 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 is a professor in the Dalla Lana School of Public Health and Department of Medicine at the University of Toronto, chief of the Department of Occupational and Environmental Health at St Michael's Hospital, and director of the Centre for Research Expertise in Occupational Disease. She is an occupational health physician whose research interests include occupational health services and occupational disease, particularly work-related skin and lung diseases.

Dr. Mieke Koehoorn 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. Desre 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 is an assistant professor in the Faculty of Medicine at the University of Montreal and a scientist at the Sainte Justine University Hospital Research Centre (which specializes in mother, child and adolescent health). She is also a member of the Interdisciplinary Research Centre on Biology, Health, Society and Environment (CINBIOSE) at the Université du Québec à Montréal (UQAM), a Collaborating Centre of the World Health Organization and the Pan American Health Organization. Her primary disciplinary fields are ergonomics and occupational therapy, and her current research activities concern adolescent occupational injuries and disability prevention.

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. Ellen MacEachen is an associate professor in the School of Public Health in the University of Waterloo's Faculty of Applied Health Sciences, as well as co-director of the Centre for Research on Work Disability Policy housed at the Institute for Work & Health. She is a mentor and program executive committee member with the CIHR Strategic Training Program in Work Disability Prevention, an academic fellow with the Centre for Critical Qualitative Enquiry at the University of Toronto, and an academic council member with the Pacific Coast University for Workplace Health Sciences. Her research interests focus on systemic, social and organizational determinants of work injury, disability and labour market integration, and on how qualitative methods can inform policy and practice in occupational health.

Greg McIntosh is an epidemiologist and director of clinical research at CBI Health Group in Toronto, where he designed and implemented a company-wide clinical data collection system and clinical database. He has been active in using that data to further the understanding and treatment of low-back pain. In 2000, he joined the journal *Spine* as a scientific referee and is now on its advisory board performing peer reviews.

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 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 holds a Chair in Global Leadership and is a professor of sustainable supply chain management at University College Dublin (UCD) in Ireland. Prior to joining UCD, he was a professor of operations management and information systems at the Schulich School of Business at York University in Toronto. His research focuses on sustainable supply chain management, human resources issues such as employee safety in operational environments, and operational responses to environmental uncertainty.

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 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 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 is a research associate professor 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 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 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. Mary Stergiou-Kita is an Assistant Professor in the Department of Occupational Science and Occupational Therapy (OS & OT), University of Toronto, and an Adjunct Scientist, Toronto Rehabilitation Institute, University Health Network. Her research focuses on developing tools to enhance work performance and participation across worker injury, illness and disability groups. She has expertise in qualitative research, integrative reviews, survey and consensus methods, guideline development, evaluation and knowledge translation.

Dr. Nancy Theberge is Professor Emerita in the Departments of Kinesiology and Sociology at the University of Waterloo in Waterloo, Ontario. Until her recent retirement from the University she was the Coordinator of the Collaborative Doctoral Program in Work and Health and taught courses in the sociology of health, work and health, and social aspects of injuries in sport and work. Her current research addresses questions related to gender, risk and workplace injury.

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 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 and 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
The RAND Corporation
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)
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
- ACRSPPS** 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 Chief Prevention Office(r)
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
CRWDP Centre for Research on Work Disability Policy

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 recherché 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

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
OHCOW 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)