

# Institute for Work & Health Accomplishments Report 2017



Institute  
for Work &  
Health

Research Excellence  
Advancing Employee  
Health



## **2017 Accomplishments Report**

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# 2017 ACCOMPLISHMENTS REPORT

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## **Introduction**

The Institute for Work & Health promotes, protects and improves 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 Program builds relationships with stakeholders to enable the ongoing exchange of information and research evidence and to facilitate their participation in research projects. 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. The Corporate Services Program provides facility management services, financial management services, human resource services and support to the Institute's Board of Directors.

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 2017 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 ensuring stakeholders know that the Institute is a dependable resource for research evidence. The KTE accomplishments in 2017 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 2017 publications, grants and awards. The final pages of the report also list all IWH staff in 2017, as well as IWH adjunct scientists who have contributed to our activities in the past year and a list of related organizations.

## **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.

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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. Work continued in 2017 on expanding applications of the Institute's measure of 'OHS vulnerability', including the use of this measure to evaluate the impact of mandatory awareness training among Ontario workers. In 2017, the Institute completed a project that looked at ways to help newcomers to Canada stay healthy and safe at work, factoring in the role settlement programming can play in this process. We also completed a training intervention designed to address essential skills gaps among participants in an OHS training program within the construction sector.



## Occupational health and safety risk in Ontario (1175A)

**Project Status:** Completed

**Introduction:** In the spring of 2015, the Mining Health, Safety and Prevention Review Advisory Group presented recommendations to the Ontario Minister of Labour. A number of recommendations focused on opportunities to strengthen the function of the Internal Responsibility System in underground mines in Ontario. The Advisory Group recommended that the Ontario Mining Association work with labour representatives to adopt an Internal Responsibility System best practice guideline as an industry benchmark. Over the subsequent 18 months, Workplace Safety North has worked with individual mining operations in Ontario to pilot an assessment protocol named the 'Internal Responsibility System Climate Assessment and Audit Tool (IRS CAAT)'. To date, audit information has been collected from 6 underground mine operations in Ontario. Audit information includes survey responses provided by mine employees, encompassing miners, supervisors, contractors, JHSC members and the senior management of the mining operation.

### **Objectives:**

- To complete psychometric analysis of the IRS CAAT questionnaire, based on more than 1,500 survey responses. Psychometric analysis will include confirmatory factor analysis, internal consistency analysis and will examine score differences across respondent groups.
- To complete analysis of the concurrent validity of IRS CAAT scores by estimating the association between mine scores on the IRS CAAT and the incidence of work-related injury and illness.

**Status:** The study has completed cross-sectional surveys of workers, supervisors and senior managers (2,984 respondents) in a convenience sample of six underground mining operations in Ontario, Canada. Factor analysis reduced the 46 questionnaire items to two factors, labelled management practices (22 items) and worker participation (10 items). For each mining operation, the incidence rate of work-related injury and illness per 100 full-time equivalents was estimated from workers' compensation claims. Workers' perceptions of the adequacy of the internal responsibility systems in their workplaces differed by a standard deviation between the highest and lowest scoring mining operations. In contrast, perception scores provided by supervisors and managers were uniformly positive and were not statistically different across the six operations. There was a strong negative relationship between IRS perception scores and the incidence rate of work-related injury and illness.

**Researchers:** Cameron Mustard (Principal Investigator), Victoria Landsman, Morgan Lay, Lynda Robson,

**Collaboration and Partnerships:** The 'Internal Responsibility System Climate Assessment and Audit Tool' (IRS CAAT) was developed in a collaboration between the Institute for Work & Health and Workplace Safety North. Following the administration of the IRS CAAT in five underground mining operations, IWH and WSN will continue this collaboration through the Institute's analysis of the survey findings.

**Potential Audiences and Significance:** On the strength of the evidence for the validity of the IRS CAAT methodology, the Ontario Mining Association has recommended that all Ontario underground mining operations conduct an IRS audit. We also anticipate interest on the part of the Section 21 Mining Committee.

### **Publications:**

In Preparation. Lay M, Landsman V, Mustard CA. Worker participation and the prevention of occupational injury: cross-sectional study in the Ontario mining industry.

### **Presentations:**

Mustard CA, Parent M. Internal responsibility system climate assessment and audit tool update.. April 9 2017; Sudbury, Ontario: Mining Health and Safety Conference 2017.

Audit standards of best practices for an effective internal responsibility system in the Ontario mining industry. Mustard CA. Invited presentation. Mine manager committee, Ontario Mining Association, Toronto, Ontario. May 28, 2015.

## Addressing essential skills gaps among participants in an OHS training program: a pilot study (1340)

**Project Status:** Ongoing

**Introduction:** The study is designed to develop, implement and evaluate a pilot occupational health and safety (OHS) training program designed to improve training outcomes for workers with essential skills gaps by embedding curriculum that enhances essential skills. The pilot involves the hoisting and rigging training program offered by the training centre of local 506 of the Labourers' International Union of North America (LiUNA), using curriculum developed by the Infrastructure Health and Safety Association (IHSA).

**Objectives:**

- To determine the extent to which a redesigned curriculum for the hoisting and rigging safety training program that addresses essential skills gaps improves learning of the health and safety content and adherence to safe practices.
- Should the pilot prove successful, the longer term goal is to apply the model to a range of other OHS programs, thereby improving worker / workplace safety more broadly.

**Status:** In 2017, the project completed the quantitative and qualitative analysis of all data collected. In addition, the team developed a process guide to embedding essential skills curriculum into existing OHS training programs. The research team held several stakeholder meetings with Ontario Health and Safety Associations to present and discuss final results, as well as collect feedback on the content and development of the process guide. A final report was submitted to the Ministry of Labour. Results were presented at two conferences (Conference on the Prevention of Accidents at Work, Ministry of Labour- Research Day)

**Researchers:** Ron Saunders (Principal Investigator), Curtis Breslin, Siobhan Cardoso, Morgane Le Pouésard, K Myers (Social Research and Demonstration Corporation).

**Collaborations and Partnerships:** The training centre of LiUNA local 506 and the IHSA were key partners. The curriculum development was led by Tracy Collins, an essential skills curriculum consultant. We also consulted with Workplace Safety & Prevention Services, Public Safety Health and Safety Association, and Workplace Safety North.

**Potential Audiences and Significance:** The process used to develop the pilot could be a model for the improvement of other OHS training programs that serve a trainee population with essential skills gaps. The guide will be a tool to help organizations better understand how to prepare and proceed with implementing a similar intervention.

**Publications:** none to date

**Presentations:**

Saunders R, Myers K, Breslin C, Cardoso S, Le Pouésard M. Addressing Essential Skills Gaps Among Participants in Occupational Health and Safety Training Program: a pilot study. Nov 16 2017; Toronto, Ontario: Ministry of Labour Research Day.

Saunders R. Addressing Essential Skills Gaps among Participants in an OHS Training Program. Oct 3-6 2017; Prague: 9th International Conference on the Prevention of Accidents at Work.

Saunders R, Cardoso S, Le Pouésard M. Addressing Essential Skills Gaps among Participants in an OHS Training Program: final results. November 28 2017; Toronto, Ontario: IWH Speaker Series

**Funding:** Saunders R, Myers K, Breslin FC. Addressing essential skills gaps among participants in an OHS training program: a pilot study. Ministry of Labour- Research Opportunities Program: \$220,00 (2015-2017).

## **Newcomers, employment, and safety (1335)**

**Project Status:** Completed

**Introduction:** This project focuses on ways to help newcomers to Canada stay healthy and safe at work and what role settlement programming can play in this process. We interviewed policy makers, service providers and program developers from several organizations who work with newcomers and refugees about the scope of current programming and possible approaches to integrating work health & safety resources into service delivery. We also conducted focus groups with recent immigrant and refugees about their own experiences.

**Objectives:**

- To examine the role that settlement organizations play in work integration of newcomers.
- To examine the scope of current employment and OHS programming aimed at newcomers.
- To determine the needs of recent immigrants and refugees related to safe integration into the Ontario labour market.
- To examine the experiences that newcomers have looking and preparing for work and in their first jobs.

**Status:** In 2017, all data collection (key informant interviews and focus groups) and qualitative analysis were completed. An ethics completion report was submitted to University of Toronto Office of Research Ethics. In addition, we hosted the Research & Policy Forum on Immigration, Work and Health at Toronto City Hall and invited various stakeholders to come together to discuss issues related to immigrant employment, including health and safety. We had over 60 guests in attendance from over 30 organizations representing settlement agencies, community services, advocacy groups, health professionals, researchers, as well as, federal, provincial and municipal policymakers. We were also invited by Ontario Ministry of Citizenship and Immigration to present and discuss study results to the Refugee Settlement Program.

**Researchers:** Agnieszka Kosny (Principal Investigator), Basak Yanar, S Premji (Co-Investigator; McMaster University)

**Collaborations and Partnerships:** Skills for Change, Access Alliance, Brampton Multicultural Centre, KEYs Employment Centre (Kingston).

**Potential Audiences and Significance:** Ministry of Labour, Immigration, Refugees and Citizenship Canada, Ontario Ministry of Citizenship and Immigration

**Publications:** none to date

**Presentations:**

Yanar B. Needs and opportunities for employment preparation of Syrian Refugees. March 17, 2017; Ottawa: 19<sup>th</sup> National Metropolis Conference.

Kosny A, Yanar. Safe Employment Integration of Recent Immigrants and Refugees. September 29, 2017; Toronto: Occupational and Environmental Health Seminar Series – Occupational Cancer Research Centre.

Kosny A, Yanar B. Safe employment integration of recent immigrants and refugees. October 17, 2017; Toronto: 2017 Research & Policy Forum on Immigration, Work and Health at Toronto City Hall.

Kosny A, Yanar B, Al-Khooly D. Safe employment integration of recent immigrants and refugees. October 31, 2017; Toronto: IWH Speaker Series.

Kosny A, Yanar B. Safe employment integration of recent immigrants and refugees. November 29, 2017; Toronto: Ontario Ministry of Citizenship and Immigration.

**Funding:** Smith PM, Breslin FC, LaMontagne A, Saunders R, Tompa E. Evaluating the impact of mandatory awareness training on OH&S vulnerability in Ontario. Canadian Institute of Health Research (CIHR)- Operating Grant Intervention Research, \$198,791 (2015-2017).

Kosny A, Premji S. Needs and Opportunities for Employment Preparation of Syrian Refugees. Social Science and Humanities Research Council (SSHRC) Special Call, \$24,982 (2016-2017).

Kosny A. Newcomers, employment, and safety. Social Science and Humanities Research Council SSHRC Institutional Grant, \$983 (2017).

## Evaluating the impact of mandatory awareness training on OH&S vulnerability in Ontario (1336)

**Project Status:** Ongoing

**Introduction:** On July 1 2014, the province of Ontario introduced a mandatory awareness training program. The aim of this province-wide intervention is to increase worker and supervisor knowledge of basic occupational health and safety (OH&S) rights and responsibilities under the Ontario Occupational Health and Safety Act. This increased knowledge among workplace parties will in turn improve the effectiveness of workplace level policies and procedures to prevent workplace incidents and injuries. The regulation introduced along with the mandatory awareness training intervention requires employers to provide and document that their employees have received a minimum level of training on a variety of topics. The introduction of mandatory awareness training was designed to improve the OH&S of Ontario's most vulnerable workers. It also represents a large public investment in OH&S by the province. It is therefore important to evaluate the impact of this program using rigorous methods and relevant measures, as the findings of such an evaluation will provide unique information that can be used to support or modify existing and future primary prevention efforts. The aim of this research study is to evaluate the impacts that the introduction of mandatory awareness training has had on worker level of OH&S vulnerability.

### **Objectives:**

- To measure four dimensions of the work context that are thought to place workers at a higher risk of work injury in a sample of workers in Ontario and BC prior to the introduction of mandatory awareness training.
- To examine changes in these dimensions after the introduction of mandatory awareness training in Ontario to changes occurring in British Columbia, where no similar program is taking place.
- To examine if changes in Ontario at the population level are similar within labour market sub-groups (e.g. Age, workplace size) and if there are implications on inequalities in work-injury risk in Ontario workers.

**Status:** This project has completed four cross-sectional surveys among workers in Ontario and British Columbia, each consisting of over 1,500 respondents. In each survey respondents completed the IWH developed, 27-item OHS vulnerability measure, as well as information on self-reported work-related injury, and time lost from work due to injury. In three of the four cross-sectional surveys respondents also reported participation in occupational health and safety training in the previous 12 months, and mode of training they undertook. The information collected as part of this survey has enabled extensive examination of the psychometric properties of the OHS vulnerability measure, and the relationship between this measure of work injury outcomes. In these studies, we confirmed the conceptual basis of the OHS vulnerability definition, with hazards and inadequate protections having synergistic impacts of work injury outcomes. We have also been able to examine the relationship between active and more passive modes of training and occupational health and safety awareness and empowerment to participate in injury prevention activities in the workplace, finding that active modes of training have greater impacts on awareness than passive modes of training (although passive modes of training still have a positive impact on awareness above not having training at all).

**Researchers:** Peter Smith (Principal Investigator), Curtis Breslin, Ron Saunders, Emile Tompa, A Lamontagne (Deakin University).

**Collaborations and Partnerships:** This project involves collaborations with three Health and Safety Associations (Public Services Health & Safety Association, Workplace Safety & Prevention Services, and the Workers Health & Safety Centre). The research team also consult with staff at the Ministry of Labour Prevention office.

**Potential Audiences and Significance:** This project is relevant to multiple stakeholder groups involved with primary prevention activities. These include policy makers, workplaces, organised labour and workers.

### **Publications:**

Lay A, Saunders R, Lifshen M, Breslin FC, LaMontagne AD, Tompa E, Smith PM. The relationship between occupational health and safety vulnerability and workplace injury. *Safety Science* 2017;94:85-93.

Konijn AM, Lay AM, Boot CRL and Smith P The effect of active and passive occupational health and safety (OHS) training on OHS awareness and empowerment to participate in injury prevention among workers in Ontario and British Columbia (Canada). (in press) Safety Science [Published online 23 December 2017].

**Presentations:**

Smith P Occupational Health and Safety (OHS) Vulnerability: Why we need a new measure. WorkSafe New Brunswick 2017 Health and Safety Conference, October 6th 2017

Smith P and Lay M Occupational Health and Safety Vulnerability: Why we need a new measure. WorkSafeBC 2017 Prevention Conference Journey to World Class: Mastering our Craft Richmond BC, May 10th, 2017

Smith P and Moser C How can we better measure vulnerability to work injury? Alberta Union of Provincial Employees (AUPE) Beyond Workplace Wellness Conference, April 27, 2017

Smith P Evaluating the impact of mandatory awareness training in Ontario, Institute for Work & Health Plenary Series April 11th, 2017

Smith P A framework and measure to better assess and understand occupational health and safety vulnerability. Canadian Coordinators of Young Worker Safety Annual Committee Meeting, March 29th 2017

**Funding:** Smith P, Saunders R, Tompa E, Breslin FC, LaMontagne A. Examining the impact of mandatory awareness training on worker OH&S vulnerability in Ontario. Ministry of Labour- Research Opportunities Program: \$263, 994 (2015-2017).

Smith PM, Breslin FC, LaMontagne A, Saunders R, Tompa E. Evaluating the impact of mandatory awareness training on OH&S vulnerability in Ontario. Canadian Institute of Health Research (CIHR)- Operating Grant Intervention Research, \$198,791 (2015-2017).

## **Effective occupational health and safety practice**

IWH has a number of research projects examining the measurement of organizational policies and practices that support optimal workplace practices. In 2017, we continued work on obtaining detailed estimates of firm-level expenditures in occupational health and safety in a representative sample of Ontario employers. The study has completed a cross-sectional survey of 334 employers with 20 or more employees, recruited proportional to the share of employment in 18 economic sectors in the Ontario economy. In addition, work continued on evaluating the implementation and effectiveness of the Ontario working at heights training standard, using a mixed-methods approach to collecting and analyzing data. In 2017, we completed a study on the implementation of violence prevention programs within the acute care hospital sector following legislation reforms in 2010.

## **Implementing participatory organizational change: evaluation a participatory intervention in long-term care (1281)**

**Project Status:** Ongoing

**Introduction:** The long-term care (LTC) sector is fast-paced and demanding, putting workers at significant risk for occupational-related injuries. Among LTC workers, musculoskeletal disorders (MSDs) and slips, trips, and falls (STFs) are a major source of injuries, accounting for over half of all lost-time claims in the healthcare sector. LTC staff in Ontario facilities consist of various worker groups considered vulnerable, typically including new/immigrant workers, workers with low education and unlicensed workers operating in unclear working relationships. The Public Services Health & Safety Association (PSHSA) has developed an organizational level participatory ergonomics program, called “Employees Participating in Change” (EPIC), to reduce the incidence of MSD and STF hazards and injuries in LTC. IWH researchers are evaluating the implementation of the EPIC program. This project builds on our on-going collaboration with PSHSA and labour representatives (OPSEU). This project examines the EPIC implementation process and addresses the health and safety of vulnerable workers within LTC facilities.

### **Objectives:**

- To understand the implementation of an organizational level participatory ergonomics intervention in LTC and its effects on outcomes such as self-efficacy, norms development and hazard reduction.
- To examine if implementing the EPIC program results in a reduction of MSD or STF hazards.
- To inform the development of tools to help guide the participatory change process.

**Status:** In 2017 we met with stakeholders to finalize our work plan and data collection tools. We recruited four study sites (2 intervention, 2 control). The research coordinators worked with intervention site administrators to recruit and formalize EPIC committees and units of focus, along with an EPIC steering committee. We also conducted change team member training. Baseline surveys were administered at the intervention sites (n=58). Monthly EPIC team meetings began at intervention sites. Baseline intervention and control site observational assessments were completed (n=53), along with collecting baseline control site surveys (n=62). OHS educational interventions were also administered at control sites. Hazard identification and control implementation were ongoing at intervention sites.

**Researchers:** Dwayne Van Eerd (Principal Investigator), Ben Amick (Co-Principal Investigator), Teresa D’Elia, Era Mae Ferron, Sheilah Hogg-Johnson, Cameron Mustard, Lynda Robson, I Steenstra (Morneau Shepell), H Van Hulle (Public Services Health & Safety Association), R Wells (University of Waterloo)

**Collaborations and Partnerships:** AdvantAge, Ontario Personal Support Workers Association (OPSWA), Ontario Public Service Employees Union (OPSEU), Public Services Health & Safety Association (PSHSA)

**Potential Audiences and Significance:** LTC facilities and workers in Ontario, organizations interested in implementing participatory approaches to occupational health and safety

**Publications:** none to date

**Presentations:** none to date

**Funding:** Van Eerd D (Co-PI), Amick BC (Co-PI), Hogg-Johnson S, Robson L, Steenstra I, Mustard C, Wells R, Van hulle H. Implementing Participatory Organizational Change (iPOC): Evaluating a participatory intervention in long term care. Ministry of Labour- Research Opportunities Program, \$299,967 (2016-2018).



## **Implementation and evaluation of caregiver-friendly workplace policy (CFWP) interventions on the health of full-time caregiver-employees (Ces): implementation and cost-benefit analysis (1325)**

**Project Status:** Completed

**Introduction:** Caregiver-friendly workplace policies (CFWPs) are “deliberate organizational changes – in policies, practices, or the target culture – to reduce work-family conflict and/or support employees’ lives outside of work”. This project is a CFWP intervention evaluation that includes an economic evaluation. There are three components to the study. Study A is an effectiveness evaluation, Study B an economic evaluation, and Study C a process evaluation. The question to be addressed by the economic evaluation is “What are the costs and consequences for workers, employers and society of the CFWP intervention?” Intervention site is an educational institution. The intervention is a training and communication program targeted at increasing awareness and use of the institution’s flexible work options, its Employee and Family Assistance Programs (EFAPs), and services/supports available in the community. To our knowledge, this is the first study that estimated the potential economic impact of CFWPs educational program, in Canada which could provide practical information for human resources and operation management decision making in organizations in terms of educational programs that can help CEs identify supports within and beyond the organization.

### **Objectives:**

- To pilot test a newly implemented CFWP intervention in a workplace setting. (Study A).
- To study the economic impacts of a the CFWP intervention in a workplace. (Study B).
- To explore the amount of support for a the CFWP intervention from the view of the employer, co-workers, human resources professionals at a workplace. (Study C).

**Status:** The intervention at the educational institution will be completed this year. Over the last year, two levels of data collection were completed, one at the organization level and another at the employee caregiver level. In addition, an economic evaluation of the intervention was completed and a draft manuscript is under review by team members. It will be submitted to Health Affairs in the spring of 2018. A spinoff of this study is the development of a Canadian standard on caregiver friendly workplace policies. Funds were secured for the development of the standard, and a technical committee for the standard was established in the fall. The standard will be released in the spring of 2018.

**Researchers:** A Williams (Principal Investigator) (McMaster University), Emile Tompa (Institute Coordinator), Christina Kalcevic, Amir Mofidi , A Yazdani (Conestoga College Institute of Technology and Advanced Learning).

**Collaborations and Partnerships:** McMaster University is a key partner in this project, and is the primary affiliation for the principal investigator.

**Potential Audiences and Significance:** Given that women are substantially more likely to be caregivers, particularly at middle age, this study is of relevance to all sectors of employment where the workforce is aging, and has a large proportion of female workers. Sectors of particular interest are administration, education, health care, service sector, and manufacturing. It will be of interest to managers, and senior executives looking for best practice information to support retention of workers with family care giving responsibilities. It is also of interest to organized labour, and workers, particularly middle aged females, who are more likely to be primary care givers for family members.

### **Publications:**

Williams A, Tompa E, Lero DS, Fast J, Yazdani A, Zeytinoglu I. Evaluation of caregiver-friendly workplace policy (CFWPs) interventions on the health of full-time caregiver employees (CEs): implementation and cost-benefit analysis. *BMC Public Health* 2017;17(1): DOI: 10.1186/s12889-017-4722-9.  
<https://link.springer.com/content/pdf/10.1186%2Fs12889-017-4722-9.pdf>

Atanackovic, J., Allison, W., Ireson, R., Yazdani, A & Tompa, E. (2017). Overcoming Recruitment Difficulties in Conducting Intervention Research with Caregiver-Employees: Lessons Learned from a Research Study at a Canadian University. Submitted for review to *International Journal of Social Research Methodology*.

Yazdani A, Williams A, Ireson R, Atanackovi J, Tompa E. Caregiver-Friendly Workplace Policies: Findings from an Organizational-wide Survey in the Education Sector. *Submitted to Community, Work & Family. August 2017.*

**Presentations:**

Williams, A., Tompa, E., Ireson, R., Yazdani, A., Atanackovic, J. & Dardas, A. (2016). Caregiver-Employee Intervention Research in the Post-Secondary Educational Workplace: Managing Work-Life Balance at McMaster University. CARWH Conference, Toronto, October 16-18.

Atanackovic, J., Allison, W., Ireson, R., Yazdani, A & Tompa, E. (2016). Overcoming Recruitment Difficulties in Conducting Intervention Research with Caregiver-Employees: Lessons Learned from a Research Study at McMaster University. CARWH Conference, Toronto, October 16-18.

Williams, A. Availability of caregiver-friendly workplace policies: an international scoping review. IWH Plenary Presentation, December 12, 2017, Toronto, Canada.

**Funding:** Williams A (Principal Investigator), Tompa E, Fast J, Lero D, Zeytinoglu I (Co-investigators). Evaluation of Caregiver-Friendly Workplace Policy (CFWPs) Interventions of the Health of Caregiver-Employees (CEs): Implementation and Cost-Benefit Analysis. Canadian Institutes for Health Research (CIHR) Open Operating Grant– Spring 2014, \$330,954 (2015-2018).

## **Employer investments in occupational health and safety: establishing benchmarks for Ontario (1345)**

**Project Status:** Ongoing

**Introduction:** This research study will obtain detailed estimates of firm-level expenditures and investments in occupational health and safety (OHS) for a representative sample of employers in the province of Ontario. The study will replicate a study design pioneered by the International Social Security Association (ISSA) and the German Social Accident Insurance funds (DGUV). This groundbreaking study, titled "Calculating the International Return on Prevention for Companies: Costs and Benefits of Investments in Occupational Safety and Health" obtained detailed estimates of firm-level OHS expenditures and investments for more than 330 companies in 19 countries. The ISSA/DGUV study reported that the average investment per employee per year was more than €1,200. There is no comparable source of information on employer expenditures and investments in occupational health and safety in the province of Ontario. This study addresses this gap by replicating the features of the ISSA/DGUV structured interview design in a sample of approximately 350 Ontario employers recruited from among firms that have previously participate in the Ontario Leading Indicators Project (OLIP).

### **Objectives:**

- To obtain detailed estimates of firm-level expenditures and investments in occupational health and safety (OHS) for a representative sample of employers in the province of Ontario.
- To obtain estimates of OHS expenditures and investments on the following five dimensions: 1. Management and supervision, 2) employee training, 3) personal protective equipment, 4) OHS consulting services and 5) the share of new capital investments attributed to improved OHS practices.

**Status:** The study has completed a cross-sectional survey of 334 employers with 20 or more employees, recruited proportional to the share of employment in 18 economic sectors in the Ontario economy. Participants provided information on five dimensions of OHS expenditures. Expenditures for each of the five dimensions were summed for each organization and divided by the number of employees, resulting in an estimate of OHS expenditure per employee per year. The average OHS expenditure per worker per year in this sample of employers was \$1,303. Expenditures were three times higher in the goods-producing sectors (\$2,417, 95% CI: \$2,026-\$2,809) relative to the service sectors (\$847, 95% CI: \$777-\$915). Sectoral expenditures differed by a factor of ten, ranging from \$4,433 in the mining sector to \$584 in the arts, entertainment and recreation sector. The proportion of expenditures allocated to each of the five dimensions was generally consistent across economic sectors: 58% to organizational management and supervision, 22% to staff training in health and safety and 14% to personal protective equipment. On average, less than 5% of OHS expenditures per worker per year were allocated to professional services or estimated as the share of new capital investment that could be attributed to improved OHS performance. Employer expenditures on occupational health and safety are substantial.

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

**Collaborations and Partnerships:** The study includes a knowledge user advisory committee to provide guidance in the implementation of this project and in the interpretation and dissemination of the project findings. The Knowledge User Advisory Committee is comprised of the Canadian Manufacturers and Exporters Association, the Business Council on Occupational Health and Safety and two health and safety associations.

**Potential Audiences and Significance:** Participating employers have received a benchmark report comparing their OHS expenditures to peer organizations in the economic sector. Safety Group sponsors and trade associations will have interest in the findings of this research as well as provincial Ministries of Labour and provincial workers' compensation authorities.

### **Publications:**

In preparation. Mustard CA, Tompa E, Landsman V, Lay M. Expenditures on occupational health and safety for a representative sample of Canadian employers.

### **Presentations:**

Mustard CA, Lay M, Imam S, Nasir K, Tompa E.. What do Ontario employers spend to prevent work-related injury and illness? May 2 2017; Toronto: Partners in Prevention.

Mustard CA. Ontario Employers Health & Safety Investment. October 18 2017; Toronto, Ontario: Annual Schedule 2 Employers' Group Conference.

Mustard CA. What do Ontario employers spend to prevent work-related injury and illness? WSIB Health and Safety Committee meeting, February 7, 2018, Toronto

Mustard CA, Lay M, Imam S, Nasir K, Tompa E. What do Ontario employers spend to prevent work-related injury and illness? BCOHS, February 2018, Toronto

Mustard CA, Lay M, Imam S, Nasir K, Tompa E. What do Ontario employers spend to prevent work-related injury and illness? Ontario Mining Association Safety/Training Committee meeting, January 2018, Toronto

**Funding:** Mustard C (Principal Investigator), Tompa E. Employer Investments in Occupational Health and Safety: Establishing Benchmarks for Ontario. Research Opportunities Program, Ontario Ministry of Labour, \$250,000 (2015-2017).

## Implementation of workplace violence legislation in the Ontario acute healthcare sector (1355)

**Project Status:** Completed

**Introduction:** Healthcare workers experience high rates of work-related violence, including physical abuse and harassment. Workplace violence legislation directs employers to adopt measures to reduce the risk of workplace violence in Ontario, yet recent inspections conducted by the Ministry of Labour demonstrated a number of inadequacies with respect to the implementation of violence prevention requirements under the Occupational Health and Safety Act (OHSA). This study is designed to enhance the successful implementation of measures for the prevention of workplace violence in Ontario's acute health care sector. A multiple case study design will be used to examine the conditions that support and limit the successful implementation of requirements under the OHSA for the prevention of workplace violence.

### **Objectives:**

- To examine the measures organizations use to address workplace violence and perceptions of how these measures have played out in practice.
- To understand decisions made about implementation strategies and processes used to prevent violence.
- To identify contextual factors (internal and external to the workplace) that have supported or challenged implementation of violence prevention policies and practices.
- To gain input (e.g. From organizational informants; front-line workers, regulators, policy makers) about ongoing challenges associated with the prevention of workplace violence and strategies for improvement.

**Status:** This project has completed a case study of five acute-care hospitals. An exploratory qualitative research approach was taken by interviewing external key informants (policy-makers, training developers, union and employer representatives; n=8) and hospital management (executive leaders, clinical directors, supervisors; n=40), as well as conducting 18 focus groups with frontline clinical staff (nurses, allied health workers, social workers; n=64) and non-clinical staff (food service, security and laboratory workers; n=44). Additionally, some frontline clinical staff were interviewed (n=9) who were either unable to attend the focus groups or preferred to speak one-on-one. There were many key findings related to the main violence prevention program components, i.e. training, risk assessment, flagging, summoning of assistance, security, and incident reporting. There were also a number of broader issues that were raised that would impact the implementation of violence prevention policies and programs, e.g. legislative gaps, a shift in workplace culture, time and resources, differing management-worker perspectives, and certain demographic characteristics of the hospitals such as size and location. The final report discussed considerations for violence prevention program development (e.g. commitment of resources, input from workers, robust horizontal violence policies, communication) as well as considerations for violence prevention initiatives at the healthcare system level (e.g. increasing accountability of senior leadership and board of directors).

**Researchers:** Agnieszka Kosny (Principal Investigator), Era Mae Ferron, Monique Gignac, Cameron Mustard, Lynda Robson, Sabrina Tonima, A Chambers (Public Health Ontario).

**Collaborations and Partnerships:** This study was guided by an advisory committee that includes the Ontario Nurses' Association, the Ontario Hospitals Association, health and safety associations, health care worker and employer representatives, and three hospitals in the province. In addition, the team worked closely with appropriate Working Groups supporting the Leadership Table on Workplace Violence Prevention in Healthcare.

**Potential Audiences and Significance:** The findings from this field research will provide valuable information to the Workplace Violence Prevention in Health Care Leadership Table, identifying those areas of policy and practice which are inconsistently implemented in Ontario acute care settings, and identifying the implementation strategies that have been most effective in strengthening organizational violence prevention programs. Key findings from this research will provide practical guidance to Ontario healthcare institutions on those factors that facilitate successful implementation of effective workplace violence prevention programs.

**Publications:** none to date

**Presentations:** none to date

**Funding:** Kosny A, Chambers A, Mustard C, Gignac M. Implementation of workplace violence legislation in the Ontario acute healthcare sector. Ministry of Labour- Applied Research Initiative, \$220,000 (2016-2018).

## **Evaluation of the implementation and effectiveness of the Ontario working at heights training standard (1360)**

**Project Status:** Ongoing

**Introduction:** The recommendations of the Expert Advisory Panel on Occupational Safety & Health (2010) emphasized the development of mandatory fall protection training for workers working at heights (WAH). In response to this recommendation, the Prevention Office, Ontario Ministry of Labour, has implemented regulations defining training program standards and has established a program for the accreditation of training providers. The Occupational Health and Safety Awareness and Training Regulation requires employers in Ontario to ensure that workers on construction projects successfully complete a WAH training program if they may use specified methods of fall protection. A training provider approved by the CPO must deliver the program. The training requirements came into force on April 1, 2015. By the end of 2016, more than 200,000 people had been trained by more than 100 accredited training providers.

### **Objectives:**

- To analyze the administrative data describing characteristics of working at heights learners (employer size, employer sector, geographic region) and trends over time in the incidence of falls from heights.
- To survey construction employers to assess their perceptions of the working at heights training requirements.
- To conduct a pre-post effectiveness study of learners to assess changes in knowledge and self-reported work practices attributable to the training, as well as barriers to transferring learning to the work site.
- To survey training providers to assess influence of the training standard on the nature of the working at heights training they provided.

**Status:** In 2017, we collected administrative data on training activity through a request to the Ministry of Labour. We also conducted and analyzed a cross-sectional survey of 390 construction employers, a longitudinal survey of 633 WAH learners, as well as interviewed and analyzed primary data from 10 labour inspectors.

**Researchers:** Lynda Robson (Principal Investigator), Cameron Mustard (Co-Principal Investigator), Ben Amick, Sabrina Imam, Vicky Landsman, Hyunmi Lee, Lyudmila Mansurova, Kay Nasir, Peter Smith, Sabrina Tonima

**Collaborations and Partnerships:** IHSA is a collaborator on the learner follow-up study.

**Potential Audiences and Significance:** There is strong interest on the part of stakeholders in the construction sector to document the effectiveness of the mandatory training standard and learn from the experience of its implementation.

### **Publications:**

Robson L, Mustard C. Implementation and effectiveness of the Ontario working at heights training standard – Interim Report. Submitted to Ministry of Labour, January 31, 2018

### **Presentations:**

Robson L, Mustard C. Interim report: Evaluating the implementation and effectiveness of the Ontario Working at Heights Training Standard. Partners in Operations Forum, January 30, 2018.

**Funding:** Robson L, Amick B, Smith PM, Mustard CA. Evaluation of the implementation and evaluation of the Ontario working at heights training standard. Ontario Ministry of Labour, \$595,140 (2017-2018).

## **Development of benchmarking reports and a dashboard to change the conversation in construction (1365)**

**Project Status:** New

**Introduction:** The project is a partnership with the Construction Safety Association of Manitoba (CSAM) and its 5,678-member employers. The primary research goal is to identify relevant leading indicators of injury and illness in the construction sector using the Organizational Policies and Practices Questionnaire (OPPQ), the IWH-OPM tool, and a tool assessing Joint Health and Safety Committee functioning. Having a set of tools that CSAM and OHS leaders can use will potentially improve OHS management practices, impact workplace hazard reduction, and improve worker health and safety. The data will be used to develop evidence-based organizational benchmarking reports and to build a dashboard that will allow firms to manage and improve their occupational health and safety metrics over time, contributing to a new conversation about best practices in OHS performance and a community of practice to share these best practices within the CSAM. The intent is to affect a significant shift in the health and safety culture of construction businesses, especially small businesses who have limited time and resources to engage in OHS safety improvements.

**Objectives:**

- To examine the reliability and validity of the OPPQ, IWH-OPM and JHSC Functioning.
- To examine the relationships between historical Workers' Compensation Board (WCB) claim rates and organizational and management metrics.
- To develop evidence-based benchmarks representative of all employers in all regions in the construction sector in Manitoba to support the dissemination of benchmarking information To develop and test the usability of a benchmarking dashboard to help organizations improve their OHS performance over time.

**Status:** In 2017, we obtained ethics approval and met with our Project Advisory Committee to review the project workplan, questionnaire, marketing/communication strategy, and terms of reference. We conducted a survey pilot with nine companies and finalized our questionnaire based on the results of the pilot and feedback from our Advisory Committee. We developed an online version of the questionnaire in Qualtrics software and conducted e-mail distribution testing. In collaboration with CSAM, we developed advertising materials, including an article, to promote the project. After finalizing the data sharing agreement between WCB Manitoba and IWH, we received a complete list of employers that fall under CSAM's rate codes from WCB Manitoba. We began online recruitment/data collection.

**Researchers:** Ben Amick (Principal Investigator), Jonathan Fan, Sara Macdonald, Christopher McLeod, Colette Severin, Dwayne Van Eerd, M Jones (Construction Safety Association of Manitoba)

**Collaborations and Partnerships:** Construction Safety Association of Manitoba and its members

**Potential Audiences and Significance:** Construction Safety Association of Manitoba (CSAM) member employers, Workers Compensation Board of Manitoba/SAFE Work Manitoba, and Workplace Safety and Health Manitoba.

**Publications:** none to date

**Presentations:** none to date

**Funding:** Amick B, Jones M, Van Eerd D, McLeod C. Development of Benchmarking Reports and a Dashboard to Change the Conversation in Construction. Workers Compensation Board Manitoba, \$198,190 (2017-2019).



## **Working conditions and health**

Over the 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. In 2017, we began work on a new systematic review study that examines the literatures on central nervous system agents and potential workplace outcomes from using these agents, namely, workplace injury and fatality. We also continued work on a study that uses different population-level data sources and workers' compensation data to examine the incidence and consequences of workplace violence.

## **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 disorders associated with different working conditions.

**Objectives:**

- To conduct surveillance research on 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.

**Status:** This project continues to have limited activity over the last number of years. However, it is important to maintain its status as open for specialised data requests examining claim rates in Ontario

**Researchers:** Peter Smith (Principal Investigator), Curtis Breslin, Cynthia Chen, Sheilah Hogg-Johnson, Cameron Mustard, Kathy Padkapayeva.

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

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

## **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. In addition, gender differences in the return-to-work process and outcomes after injury are not well-understood. This research program will generate new research across three areas where there are significant gaps in knowledge concerning the work and health experiences of 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.

**Status:** This project is a research chair award for P Smith focusing on gender, work and health. The empirical work as part of this research program is supported by projects 2250 and 1315, which focus on gender/sex differences in return to work following an injury, and gender/sex differences in the relationships between the psychosocial work environment and disease respectively. Work conducted as part of this program not related to these projects consists of methodological development of how to better include concepts of sex and gender in quantitative analyses, especially when data has already been collected. To further develop these approaches, P Smith recently co-edited a special issue of the *Annals of Work Exposures and Health* that focused on gender, sex and health research. The goal of the special issue was to identify papers that demonstrated excellence in how they approached and considered sex and gender in work and health analyses. Along with the special issue was a guest editorial, penned by Margaret Quinn (the other co-editor) and P Smith.

**Researchers:** Peter Smith (Principal Investigator)

**Collaborations and Partnerships:** This research project will have in place an independent advisory committee with members from various stakeholder communities. The advisory committee will meet at the outset of the program and at least annually thereafter.

**Potential Audiences and Significance:** The research program outlined in this proposal is supported by a well-developed capacity building and training program and a knowledge transfer and exchange program. 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 Canadians.

### **Publications:**

Padkapayeva K, Smith P, Chen C, Ibrahim S, Bielecky A, Mustard CA, Beaton D.. Male-female differences in work activity limitations: Examining the relative contribution of chronic conditions and occupational characteristics. *Journal of Occupational and Environmental Medicine* 2017;59(1):6-11.

**Presentations:** none to date

**Funding:** Smith PM. Examining gender/sex differences in the relationships between work stress and disease, work injury and the consequences of work injury. CIHR Chair, \$60,000 (2015).

## **Developing a gender/sex-sensitive understanding of how the psychosocial work environment is related to chronic disease (1315)**

**Project Status:** Ongoing

**Introduction:** Male and female labour force participation rates in Canada have changed dramatically over the last three decades. The percentage of labour force participants who are female increased from 39% to 48% between 1980 and 2011. Despite this increase in female labour market participation, much of our understanding of how aspects of work impact on health status is still male-centric. Nowhere is this more evident than in the area of the psychosocial work environment and chronic disease, where much of what we understand has been generated in male-dominated samples. However, there might be important male and female differences in the assessment of work stress, the biological and behavioural reactions to work stress, and the relationship between work stress and risk of subsequent disease. In turn, there is a need to better understand the role of sex (biological) and gender (societal and work-role) differences in generating these findings. The purpose of this project is to build an evidence base concerning male and female differences in the relationship between the psychosocial work environment and future risk of metabolic diseases.

### **Objectives:**

- To examine gender/sex differences in factor structure of dimensions of psychosocial work environment.
- To examine gender/sex differences in the association between dimensions of the psychosocial work environment and general work stress and general life stress.
- To examine gender/sex differences in the relationship between the psychosocial work environment and subsequent health behaviour and body mass index (BMI) trajectories over a 16-year period.
- To examine the relationship between the psychosocial work environment and cardiovascular disease in Ontario over a 12-year period.

**Status:** This project uses various secondary population level databases to examine how the relationships between the psychosocial work environment and chronic disease risk might differ for men and women. Studies within this project have demonstrated that there is not measurement invariance in the assessment of the work environment between men and women (based on the abbreviated job content questionnaire used in Statistics Canada's surveys), but that dimensions of the work environment are differentially related to perceptions of work stress and life stress between men and women. Specifically, supervisor support was related to lower work stress among women, but not men, while job insecurity was related to higher life stress among men, but not women. In collaboration with the Institute for Clinical and Evaluative Studies, this project also involved analyses of responses to the 2003 Canadian Community Health Survey, linked to cardiovascular disease (ascertained through physician billing and hospitalisation administrative data) over the following 12-year period. Using this database, we explored the relationships between working in occupations that require prolonged standing compared to prolonged sitting and future incident cardiovascular events. Prolonged standing at work was associated with a two-fold increased risk of cardiovascular disease compared to prolonged sitting. No differences were observed between men and women in this relationship.

**Researchers:** Peter Smith (Principal Investigator), Cameron Mustard, C Brisson (Unité de recherche en santé des populations), R Glazier (ICES).

**Collaborations and Partnerships:** Partners include the Institute for Clinical Evaluative Sciences (ICES), as well as collaboration with the Canadian Centre for Occupational Health and Safety (CCOHS).

**Potential Audiences and Significance:** Findings from this research will determine if more gender-sensitive measures of the psychosocial work environment are needed; if models linking the work environment to health status should further consider gender/sex, and if gender/sex-sensitive primary prevention activities for health behaviours and BMI that integrate aspects of the work environment should be further developed. This project will also help develop a cross-disciplinary, cross-jurisdictional, team of researchers to undertake future work exploring the relationships between the work environment and risk of disease that takes into account gender and sex.

**Publications:**

Bielecky A, Ibrahim S, Mustard CA, Brisson C, Smith PM. An analysis of measurement invariance in work stress by sex: Are we comparing apples to apples? *Journal of Articles in Support of the Null Hypothesis*. 2017;13(2):38.

Smith P, Ma H, Glazier RH, Gilbert-Ouimet M, Mustard C. The relationship between occupational standing and sitting and incident heart disease over a 12-year period in Ontario, Canada. *American Journal of Epidemiology*. 2018: 187(1):27-33.

Dobson KG, Ibrahim S, Gilbert-Ouimet M, Mustard CA, Smith PM. Association between psychosocial work conditions and latent alcohol consumption trajectories among men and women over a 16-year period in a national Canadian sample. *Journal of Epidemiology and Community Health*. 2018: 72(2):113-120.

Gilbert-Ouimet M, Glazier R, Brisson C, Mustard CA, Smith P. Adverse effect of long work hours on incident diabetes in 7,065 Ontario workers followed 12 years. [Submitted to *Canadian Medical Association Journal*].

Padkapayeva K, Gilbert-Ouimet M, Bielecky A, Ibrahim S, Mustard C, Brisson C, et al. Gender/sex differences in the relationship between psychosocial work exposures and work and life stress. *Annals of Work Exposures and Health*. 2018: [Epub ahead of print].

**Presentations** none to date

**Funding:** Smith PM, Brisson C, Glazier R, Mustard CA. Developing a gender/sex-sensitive understanding of how the psychosocial work environment is related to chronic disease. Canadian Institutes of Health Research (CIHR) Operating Grant: \$329,946 (2015-2018).

## **Incidence of work-related aggression and violence in Canada (1350)**

**Project Status:** Completed

**Introduction:** In 2004, almost one in five Canadian victims of violence reported that the violence took place at work; with approximately 356,000 incidents of workplace violence being reported. The importance of violence at work has led to the development of specific legislation and resources in most Canadian provinces. Yet, workplace violence in Canada appears to be on the rise. This increase in violence is particularly alarming as work-related injuries that are not due to workplace violence have declined substantially. As part of a comprehensive primary and secondary prevention approach to workplace violence it is important to understand how often workplace violence occurs, which groups are at the highest risk for workplace violence, if risk for workplace violence differs depending on the work context or the time of day. This study will examine the incidence and consequences of workplace violence using different population-level data sources and workers' compensation data.

### **Objectives:**

- To describe the incidence of workplace violence in Canada, both overall and for particular demographic (e.g. men versus women) and workplace groups (e.g. industries).
- To identify groups of workers who are at risk of workplace violence, and to understand the relationships between these risk groups, and to examine if risk groups differ depending on data source, or type of workplace violence (e.g. sexual violence versus non-sexual violence, or workplace violence from co-workers/supervisors compared to violence from clients).

**Status:** This project has used multiple data sources to examine difference in risks of different types of workplace violence between men and women, and time trends in injuries resulting from workplace violence, using two population-based data sources, in Ontario. Data sources include two cycles of Statistics Canada's General Social Survey on Victimization, and workers' compensation claims and emergency department visits in Ontario. These studies documented that the risk of workplace violence for men and women depends on the type of violence examined, the industry of focus, and the time period of interest. In the study using the General Social Surveys we observed that work characteristics explain a substantial proportion of the sex/gender differences in risk of physical workplace violence. However, male/female differences in sexual violence were not explained by differences in workplace factors. In our study examining time trends in injuries attributed to workplace violence using workers' compensation and emergency department data, we observed increasing rates of workplace violence among women, but not men. These trends were most pronounced in the education industry.

**Researchers:** Peter Smith (Principal Investigator), Cameron Mustard

**Collaborations and Partnerships:** Stakeholders involved in the work of the Leadership Table on Workplace Violence Prevention in Healthcare assisted in disseminating results of the project to relevant stakeholders, and involved them with the interpretation of our research findings.

**Potential Audiences and Significance:** The results of this project will help employers, policymakers and health care providers develop ways to handle workplace violence that are sensitive to the different experiences of men and women. In particular, provincial workers' compensation agencies will be interested in the analyses that compare the incidence and consequences of workplace violence across provinces. The results from this project will help towards applied solutions to prevent, and minimise the consequences of, workplace violence in Canada.

**Publications:** none to date

**Presentations:** none to date

**Funding:** Smith P, Chambers A, Mustard C. The Incidence of work-related aggression and violence in Canada. Ministry of Labour- Applied Research Initiative, \$114,790, (2016).

## **Evaluation of prevention strategies for reducing the future risk of cancer in the Ontario construction industry (2285)**

**Project Period:** Ongoing

**Introduction:** The construction industry has long been considered a high-hazard industry. Construction workers are at increased risk of serious and fatal injuries. However, they also have an increased risk of cancer and other chronic diseases due to occupational exposures to airborne and dermal chemical and physical hazards. Construction workers are exposed to a variety of toxic substances including dusts, fibres, metals, organic chemicals and solar radiation as a result of outdoor work. In this study we will estimate attributable fractions for Ontario construction workers who are exposed to carcinogens at work based on current practices, and then estimate the effectiveness and cost-effectiveness of intervention programs to reduce exposures up to the year 2060. Different scenarios will be considered such as high and low exposure reductions from various prevention efforts. We will estimate the costs and benefits of efforts to reduce exposures with a focus on direct, indirect and intangible costs.

### **Objectives:**

- To estimate the number of cancer cases due to carcinogen exposure in the Ontario construction sector over the period to 2060.
- To identify prevention studies that could reduce airborne/dermal chemical, and physical hazards in Ontario construction.
- To evaluate prevention strategies in terms of costs and impacts on the future burden of occupational cancer in Ontario construction.

**Status:** Over the last year, the epidemiology team has estimated the number of workers in the Ontario construction sector, by occupational code, for the 40-year time period of the analysis (2020-2060). Our first efforts to assess the effectiveness and cost effectiveness of exposure reduction efforts have focused on silica dust. We have evaluated the merits of best practices for personal protective equipment and what methods as interventions. Baseline and intervention scenarios have been estimated for the human burden and economic burden, in addition to cost implications for both types of interventions. These serve as inputs to the cost-benefit analyses. We are currently turning to ultraviolet exposure and have identified relevant prevention measures, as well as developed preliminary estimates for the human burden of the baseline and intervention scenarios. Other exposure to be studied are diesel fuel and asbestos.

**Researchers:** Emile Tompa (Principal Investigator), Young Jung, Amir Mofidi

**Collaboration and Partnerships:** The Infrastructure Health and Safety Association (IHSA), the Provincial Building and Constructions Trade Council of Ontario, and the Occupational Health Clinics of Ontario Workers (OHCOW).

**Potential Audiences and Significance:** IHSA, the Provincial Building and Constructions Trade Council of Ontario, and OHCOW (partners). The OHS Branch of the MOL and the Provincial Labour Management Health and Safety Committee of the construction industry (Section 21 committee) (knowledge users).

**Publications:** none to data

**Presentations:** none to data

**Funding:** Demers P (Principal Investigator), Arrandale V, Tompa E, Davies H, Tenkate T, (Co-investigators). Evaluation of Prevention Strategies for Reducing the Future Risk of Cancer in the Ontario Construction Industry. Ontario Ministry of Labour Research Opportunities Program. \$287,433 (2016-2018).

## **Central nervous system agents and the risk of workplace injury and death: a systematic review of the literature (3200)**

**Project Status:** New

**Introduction:** Psychoactive prescription medications are now recognized as a public health risk for serious harms. Prescription drug-related emergency department visits and deaths continue to rise, largely driven by using opioids and sedative-hypnotics/anxiolytics. Currently, there is a shift in views occurring in the medical community, with some touting medicinal cannabis as an alternative to opioids for chronic pain. Recent polls also find most Canadians support either the legalization or decriminalization of recreational cannabis and the Canadian government has committed to introducing legislation in 2017 to legalize and regulate cannabis possession. There is a need to balance the therapeutic benefits of these central nervous system (CNS) agents and a worker's personal autonomy against the potential risks these drugs pose in the workplace. Given current trends, this will remain a challenge for clinicians, employees, employers, and workers' compensation systems for the indefinite future. This systematic review considers some of the most deleterious potential workplace outcomes of these agents: workplace injury and fatality.

### **Objectives:**

- To examine the current literature to ascertain the level and quality of evidence for an association between CNS agents and the risk of workplace injury, re-injury, near misses, and death
- To examine outcomes occurring at the level of the worker exposed to these agents, as well as outcomes affecting co-workers and others in the immediate workplace environment
- To examine whether certain factors modify the relationship, including exposure characteristics, industry/occupation, and demographics
- To examine whether there is evidence of risk-taking behaviours that mediate the relationship between these CNS agents and risk of workplace injury and death

**Status:** In 2017, the team held a number of stakeholder meetings with the funder and broader team. They developed the searches, ran/downloaded the searches across 9 databases and removed duplicates. Title and abstract review was conducted on 20599 articles and full article review on 832 articles. The team then quality appraised 58 papers.

**Researchers:** Nancy Carnide (Co-PI), Andrea Furlan (Co-PI), Kim Cullen, Emma Irvin, Quenby Mahood, Christopher McLeod, Dwayne Van Eerd, P Farnan (HealthQuest Occupational Health Services), G Franklin (Washington State Department of Labor and Industries), L Rieb (Orchard Recovery Centre), P Rothfels (WorkSafeBC)

**Collaboration and Partnerships:** The main partner for this project is WorkSafe BC

**Potential Audiences and Significance:** Compensation agencies, clinicians and policy

**Publications:** none to date

**Presentations:** none to date

**Funder:** Carnide N, Furlan A (Co-Pis), Cullen K, Farnan P, Franklin G, Irvin E, Mahood Q, Rieb L, Rothfels P, Van Eerd D. Workplace injury and death associated with the use of medication and drugs that affect the central nervous system. WorksSafeBC, \$100, 174 (2017-2018).



## **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 2017, our portfolio of research included the continued examination of several studies designed to improve the process and sustainability in return to work. We also continued our research improving various facets of return-to-work practices, including communication, disability management, and mental health. The Institute for Work & Health also continued to host the Cochrane Back and Neck 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.

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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:** Cochrane 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 and Neck (CBN) Group (formerly the Cochrane Back Review Group), one of over 50 international Review Groups. CBN coordinates the publication of literature reviews of diagnosis, primary and secondary prevention and treatment of neck and back pain and other spinal disorders, excluding inflammatory diseases and fractures. The editorial and central coordinating activities associated with the CBN are described here. The activities associated with Institute researchers who are conducting Cochrane reviews are described in project 670. The work of the CBN remains closely aligned with the IWH systematic review program, which in turn has close relations with the Cochrane Work group. We apprised stakeholders of our activities via our website, news bulletins, and social media (Twitter and Facebook).

### **Objectives:**

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

**Status:** In 2017, CBN summarized findings across intervention reviews and presented this information in user-friendly formats on the IWH and CBN websites. With the hiring of a part-time Information Specialist, we returned to updating the CBN's Trials Register database with relevant trials, guidelines and systematic reviews related to back and neck pain and other spinal disorders within our scope. We also engaged several international guideline developers to identify which of our published reviews were priority for updating as well as priority titles for new reviews.

**Researchers:** A Furlan (Toronto Rehabilitation Institute), Claire Bombardier, Shireen Harbin, Emma Irvin, J Hayden (Dalhousie University), M Van Tulder (VU, Amsterdam) (to September 2017), R Chou (OHSU, Oregon) (from September 2017).

**Collaborations and Partnerships:** Clinical stakeholders involved in this project participated in Cochrane activities at their own level of interest and expertise. This varied by individual, but 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. Clinical 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:** 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:**

de Zoete A, de Boer MR, **van Tulder MW**, Rubinstein SM, Underwood M, **Hayden JA**, Kalter J, Ostelo R. Rational and design of an individual participant data meta-analysis of spinal manipulative therapy for chronic low back pain-a protocol. *Syst Rev.* 2017 Jan 26;6(1):21.

Edwards J, **Hayden JA**, Gregoire B, Asbridge M, Magee K. The prevalence of low back pain in emergency settings: a systematic review. *BMC Musculoskeletal Disorder.* 2017 Apr 4;18(1):143.

Corp N, Jordan JL, **Hayden JA**, **Irvin E**, Parker R, Smith A, van der Windt DA. Protocol: A systematic review of studies developing and/or evaluating search strategies to identify prognosis studies. *Syst Rev.* 2017 Apr 20;6(1):88.

Marin TJ, Van Eerd D, **Irvin E**, Couban R, Koes BW, Malmivaara A, **van Tulder MW**, Kamper SJ. Multidisciplinary biopsychosocial rehabilitation for subacute low back pain. Cochrane Database of Systematic Reviews CD002193; June 2017

Sullivan V, Gross D, Jensen O, Shaw W, Steenstra I, **Hayden JA**. An individual participant data (IPD) meta-analysis of the relationship between workers' expectations of return to work and return to work in workers with low back pain. PROSPERO 2018 CRD42018083254.

**Presentations:**

**Furlan A**. Introduction to GRADE and Introduction to quality appraisal. Systematic Review Workshop, IWH. Toronto, Ontario; May 2017

Harbin S, **Furlan A**. Priority setting: engaging with guideline developers. Cochrane Canada Symposium, Hamilton, Ontario; May 2017.

**Hayden JA**, Ogilvie R, Smith A. Community systematic review: A novel collaborative systematic review approach. Poster presentation. Cochrane Canada Symposium, Hamilton, Ontario. May 2017.

Hayden JA, Smith A. Methodological insights from a prognostic factor exemplar review: Individual recovery expectations and prognosis of outcomes in non-specific low back pain. Poster presentation. Cochrane Canada Symposium, Hamilton, Ontario. May 2017.

**Hayden JA**. New evidence and research priorities about exercise therapy for low back pain. Invited Plenary Lecture. International Back & Neck Pain Forum, Oslo, Norway, September 2017.

**Funding:** Cochrane Collaboration, \$100,000 (2017).

## **Predicting successful return to work in workers on disability due to low back pain (2210)**

**Project Status:** Completed

**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 are examining 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 review information routinely collected at the Ontario Workplace Safety and Insurance Board (WSIB). In addition, we have added 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 are using 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.

**Status:** This project used two sources of data, information routinely collected at the Ontario Workplace Safety and Insurance Board (WSIB) and data collected by the healthcare provider (CBI Health) to 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. Modelling for the 2012 cohort is complete and data analysis for a predictive model for a second distinct cohort of CBI clients is underway. Preliminary results indicate that with the available data, we are able to achieve predictions with accuracy of approximately 0.70 using the c-statistic.

**Researchers:** Sheilah Hogg-Johnson (Principal Investigator), Ben Amick, Teresa D'Elia, Andrea Furlan, G McIntosh (CBI Health Group), I Steenstra (Morneau Shepell)

**Collaborations and Partnerships:** 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 plan on reaching these communities through specific audience briefings, presentations and by the publication of papers in trade and scientific journals.

**Publications:** none to date

**Presentations:** none to date

**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).

## **Return to work practices**

Improving return to work outcomes is a priority in reducing costs to the workers' compensation system. There is a 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. We will continue work around strengthening disability management within the Ontario municipal sectors by undertaking a range of activities with our six municipal partners to assess current practice and identify opportunities for innovation. We will also continue to examine barriers and facilitators that older workers face with regards to communication processes around workplace accommodations. In 2017, the Institute completed a project that looked at managing depression in the workplace, which resulted in a practical guide that can be used by various workplace parties.

## **Disability Accommodation and Return to Work Practices in the Ontario Public Service (1175B)**

**Project Status:** Ongoing

**Introduction:** In the late spring of 2017, the Ministry Employee Relations Committee (MERC) of the Ontario Ministry of Labour (MOL) partnered with the Institute for Work & Health to carry out a survey on the perceptions of staff and managers related to the implementation of Ontario Public Service (OPS) Disability Accommodation and Return to Work processes and practices. The MOL is currently making a number of changes to the implementation of OPS policies related to disability accommodation and return to work practices, including the designation of Subject Matter Advisors who will be available to consult with staff and managers related to disability management. The survey is part of a benchmarking and evaluation process that the MOL is undertaking to monitor changes made to the ways they implement OPS disability management policies. This survey is a component of a collaboration between the MOL and IWH as part of a CIHR-SSHRC Partnership Development Grant, "Sustainable work participation: work disability prevention" (Project 2270). The initial survey was conducted between November and December 2017; follow-up surveys are planned after 12 months and 18 months.

**Objectives:**

- To describe MOL employee awareness of, perceived fairness, implementation issues, and use of and/or experiences with the application of OPS disability accommodation and return-to-work policies.

**Status:** In 2017, we coordinated with our partners at the MOL to design the survey, obtained ethics approval and conducted our initial survey of eligible MOL staff and management (n = 404). Data analysis is currently underway, and the first report will be submitted in early 2018.

**Researchers:** Monique Gignac, Julie Bowring, Selahadin Ibrahim,

**Collaboration and Partnerships:** The "Disability Accommodation and Return to Work Survey" was developed at IWH in collaboration with the members of the Joint Disability Accommodation and Return to Work Steering Committee, a sub-committee of the Ministry Employee Relations Committee (MERC) of the Ontario Ministry of Labour. Following the administration of the survey, IWH and the MERC will continue this collaboration through the Institute's analysis of the survey findings.

**Potential Audiences and Significance:** In addition to Ontario Ministry of Labour, results from this work may be of interest to other Ministries and agencies within the Ontario Public Service.



## **Understanding why gender and age differences exist in return-to-work following a musculoskeletal injury (2250)**

**Project Status:** Completed

**Introduction:** Studies on return-to-work (RTW) have consistently identified female workers and older workers as two groups that have poorer recovery outcomes and longer absences from work following a work-related injury. Although female workers and older workers have, in general, a lower risk of work injury, the increasing number of older and female workers in the labour market, and the changing nature of hazards in Canadian workplaces have resulted in the number of injuries among both these groups to rise substantially. To date most research on the consequences of work injuries has treated age and gender as things to adjust for in analyses. As a result, while we know that factors such as recovery expectations, offers of work accommodation, interactions between the worker and their health care provider, contact with the worker by the workplace are all associated with shorter durations of disability, we do not know if the provision of these factors differs for women compared to men, or older workers compared to younger workers. In addition, we do not know if the relationships between factors are more or less effective for women or older workers. Although gender and age are non-modifiable factors, if we can better understand where differences between men and women, and older and younger workers occur in the RTW process; or if particular interventions are more efficacious among these groups; then this would inform the development of targeted secondary interventions to improve recovery and economic outcomes of these groups.

### **Objectives:**

- To better understand factors at the individual, occupational, workplace and health care provider level that mediate the relationship between age and gender/sex and RTW outcomes following a musculoskeletal (MSK) injury.
- To identify situations where gender/sex and age moderate the relationship between injury, occupational, workplace and health care provider factors and RTW outcomes following a MSK injury.

**Status:** This project used two existing IWH cohorts (the Early Claimant Cohort and the Readiness of Return-to-Work Cohort) to examine differences in the return-to-work process for women and men, and for older workers (50+ years) compared to younger workers. Using path models, we have explored the impacts of various factors, in return-to-work and recovery following a workplace injury. We observed that while female sex was associated with more pain at baseline, and physical function at 12 months, no differences in return-to-work were present between men and women at 12 months. Male workers reported more negative supervisor responses to injury compared to female workers.

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

**Collaborations and Partnerships:** This work will be done in collaboration with the Canadian Centre for Occupational Health and Safety (CCOHS). In addition, all results from this study will be presented to a nine-person advisory committee consisting of leading research and policy makers in occupational health and safety in Ontario.

**Potential Audiences and Significance:** Findings from this study will provide a much needed knowledge base on which targeted interventions to improve the health and economic outcomes of older workers and female workers following a work-related injury can be developed. The current wage replacement and health care expenditures associated with work-related injury in Ontario are approximately \$1 billion in the 12 month period following injury. Given this study will re-examine previously collected information on a large number of compensation claimants; this project offers the potential of a large return on investment in a relatively short time period.

**Publications:** none to date

**Presentations:** none to date

**Funding:** Smith PM, Hogg-Johnson S, Mustard CA. Understanding why gender and age differences exist in return-to-work following a musculoskeletal injury. Canadian Institutes of Health Research (CIHR) Operating Grant: \$162,615 (2015-2017).

## **Sustainable work participation: work disability prevention and improvement of employment outcomes among those with chronic, episodic health conditions (2270)**

**Status:** Ongoing

**Introduction:** Many chronic physical and mental health diseases cause episodic disability and not continuous problems (e.g., arthritis, multiple sclerosis, depression, anxiety, lupus, diabetes). This includes periods of well managed disease punctuated by more severe disease activity. Privacy legislation has shifted disability management away from disease diagnoses (which workers are not obligated to disclose) to a focus on activity limitations and restrictions as the means of guiding accommodations. For episodic conditions where symptoms fluctuate, are often unpredictable and invisible to others, needs for accommodations are difficult to assess. A better understanding of similarities and differences across physical and mental health episodic disabilities and the processes whereby accommodations are communicated, delivered, utilized and changed is critical. Working with partners, we have aimed to reduce at-work disability and improve productivity and the employment sustainability of Canadian workers with episodic disabilities.

### **Objectives:**

- To enhance the breadth of our team's partnerships related to managing episodic physical and mental health conditions;
- To increase understanding of the impact of episodic disabilities on workers and workplaces;
- To better understand workplace planning and provision of accommodations over time, and their impact and effectiveness on worker and workplace outcomes;
- To illuminate communication processes and needs related to disclosure of episodic disabilities (e.g., initiating communication, changing needs);
- To begin development of a toolkit to help employers and workers to better communicate and implement accommodations

**Status:** We have continued to develop our partnerships and have recruited six additional partners for the Phase 2 application, submitted in November 2017. We completed our English language resource search, and in 2018 will add a French language search and complete resource coding. Data collection (key informant interviews) is ongoing.

**Researchers and team:** Monique Gignac (Principal Investigator), Dorcas Beaton, Julie Bowring, Curtis Breslin, Emma Irvin, Arif Jetha, Sara Macdonald, Ron Saunders, Peter Smith, Emile Tompa, Dwayne Van Eerd, R-L Franche (Simon Fraser University), J MacDermid (University of Western Ontario), W Shaw (University of Connecticut), A Thompson (University of Toronto)

**Collaboration and Partnerships:** Partners include The Arthritis Society, the Canadian Mental Health Association (CMHA), Crohn's & Colitis Canada, Great-West Life Centre for Mental Health in the Workplace, Mindful Employer Canada, the Multiple Sclerosis Society of Canada, the Ontario Ministry of Labour, Realize Canada (formerly Canadian Working Group on HIV and Rehabilitation), and the University of Toronto (host institution).

**Potential Audiences and Significance:** Evidence-informed episodic disabilities toolkit that will help workers, supervisors, and disability managers prevent at-work disability and sustain employment.

**Publications:** none to date

### **Presentations:**

Gignac, M. A. M. (2017). Behavioural coping efforts to manage workplace activity limitations. Special Session - *Staying at work: work assessments and rehabilitation interventions for people with inflammatory arthritis*. Invited speaker to the British Health Professionals in Rheumatology (BHPR) Annual Scientific Meeting, Birmingham, U.K. Session jointly sponsored by the BHPR and Association of Rheumatology Health professionals (ARHP, U.S.), April 2017. *[This presentation draws on data from 2270 as well as other research]*

Gignac, M.A.M. (2017) “Sustainable work participation: work disability prevention and improvement of employment outcomes among those with chronic, episodic health conditions.” Invited briefing to the Ministry of Labour (MOL), Ministry Employee Relations Committee (MERC) (J. Bartley, Co-Chair), January 24, 2017.

**Funding:** Gignac, M. A. M. (Principal Investigator), Saunders, R., Van Eerd, D., Jetha, A., Franche, R.-L., MacDermid, J., Tompa, E., Beaton, D., Breslin, C., Hogg-Johnson, S. Sustainable work participation: work disability prevention and improvement of employment outcomes among those with chronic, episodic health conditions. Social Sciences & Humanities Research Council (SSHRC)-Canadian Institutes of Health Research (CIHR) Joint Initiative in Healthy and Productive Work: Partnership Development Grant. \$149,950, (2016-2018).

Submitted for funding: Gignac, M.A.M. (Principal Investigator), Smith P, Tompa E, Jetha A, Van Eerd D, Thompson A, Saunders R, Breslin C, Franche R, Irvin E, MacDermid J, Beaton D, Shaw W. Accommodating and Communicating about Episodic Disabilities (ACED): A Partnership to Deliver Workplace Tools and Resources to Sustain the Employment of People with Chronic, Episodic Conditions. Social Sciences and Humanities Research Council/ Canadian Institutes of Health Research, Joint Initiative in Healthy and Productive Work: Partnership Grant \$1,424,864. (2018-2022).

## Strengthening disability management in the Ontario municipal sector (2275)

**Project Status:** Ongoing

**Introduction:** This initiative partners with six Ontario municipalities to work with the Institute for Work & Health over a 24-month period of funding support to audit and benchmark disability management practices with the goal of identifying innovative practices that have the potential to reduce the incidence of avoidable disability days. There are opportunities to improve the quality and consistency of current disability management practices in the Ontario municipal sector. These quality improvement initiatives in workplace disability prevention practices will focus on reducing the incidence of avoidable disability days, defined as days of work absence that are due to delays in return-to-work planning and implementation and delays in establishing suitable accommodations and modified work. In this project, we will undertake a range of activities with our municipal partners to assess current practice and identify opportunities for innovation.

### **Objectives:**

- To apply audit and benchmarking protocols to identify promising innovations in disability management practices that are feasible to implement in the Ontario municipal sector
- To support partner municipalities in preparing formal plans to implement the quality improvement initiatives and
- To support the implementation of quality improvement initiatives

**Status:** In the first 18 months of the project workplan, project team has completed two information gathering activities with our partner municipalities: 1) an assessment of municipalities current disability management program, conducted by an external reviewer accredited by NIDMAR, and 2) interviews with municipal staff to understand the strengths and limitation of their disability management programs. Overall, we've found the disability management programs to be strong, built on excellent policy foundations and led by talented, experiences managers. Some of our municipal partners are engaged in a formal renewal or strengthening of disability management practices. From our interviews with front-line managers and supervisors, we learned of interests from front-line managers and supervisors for opportunities to strengthen their own knowledge and skill in supervising and supporting a work accommodation and we heard a recognition that there may be opportunities to strengthen the uses of information technology to support the work of ability management specialists. We also heard a consensus that there are distinct challenges in supporting return-to-work among employees disabled from work by a mental health condition.

In the fall of 2017, the project team submitted an application to the second phase of the Healthy and Productive Work. The best eight proposals from among the 20 project teams will be offered four years of funding support. The municipal partner application focuses on three themes:

1. Evaluating the costs and the benefits of expedited access to 'work-linked' cognitive behavioral therapy among municipal employees on short term disability leave for a mental health condition
2. Developing and implementing a brief interactive curriculum for front-line managers and supervisors to strengthen knowledge and skill in supervising and supporting a work accommodation
3. Identifying opportunities to integrate information technology applications to support the work of ability management specialists and pilot-testing the value of these applications.

**Researchers:** Cameron Mustard (Principal Investigator), Arif Jetha, Agnieszka Kosny, Morgan Lay, Christopher McLeod, Lynda Robson, Basak Yanar

**Collaboration and Partnerships:** This research partnership brings together the internationally-recognized research expertise of the Institute for Work & Health in the social and health sciences with leading human resource professionals in Ontario municipalities employing more than 25,000. The partnership also includes non-profit professional service organizations that support the work of municipal human resource leaders, including the Ontario Municipal Human Resources Association, the National Institute for Disability Management and Research and the Public Services Health and Safety Association.

**Potential Audiences and Significance:** We expect that municipal employers and unions representing the municipal labour force across Canada will be the primary users of the knowledge arising from this research project. Additional groups who may be interested in the results of this research initiative include policy-makers in provincial workers' compensation authorities, disability benefit trusts and private sector disability insurance plans and representatives of organized labour in the public sector.

**Publications:** none to date

**Presentations:** none to date

**Funding:** Mustard CA (Principal Investigator), Amick B, Robson L, Kristman V, Jetha A, Gensby U, McLeod C, Kosny A. Strengthening disability management in the Ontario municipal sector. Social Sciences and Humanities Research Council/ Canadian Institutes of Health Research, \$150,000. (2016-2018).

Mustard CA, Kosny A, Jetha A, Robson L. Strengthening disability management practices in the Ontario municipal sector. Ontario Workplace Safety & Insurance Board. \$250,000. (2017-2018).

Submitted for funding: Submitted for funding: Mustard CA (Principal Investigator), Amick B, Robson L, Kristman V, Jetha A, McLeod C, Kosny A. Strengthening disability management in the Ontario municipal sector. Social Sciences and Humanities Research Council/ Canadian Institutes of Health Research, Joint Initiative in Healthy and Productive Work: Partnership Grant \$1,300,000. (2018-2022).

## **Conceal or reveal? Facilitators and barriers to older workers' communication of accommodation (2280)**

**Project Status:** Ongoing

**Introduction:** The unprecedented size of the baby boom generation (born 1946-1964) has created concerns about the greying of the workforce. One strategy to sustain labour force growth and personal financial security is to help individuals work longer. Yet apprehensions about older workers have been raised, including whether there are age-related changes in motivation to learn new skills (e.g., new technology), life course changes in responsibilities (e.g., caregiving), and changes in physical capacity (e.g., fatigue, physically demanding work). The extent to which these are problematic is unclear. Some studies find negative aging stereotypes are not supported by workplace data. But, whether due to negative stereotypes or actual work-personal life changes, emerging research suggests that older workers can be concerned about communicating their needs to others. This raises alarms that communication is a significant barrier to receiving supports, accommodations and training that could sustain work productivity and high job satisfaction. Ultimately, the absence of supports may impact work outcomes like absenteeism, productivity or even forgoing employment, which in turn, may fuel continued negative perceptions of older workers. Currently, there is little data examining how older workers make decisions about whether, to whom, what to say, and when to communicate their job needs. By understanding processes related to communication, we are working towards informing workplace practices and policies and helping older workers to sustain employment and take advantage of the financial, personal and social benefits of work.

**Objectives:** The overarching goal of this research is to help sustain the employment of aging workers, often categorized as individuals aged 50+ years, to capture those born during the baby boom generation. We will use a mixed-methods design with focus groups and a cross-sectional survey to:

- understand reasons older workers choose to communicate or not communicate personal needs for accommodation, support or training/development,
- examine factors that relate to the content of communications, their timing and goals, and
- examine the relationships between facets of communication (e.g., reasons; timing; recipients of disclosure), support and employment outcomes.

**Status:** We have completed phase 1.1 of data collection (10 focus groups with older workers) and analysis is underway. In 2018, we plan to conduct some additional focus groups with a comparison sample (phase 1.2) and design the survey for phase 2. Note: our costs for the focus groups was less than estimated and Phase 2 HPW grant writing commitments slowed work on this project. As a result, we used less funds than anticipated. SSHRC will delay giving us our next installment and has added an extra year to the grant with no penalties (now expected to finish in 2020).

**Researchers and team:** Monique Gignac (Principal Investigator), Julie Bowring, Arif Jetha, Agnieszka Kosny, Vicki Kristman, J Cameron (University of Toronto)

**Collaboration and Partnerships:** Not Applicable

**Potential Audiences and Significance:** Results of the research are relevant to older workers, employers (e.g., supervisors, HR professionals), disability managers, occupational health professionals, insurers, government, and community organizations focused on aging, employment, disability or caregiving.

**Publications:** none to date

**Presentations:** none to date

**Funding:** Gignac, M. A. M. (PI), Kristman, V., Kosny, A., Cameron, J. Conceal or reveal? Facilitators and barriers to older workers' communication of accommodation needs in the workplace and its relationship to work outcomes. Social Sciences and Humanities Research Council, \$232,331 (2016-2020).

## Managing depression at the workplace (3195)

**Project Status:** Completed

**Introduction:** The burden associated with managing the effects of depression in the workplace is extensive. Workers with depression lose significantly more health-related productive time, have higher rates of absenteeism and short-term disability and, experience higher rates of job turnover than those without depression. Economic analyses have also shown that the costs of lost productivity associated with depression far exceed the costs of resources used to treat and manage the disorder.

Over the last decade, the Institute for Work & Health (IWH) has produced a series of systematic reviews on the effectiveness of intervention approaches that could be implemented or facilitated by employers to manage workers' depression, support return-to-work, and reduce associated productivity losses. However, there are information gaps that remain that may prevent employers from making investments to reduce the impact of depression in the workplace. The project draws upon this research evidence and integrates it with both practitioner expertise and worker values and preferences to help bridge the research-to-practice and research-to-policy gaps that currently exist for depression-related disability management programs and their implementation.

### **Objectives:**

- To unpack and identify strategies to implement the best practices in disability management approaches to RTW for mental health disorders

**Status:** In 2017 the project team administered a survey to both workers and managers regarding their experiences of working with depression. Qualitative interviews were conducted to validate the survey findings and gain further insights into what resources or supports are available to individuals. The data collected through the survey and interviews were then analyzed. The results were synthesized with findings from the peer reviewed and grey literature. Key outcomes from the analysis and synthesis phase were presented to stakeholders for feedback. Based on the key messages and stakeholder feedback an implementation guide was developed to assist workplace parties in managing depression in the workplace. The research team presented their work to various stakeholder audiences. A final report and the guide were submitted to WorkSafeBC.

**Researchers:** Dwayne Van Eerd D (Principal Investigator), Kim Cullen (Co-PI), Siobhan Cardoso, Emma Irvin, Monique Gignac, Morgane Le Pouésard, Quenby Mahood, A Dubey (CAMH), J Geary (NIDMAR)

**Collaboration and Partnerships:** Unifor, Alberta Workers' Health Centre, BC Federation of Labour, The Mood Disorders Association of BC

**Potential Audiences and Significance:** Workplaces from all sectors who require strategies to manage and accommodate depression in the workplace.

**Publications:** none to date

### **Presentations:**

Van Eerd D, Cullen K, Irvin E, Le Pouésard M. Workplace practices and policies to accommodate workers with depression. May 15-17 2017; Barrie, ON: Waypoint Research Institute Conference.

Cullen K, Irvin E, Van Eerd D, Saunders R.. Preventing work disability in workers with depression: A systematic review.. May 15-17 2017; Barrie, ON: Waypoint Research Institute Conference.

Irvin E, Bornstein S, Cullen K, Butt A, Van Eerd D, Johnson L, Passmore S, Mackey S, Saunders R. Putting evidence in context: What works in Occupational Health and Safety. May 15-17 2017; Barrie, ON: Waypoint Research Institute Conference.

Irvin, E. Managing depression in the workplace. May 18 2017; Toronto, ON: Conference Board of Canada.



Van Eerd D, Cullen K, Irvin E, Le Pouésard M, Cardoso S. Workplace practices and policies to prevent MSD: An implementation synthesis.. July31-Aug 3 2017; Banff, Alberta: Annual Conference of the Association of Canadian Ergonomists: Organizing for High Performance,.

Van Eerd D. Updating the process of participatory interventions with evidence from the field: a protocol. July31-Aug3 2017; Banff, Alberta: Annual Conference of the Association of Canadian Ergonomists: Organizing for High Performance.

**Funding:** Van Eerd D (PI), Cullen K (Co-PI), Irvin E, Gignac MAM, Cardoso S, Mahood Q, Dubey A, Geary J. Managing Depression in the Workplace – Bridging the Research-to-Practice Gap. WorkSafeBC, \$49,970 (2016-2017).

## **System-based return-to-work disability management/support interventions: A systematic review (3205)**

**Project Status:** New

**Introduction:** The burden associated with managing work-related disability is extensive. While the frequency of work-related injuries and illnesses has gone down in most high-income countries over the last ten years, comparable improvements in return-to-work (RTW) outcomes have not kept pace. Economic analyses have shown that the costs of lost productivity associated with work-related injury and illness far exceed the costs of resources used to treat these episodes. Over the last decade, the Institute for Work & Health (IWH) has produced a series of systematic reviews synthesizing the best available research evidence on what workplace-based policies, practices and approaches support return-to-work (RTW), reduce productivity losses and facilitate recovery for injured and/or ill workers. However, there are important information gaps that remain regarding the cooperative effect of regulatory, system-based strategies focused on disability management (DM) and how they can help reduce the burden of work-relevant disability. We define system-based strategies as those that are directed at a group of workers and/or their representatives, employers, insurers or other stakeholders; such as changes in the activities of claims adjudicators, or policies initiated through a compensation authority. The project seeks to directly address this knowledge gap by conducting a systematic review (SR) of the literature. We have summarized research evidence on system-based strategies and will create a practical and innovative guide for OHS practitioners on the best DM strategies to support RTW and recovery for injured or ill workers. Including guidance on how to reduce the extensive burden associated with work disability.

**Objectives:**

- To conduct a SR of research evidence on systems-based RTW and DM interventions.
- To create an evidence-informed practical guide to support RTW and recovery for MSK-, pain-related and mental health conditions based on the findings from this systematic review (system-based strategies) and from our previous work (workplace-based strategies).

**Status:** The team hired a research coordinator; ran the search strategy, downloaded the searches, and removed duplicates. The team then held a series of stakeholder/knowledge users meetings; screened the titles, abstracts, and full papers for relevance. Lastly, we initiated quality appraisal of those studies, ensuring they met our relevance criteria.

**Researchers:** Kimberley Cullen (Principal Investigator); Emma Irvin (Co-Principal Investigator) Benjamin Amick, Siobhan Cardoso, Quenby Mahood, Dwayne Van Eerd, J Geary, U Gensby (Team WorkingLife ApS).

**Collaboration and Partnerships:** Our knowledge users, specifically stakeholders at the National Institute of Disability Management and Research (NIDMAR) and the Centre for Research on Work Disability Policy (CRWDP)

**Potential Audiences and Significance:** Workplace parties (employers and organized labour), Workers, Clinicians, Policy makers, Compensation authorities, OHS practitioners, Disability management professionals and Researchers

**Publications:** none to date

**Presentations:** none to date

**Funding:** Cullen K (PI), Irvin E (Co-PI), Amick III BCA, Van Eerd D, Mahood C, Cardoso S, Geary J. System-based return-to-work and disability management/support interventions. a systematic review. WorkSafeBC, \$92,062 (2017-2018).

## **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 injured workers and other particular groups of workers. One of the key objectives in this area is to understand the impact of legislation, policies and programs on the income security and labour market engagement of different groups of workers.

## **Benefits adequacy for workers compensation claimants, 1999-2006 (2150)**

**Project Status:** Ongoing

**Introduction:** The purpose of this study is to describe post-injury earnings and benefits of injured workers with an accepted workers' compensation claim 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 injured workers receiving with an accepted workers' compensation claim from a work injury in the period 1998-2006.

**Status:** An issue brief was released in the spring of 2016 that summarizes findings on benefits adequacy of the LOE program for long-term disability claimants. The study found that on average, workers' compensation benefits fully compensated for lost earnings among workers with permanent impairments injured between 1998 and 2002. The project includes an analysis of benefits adequacy of short-term disability claimants, using a similar approach to that for the long-term disability claimant sample. The short-term disability claimant cohort is comprised of accidents years 1998-2000 and 2004-2006. We considered each accident year separately. For this short-term disability cohort, earning replacement rates were about 95%, though replacement rates varied by socio-demographic characteristics.

Over the last year, statistical analyses were undertaken to assess the impact of socio-demographic and injury characteristics of claimants on labour-market earnings recovery. Findings suggest that for long-term disability claimants, those aged between 35 and 59 (in the injury year) with higher pre-injury income experienced better earning recovery (relative to matched controls) than claimants without these characteristics. Those aged less than 50 with mixed or non-manual occupations had better earning recovery ratios than those with manual occupations. There were also some significant differences in earning recovery by nature of injury. For short-term disability claimants, study analyses identified that those with higher pre-injury income had less chance to experience less than 50% or less than 75% earnings recovery ratios in the first, third and fifth years post injury. Similar findings pertain to claimants with non-manual or mixed occupations compared to manual occupations.

Several manuscripts are currently under preparation for publication. In 2017, funding was also received from the Ontario Workplace Safety and Insurance Board to continue this research. The newly funded study will compare short and long-term outcome of the 1998-2006 cohort with a more recent cohort of injured workers with claims from 2007-2012.

**Researchers:** Emile Tompa (Principal Investigator), Qing Liao , 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.

**Publications:**

Tompa E, Hogg-Johnson S, Amick III, BC, Liao Q. Labour-market earnings recovery following permanent work disability: An evaluation of the return-to-work success under three policy regimes. Draft manuscript prepared for submission to a journal

**Presentations:**

Tompa E. Disability and Work in Canada Research Panel: The Economic Landscape, Ottawa, Ontario. Nov 29, 2017.

Tompa E. Labour-market Earnings Recovery Following Permanent Impairment from a Work Injury. Policy Research Action Forum. Toronto, Ontario. November 24, 2017.

Tompa E, Saunders S, Mustard C, Liao C. Measuring the Adequacy of Workers' Compensation Benefits in Ontario: An Update, Presentation to IWH Forum with Leaders from the Employer Community, Toronto, Ontario, May 11, 2016.

Tompa E, Saunders R, Mustard C, Liao Q. Measuring the Adequacy of Workers' Compensation Benefits in Ontario: An Update. Canadian Manufacturers & Exporters, Mississauga, Canada. December 8, 2016.

Tompa E., Hogg-Johnson S, Amick B, Liao Q. Labour-market Earnings Recovery Following Permanent Work Disability: An Evaluation of the Return-to-work Success under Three Policy Regimes. Keynote, Health and Labour Policy Evaluation Workshop, Paris, France, Feb 1-3, 2017

Tompa E., Hogg-Johnson S, Amick B, Liao Q.. Labour-market Earnings Recovery Following Permanent Work Disability: An Evaluation of the Return-to-work Success under Three Policy Regimes.. Feb 1-3 2017; Paris, France: Health and Labour Policy Evaluation Workshop.

**Funding:** Tompa E (Principal Investigator), Saunders R, Mustard C (Co-investigators). Impairment and work disability of workers' compensation claimants in Ontario, a cohort study of new claimants from 1998-2006. Canadian Institutes for Health Research (CIHR) Open Operating Grant, \$204,685 (2013-2015).

Tompa E (Principal Investigator), Mustard C, Saunders R. Tracking Long-term Outcome of Injured Workers in Ontario to Better Target Supports. Initial Proposal submitted to the Workplace Safety & Insurance Board Grant Program. \$299,970 (2017-2019).

## Income security and labour-market engagement: envisioning the future of disability policy in Canada (2195)

**Project Status:** Ongoing

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

### Objectives:

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

**Status:** This year marked the mid-term of this initiative, and required the preparation of a mid-term report to the funder. The report was submitted in April 2017. The report noted that “SSHRC funding has been used along with partner contributions and external funding sources to complete a substantial body of work over a 4 year period. Cash and in-kind contributions are at 49% of the SSHRC funds. In addition, co-investigators have leveraged their work within CRWDP to secure related project funding as PIs in amount of \$2.1 million since 2014.” In August 2017, we received word that the report was accepted and that our funding would continue through to the end of the seven-year funding envelope.

Through the year, a number of other key activities were spearheaded and several important accomplishments were achieved that are noteworthy. First and foremost, we organized and hosted a highly successful stakeholder conference in Ottawa entitled *Disability and Work in Canada: Successes and Challenges of Canada’s First 150 Years, Developing a Vision and Strategy for the Future*. The conference was sold out weeks before its date of November 27-29, 2017. The conference brought together stakeholders from across the country. Delegates included policy-makers from both the federal and provincial levels, employers, and representatives from community service organizations, unions and the research community. Most importantly, the approximately 150 delegates included many injured workers and persons with diverse disabilities—visible and invisible, episodic and chronic, mental and physical. At the conference we launched a book entitled *Work Disability in Canada: Portraits of a System*, authored by Dustin Galer, a CRWDP collaborator and post-doctoral fellow.

Funding was secured for the development of a Canadian Standard for Work Disability Management Systems. A core Standard will be developed to serve organizations across Canada in all sectors and of all sizes. A specialized Standard will also be developed for Canadian First Responders. Plans are to develop the Standards over 2018-2019, for release in late 2019. Various tools and products will also be developed to support uptake of the standard.

Another project within the initiative funded and completed in 2017 was the development of business case studies and best practice guidelines for the recruitment and retention of workers with serious mental health conditions, known as the Aspiring Workforce. The project was funded by the Mental Health Commission of Canada. The findings were presented at various forums over the last few months. A lay summary and user guide will be released in 2018.

Initiatives and events in the four provincial clusters include: (1) Ontario Cluster Policy Pods teleconference and in-person meetings to identify the targets, challenges and opportunities in the area of hiring persons with disabilities, income replacement, and employment rights. The overall goal of the Policy Pods is to move from research into action-based policy initiatives; (2) Knowledge Exchange Day “Work integration or reintegration of people with

disabilities: issues, challenge, and potential solutions” was held in Quebec on November 15, 2017; (3) Newfoundland and Labrador Provincial Cluster Meeting was held on May 16, 2017, and Disability Inclusion Group (DIG-MUN) meeting on May 18, 2017; (4) On-going work within the seed grants to map the Canadian work disability policy, and compare policies in different provinces.

Other highlights include new CRWDP Provincial Coordinators – Rachael Dempsey (Ontario), Marie-Ève Schmouth (Quebec), and Michelle La (British Columbia). Several new graduate stipends and postdoctoral fellowships were also awarded.

**Researchers:** Emile Tompa (Principal Investigator), Ellen MacEachen (Principal Investigator), Curtis Breslin, Ron Saunders, Heather Scott-Marshall, G Baril-Gingras, J Bernier, S Bornstein, N Boucher, J Calvert, G Cooke, P Cote, M Coutu (Université de Sherbrooke), D Dawe, C De Boer, C Dewa (Centre for Addiction & Mental Health), M Durand, M Facey (University of Toronto), E Finkler, R Franche (Vancouver General Hospital), R Gewurtz, D Gold, M Grignon (McMaster University), R Hanes, N Helfand, J Heymann, L Holness (St. Michael's Hospital), E Jennissen, A King, M Koehoorn (University of British Columbia), M Laberge (ISCR), E Latimer, K Lippel (University of Ottawa), P Loisel (University of Toronto), P MacAhoic, C McLeod (University of B.C.), M Mendelson, S Montreuil, B Neis, A Noel, P O'Campo, A Ostry (University of British Columbia), S Premji, Y Provencher, M Rioux, L Shaw, S Small, J Stapleton, S Torjman, M White, I Zeytinoglu.

**Collaborations 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:**

CRWDP E-Alerts: Issues Nov 2016 – Jan 2017; Feb-Apr 2017; May-Aug 2017; Sept-Dec 2017.

<http://crwdp.ca/en/e-alerts>

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Lahey PM, Tompa E, MacDermid JC, Kirsh B, Gewurtz RE. (2017). Placing Health in Welfare Policy: A HIAP Approach in Ontario Canada. *Canadian Review of Social Policy*. 77.

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MacEachen E, Du B, Bartel E, Ekberg K, Tompa E, Kosny A, Petricone I, and Stapleton J. (2017). Scoping review of work disability policies and programs. *International Journal of Disability Management*, 12(e1):1-11.

Oldfield M, MacEachen E, Kirsh B, and MacNeill M. (2017) Helping employees with fibromyalgia manage their reputations through disclosure dances. *OOHNA Journal*, (Spring/Summer), 28-33.

Oldfield M, MacEachen E, MacNeill M, and Kirsh B. (2017) 'You want to show you're a valuable employee': a critical discourse analysis of multi-perspective portrayals of employed women with fibromyalgia. *Chronic Illness*. [epub ahead of print]. <https://www.ncbi.nlm.nih.gov/pubmed/28661193>

Stefanovic-Chafe A. (2017) Disability and Civic Engagement in Newfoundland and Labrador, in Marland A, Moore L. (eds.) "The Democracy Cookbook: Recipes to Renew Governance in Newfoundland and Labrador". ISER Books. Pp. 218-221

Tompa E, Buettgen A, Mahood Q, Padkapayeva K, Posen A, Yazdani A. (July, 2017) "Feasibility Study and Needs Assessment for a Canadian Searchable Online Resource for Workplace Accommodation for Persons with Disabilities". <https://crwdp.ca/en/new-studies>

Torjman S. (May, 2017) Dismantling the Welfare Wall for Persons with Disabilities. <https://crwdp.ca/en/new-studies>

Waxman D. (2017) Model of Successful Corporate Culture Change Integrating Employees with Disabilities, in Barbara M. Altman (ed.) Factors in Studying Employment for Persons with Disability (Research in Social Science and Disability, Volume 10) Emerald Publishing Limited, pp.155 - 180.

<http://www.emeraldinsight.com/doi/abs/10.1108/S1479-354720170000010007>

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CRWDP website: [www.crwdp.ca](http://www.crwdp.ca)

<https://www.crwdp.ca/en/informing-roadmap-work-disability-policy-canada>

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Hilgert J. The Human Rights of Injured Workers: Social Protection Floors and the Canadian Work Disability System. Available at: [https://www.crwdp.ca/sites/default/files/crwdp\\_seed\\_grant\\_final\\_report\\_hilgert.pdf](https://www.crwdp.ca/sites/default/files/crwdp_seed_grant_final_report_hilgert.pdf)

Laberge M, Breslin C, Charland G. The use of information and communication technologies (ICTs) to support access to employment for adolescents with special needs. CRWDP Seed Grant Report. Available at:

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Furrie A, Gewurtz R, Porch W, Crawford C, Haan M, Stapleton J. Episodic Disabilities in Canada. Available at: [https://www.crwdp.ca/sites/default/files/Research%20and%20Publications/episodic\\_disabilities\\_in\\_canada\\_-\\_october\\_4\\_-\\_final.pdf](https://www.crwdp.ca/sites/default/files/Research%20and%20Publications/episodic_disabilities_in_canada_-_october_4_-_final.pdf)

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<https://www.crwdp.ca/sites/default/files/Research%20and%20Publications/1105eng.pdf>

King A. Making the Law Keep Down the Costs. Why Canada's public systems designed to support unemployed workers with a disability are making the decisions that they are. Available at:

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Galer D. Life and Work at the Margins: (Un)employment, Poverty and Activism in Canada's Disability Community Since 1966. Available at:

[https://www.crwdp.ca/sites/default/files/Research%20and%20Publications/life\\_and\\_work\\_at\\_the\\_margins.pdf](https://www.crwdp.ca/sites/default/files/Research%20and%20Publications/life_and_work_at_the_margins.pdf)

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[https://www.crwdp.ca/sites/default/files/Research%20and%20Publications/disability\\_support\\_services\\_-\\_final\\_report.pdf](https://www.crwdp.ca/sites/default/files/Research%20and%20Publications/disability_support_services_-_final_report.pdf)

#### **Presentations:**

Tompa E. Disability and Work in Canada Research Panel: The Economic Landscape, Ottawa, Ontario. Nov 29, 2017.

Tompa E. Labour-market Earnings Recovery Following Permanent Impairment from a Work Injury. Policy Research Action Forum. Toronto, Ontario. November 24, 2017.

Gewurtz R, Lahey P. Employment and disability benefits for people with mental illness. Waypoint Research Institute 5<sup>th</sup> Annual Conference. May 17, 2017.

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Charrier, F. et Boucher, N. « Reconnaissance, expertise et influence : trois concepts au coeur de la défense collective des droits dans le champ du handicap au Québec », 6e conférence annuelle d'ALTER « Handicap, Reconnaissance et « Vivre ensemble ». Diversité des pratiques et pluralité des valeurs », ALTER - Société européenne de recherche sur le handicap, Lausanne (Suisse), 6-7 juillet 2017. <https://alterconf2017.sciencesconf.org>

Charrier, F., Boucher, N. et Provencher, Y. « Le handicap comme processus et trajectoire : comment articuler les dimensions synchroniques et diachroniques des interactions personne-environnement dans nos recherches ? », 6e conférence annuelle d'ALTER « Handicap, Reconnaissance et « Vivre ensemble ». Diversité des pratiques et pluralité des valeurs », ALTER - Société européenne de recherche sur le handicap, Lausanne (Suisse), 6-7 juillet 2017. <https://alterconf2017.sciencesconf.org>

Neis B, Bornstein S. Why the Centre for Research on Work Disability Policy Matters: Reflections from Newfoundland and Labrador. Occupational and Environmental Medical Association of Canada (OEMAC) 35th Annual Scientific Conference, June 11-13, 2017. <http://crwdp.ca/en/presentations>

Rioux M. Invited speaker presentation. Zero Project Conference, 2017. Employment, Work, Vocational Education and Training. Vienna, Austria, Feb 22-24, 2017.

Torjman S. (Invited presentation). Disability supports and accessibility. Queen's University Institute for Life Long Learning, Kingston, ON, Feb 17, 2017.

Third Bancroft Research to Action Workshop. Measuring Return to Work. February 9-10, 2017. Toronto, Canada.

International Knowledge Network Symposium, Tilburg the Netherlands, February 17-18, 2016.

Sixth Session of the Bancroft Discussion Series. Barriers to Return-to-Work in a Context of Social Vulnerability. November 17, 2016. Toronto, Canada.

Fifth Session of the Bancroft Discussion Series. Mental Health Status of Ontario Injured Workers with Permanent Impairments. May 17, 2016.

Tompa E. Centre for Research on Work Disability Policy: Current Activities. Apr 1 2016; Toronto, Canada: Institute for Work & Health Knowledge Exchange Forum.

Bradley M, Downer D, Meyers R, Tompa E, Yazdani A (listed alphabetically). Work Disability Prevention Management System Standard Development Project. Webcast presentation given on behalf of the Canadian Standards Association to launch the development of a new standard (300+ attendees). June 16, 2016.

**Funding:** Tompa E, MacEachen E. (Co-Directors), Baril-Gingras G, Bornstein S, Boucher N, Breslin C, Calvert J, Cooke G, Côté P, Coutu MF, Dawe D, de Boer C, Dewa C, Durand MJ, Facey M, Gewurtz R, Grignon M, Hanes R, Heymann J, Holness L, Jennissen T, Koehoorn M, Laberge M, Latimer E, McLeod C, 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, White M, Zeytinoglu I (37 Co-Investigators), Bernier J, Finkler E, Franche RL, Helfand N, Ison T, King A, Lippel K, Loisel P, MacAhoic P, Mendelson M, Stapleton J, Torjman S (12 Collaborators). (Total of 49 co-investigators and

collaborators and 45 partner organizations). Income Security and Labour-Market Engagement: Envisioning the Future of Disability Policy in Canada. Social Sciences and Humanities Research Council of Canada (SSHRC) Partnership Grant. \$2,760,782 (2013-2019).

Irvin E, Tompa E, Haan M, Gewurtz R, Mahood Q, Padkapayeva K. Financial Incentives to Promote Employment of People with Disabilities: When and How Do They Work Best? Ontario Human Capital Research and Innovation Fund (OHCRIF). Requesting \$49,137 for year 1 of the three-year project. (2017).

Yazdani A, Meyers R, Tompa E (Co-leads). Canadian Work Disability Prevention Standard for Paramedics with PTSD. Defence Research and Development Canada (DRDC). \$772,720 (2017-2020).

## 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.

**Status:** In 2017, several economic burden studies of cancer sites and exposure types were near completion. The key one is a study on the economic burden of mesothelioma and lung cancer from occupational asbestos exposure. This study was published in *Occupational and Environmental Medicine* in 2017. It received substantial attention in the media, with more than 40 print and online media across North America and more than 50 television stations in the United States reporting on or mentioning the research. The Altmetric score for the article is 452, which is in the top 5 percentile of all research outputs ever tracked by Altmetric. In the study, we identified 427 cases of newly diagnosed mesothelioma cases and 1,904 lung cancer cases attributable to asbestos exposure in 2011, for a total of 2,331 cases. Our estimate of the economic burden is \$831 million in direct and indirect costs for newly identified cases of mesothelioma and lung cancer, and \$1.5 billion in quality of life costs based on a value of \$100,000 per quality-adjusted life year. This amounts to \$356,429 and \$652,369 per case, respectively.

Burden manuscripts for occupational bladder cancer and for occupational skin cancer were also accepted for publication. The latter will be given a media release by the *Journal of Occupational and Environmental Hygiene*, where it is forthcoming. Manuscripts for occupational nasopharynx and sinonasal cancers was submitted for publication, as well as another on occupational stomach cancer. These four manuscripts are being spearhead by two PhD candidates (Young Jung and Amir Mofidi), who are undertaking the studies as part of their theses.

**Researchers:** Emile Tompa (Principal Investigator), Young Jung, Christina Kalcevich, Amir Mofidi, D Hyatt (University of Toronto), C McLeod (University of British Columbia), Martin Lebeau (Institut de recherche Robert-Sauvé en santé et en sécurité du travail (IRSST))

**Collaborations and Partnerships:** One component of this four part initiative is a knowledge transfer and exchange component. This component will be used to effectively communicate the findings from the other three components by: 1) integrating the Canadian Cancer Society (CCS) as a valued research partner; 2) engaging in multiple communication strategies with CCS's collaboration; and 3) having a knowledge broker from CCS who will help the team target, strengthen, and build relationships with various stakeholders, especially policy makers, who can use the findings to help inform policy change.

**Potential Audiences and Significance:** The asbestos burden study has been used by Environment and Climate Change Canada to undertake an impact assessment of the proposed legislation to ban the import and use of asbestos product (see <http://gazette.gc.ca/rp-pr/p1/2018/2018-01-06/html/reg3-eng.html>). In general, the suite of economic burden studies provides case costing that can readily be used for economic evaluations and impact assessments of prevention measures. To this end, the audiences for these studies include policymaker and legislators, as well as researchers and employers seeking to evaluate the merits of legislation and other exposure

reduction measures. In general, burden of disease studies provide insights into the magnitudes of the health loss and the cost of a disease to society. Information on the economic burden is extremely useful for government and industry decision making on the benefits of investing in prevention-related efforts, such as exposure reduction and increased enforcement of government regulations. In cases where best practices for prevention are not clear, burden estimates can help priorities research and development. Key audiences are policy makers, workers, employers and physicians.

#### **Publications:**

Tompa E, Kalcevich C, McLeod C, Lebeau M, Song C, McLeod M, Kim J, Demers P. (2017). The Economic Burden of Lung Cancer and Mesothelioma Due to Occupational Asbestos Exposure. *Occupational and Environmental Medicine*, <http://dx.doi.org/10.1136/oemed-2016-104173>.

Jung Y, Tompa E, Longo C, Kalcevich C, Kim J, Demers P. (forthcoming). The Economic Burden of Bladder Cancer in Canada due to Occupational Exposure. *Journal of Occupational and Environmental Medicine*.

Mofidi A, Tompa E, Spencer J, Kalcevich C, Song C, Mortazavi SB, Demers P. (forthcoming). The Economic Burden of Occupational Non-Melanoma Skin Cancer Due to Solar Radiation. *Journal of Occupational and Environmental Hygiene*.

Mofidi A, Tompa E, Kalcevich C, McLeod C, Lebeau M, Song C, Kim J, Mortazavi SB, Demers P. The Economic Burden of Nasopharynx and Sinonasal Cancers Due to Occupational Exposure. Submitted to the *International Journal of Occupational and Environmental Health*. December 2017.

Jung Y, Tompa E, Kalcevich C, Song C, Jung R, Demers P. Solving One Side of the Equation: The Economic Burden of Stomach Cancer Due to Occupational Exposure. Prepared for submission to a journal.

#### **Presentations:**

Tompa E, Kalcevich C, McLeod C, Lebeau M, Song C, McLeod K, Kim J, Demers PA. The Economic Burden of Lung Cancer & Mesothelioma in Canada Due to Occupational Asbestos Exposure. Invited presentation given to the Regulatory Analysis and Valuation Division, Economic Analysis Directorate, Strategic Policy Branch, Environment and Climate Change Canada, Ottawa, Canada, February 13, 2018.

Tompa E, Kalcevich C, McLeod C, Lebeau M, Song C, McLeod K, Kim J, Demers PA. Economic burden of lung cancer and mesothelioma in Canada from occupational and para-occupational asbestos exposure. Advisory Committee Meeting, EU-OSHA project entitled "Estimating the costs of work-related injuries, illnesses and death at the European Level," Leiden, The Netherlands. June 17, 2016.

Tompa E, Kalcevich C, McLeod C, Lebeau M, Song C, McLeod K, Kim J, Demers PA. Economic burden of lung cancer and mesothelioma in Canada from occupational and para-occupational asbestos exposure. October 16-18 2016; Toronto, Ontario: CARWH.

Tompa E. Burden basics, usefulness and limits: The Institute for Work & Health perspective. IRSST-NIOSH workshop on the economics of Occupational Safety and Health, Montreal, Canada. September 7-8, 2016.

Tompa E, Kalcevich C, McLeod C, Lebeau M, Song C, McLeod K, Kim J, Demers PA. Economic burden of lung cancer and mesothelioma in Canada from occupational and para-occupational asbestos exposure. IRSST-NIOSH workshop on the economics of Occupational Safety and Health, Montreal, Canada. September 7-8, 2016.

Tompa E, Sarnocinska-Hart A, Grant K, Kapoor K, Robson L, Irvin E, van Dongen H, Macdonald S. Economic evaluation of health and safety programs: A training workshop for workplace parties. IRSST-NIOSH workshop on the economics of Occupational Safety and Health, Montreal, Canada. September 7-8, 2016.

Tompa E, Kalcevich C, McLeod C, Lebeau M, Song C, McLeod K, Kim J, Demers P. The Economic Burden of Lung Cancer & Mesothelioma in Canada Due to Occupational Asbestos Exposure. Preventing the Burden of Occupational Cancer in Canada: A Stakeholder Symposium, Toronto, Ontario, November 5, 2015.

**Funding:** Demers P (Team Grant Lead) Assessment of the Human and Economic Burden of Workplace Cancer, Multisector team grants in prevention research, Canadian Cancer Society Research Institute (CCSRI). Demers P, Davies H, Kramer D, Tompa E (Principal Investigators). \$1,000,000 over 4 years. Estimation of Economic Burden, Tompa E (Project Lead), Hyatt D, McLeod C (Project Co-investigators). \$256,635 (2013-2016).

## **Estimation of the costs of work-related injuries illnesses and deaths for at least 5 countries out of the EU28 + Norway and Iceland, using national OSH and economic data (2290)**

**Project Period:** New

**Introduction:** The European Agency for Safety and Health at Work (EU-OSHA) would like to improve information on costs and benefits in occupational safety and health (OSH) to help policy makers to set priorities in European and national prevention strategies and to allocate resources most efficiently and to raise awareness of costs of non-OSH among policy makers outside the field of OSH. With these aims in mind, the objective of this study is to estimate the costs of work-related injuries, illnesses and deaths for at least five countries out of EU28 + Norway and Iceland. In the estimation of costs, the following aspects will be considered: i) apart from pure financial costs, it is important to value life and health impacts; ii) the methodology should be fully transparent and reproducible; iii) different cost bearers should be distinguished: employers, workers and their families, government and society at large.

### **Objectives:**

- To develop a cost calculation model to estimate the costs of work-related injuries, illnesses and deaths.
- To apply the model to the data from five EU countries to estimate the economic burden of work injury and illness in those countries for reference year 2015.

**Status:** Over the last 10 months, the research team has further developed the methodology presented in the proposal and selected the five countries to be studied (Germany, the Netherlands, Finland, Italy and Slovakia) after an extensive review of the literature and data resources across Europe. Germany is serving as a test case of the methodology. Estimates of the direct, indirect and intangible costs of occupational injuries and diseases in Germany for reference year 2015 are being developed. In October 2017, an interim funding report was completed, and in February 2018 a two-day meeting was held with the research team and funder.

**Researchers:** Emile Tompa (Principal Investigator), Young Jung, Amir Mofidi

**Collaboration and Partnerships:** This project is funded by the EU-OSH and involves a partnership of IWH, TNO in the Netherlands (the Project Lead) and VVA in Italy.

**Potential Audiences and Significance:** This study is of relevance to the European Union member states, including government policy makers, industry and labour. The findings and methods will also be of interests to a broader, international audience as similar work has only been undertaken in a handful of countries (United States, Australia and Singapore). The methods will be of interest to occupational health and safety researchers, economists specializing in economic burden measurement.

**Publications:** none to date

**Presentations:** none to date

**Funding:** van den Heuvel S, van der Zwaan L, van Bree T, Poliakov E, van Emmerik M, Hausemer P, Porsch L, Dragulin M, Vincze MP, Rabuel L, Plašilová I, Tompa E. Estimation of the costs of work-related injuries, illnesses and deaths for at least 5 countries out of EU28 + Norway and Iceland, using national OSH and economic data. European Agency for Safety and Health at Work Tender, EU-OSH Open Tender Procedure No. EUOSHA/2016/OP/D/SE/0007. € 274,496 (2017-2019).

## Extended working life and its interaction with health, wellbeing and beyond (2260)

**Project Status:** Ongoing

**Introduction:** In Europe and Canada, policymakers are facing particular challenges related to rising life expectancy, an aging workforce and the consequent increase in the prevalence of chronic illness and disability. But these increases in life expectancy are not experienced. Less skilled workers, for example, have a shorter life expectancy, earlier onset of chronic illness and disability, are more likely to suffer multi-morbidities as they get older and enjoy fewer years of life after retirement. Policymakers in Europe and Canada therefore face a dual challenge of extending health, quality of life and wellbeing into old age for all groups, whilst finding more effective and equitable ways of ensuring that all older people are fairly treated in strategies and policies to extend working life. This project conducts transnational research that advances understanding of the differential impacts of health inequalities on the opportunity to work later in life and of strategies and policies for extending working life that take these health inequalities into consideration.

### **Objectives:**

- To examine how the pattern of morbidity and co-morbidity with different physical and mental health conditions, and caring responsibilities, vary over working life by socioeconomic status and gender in different country contexts.
- To determine what the employment consequences of these changing patterns of morbidity, co-morbidity, and caring responsibilities at older ages are.
- To find policy approaches that have been taken in the study countries to extend the working lives of people with chronic illness.
- To consider the implications of the impact of health inequalities revealed in this research for future trends and the development of policies to extend working lives fairly.

**Status:** In the second year of this three-year workplan, the THRIVE project team has completed harmonized descriptive analyses of the prevalence of chronic conditions among older working age adults over a twenty year time period for each of the four countries, analysing differences in labour force participation and risk of poverty by health status and socioeconomic status. The Canada project team has commissioned Statistics Canada to prepare a specialized database linking cross-sectional samples of the Canadian Community Health Survey to longitudinal income tax records. The Canada project team also completed a search of the research literature, identifying approximately 300 empirical papers that may be appropriate for inclusion in systematic reviews.

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

**Collaborations and Partnerships:** Dr Whitehead from the University of Liverpool, UK, and includes partners from the University of Copenhagen, Denmark and the Karolinska Institute, Sweden. Our partners and research users will be invited to be members of a Consortium Advisory Group (CAG), which will advise on and challenge our research at each stage of the programme.

**Potential Audiences and Significance:** This project brings together a coherent group of study countries - UK, Canada, Sweden and Denmark - which are addressing similar policy problems but have been experimenting with a variety of strategies to tackle the problems. We will take an innovative approach that integrates comparative quantitative analysis of population datasets in each country with the knowledge generated through policy analysis and systematic reviews of qualitative and quantitative intervention studies. Through this research, there is scope for international policy learning on how best to extend the working lives of older people in ways that are effective and equitable.

### **Publications:**

In preparation. Chen WH, McAllister A, Mustard CA. The impact of health problems on transitions into nonemployment and early retirement among older workers in Canada: evidence from survey-administrative linked data.

In preparation. Bentley L, Liao Q, McAllister A, Mustard CA. Temporal trends (1995-2015) in comorbidity among older adults by SES in Canada and the UK.

In preparation. A McAllister, T Bodin, H Brønnum-Hansen, W-H Chen, L Bentley, N Koitzsch Jensen, Q Liao, I Andersen, C Mustard, B Burström. Social differentials in employment rates by health condition

In preparation Jetha A, Biswas A, McAllister A, Mustard CA, Barr B. Systematic review of return to work interventions for extending working lives.

**Presentations:**

McAllister A, Bentley L, Bronnum-Hansen H, Liao Q, Mustard CA, Nylén L, Burström B.. Social differentials in employment rates among older men and women in Canada, Denmark, Sweden and the UK in 2010-2015.. November 1-4 2017; Stockholm, Sweden: European Public Health Association.

**Funding:** Canadian Institutes of Health Research: \$268,500. Tackling health inequalities and extending working lives (THRIVE). Mustard C (Principal Investigator), Tompa E. (2016-2018).



## **The cost of exclusion of persons with disability in Canada (2265)**

**Project Status:** Ongoing

**Introduction:** Exclusion of people with disabilities from paid work is widely documented in the literature, but has not been quantified in monetary terms. In Canada it is estimated that 795,000 people with disabilities are unemployed despite being able and willing to work. Many different barriers prevent these people from working, including discrimination and bias, employers' concerns about cost and productivity, and a lack of knowledge on how to appropriately accommodate different abilities. Not counted are the underemployed—individuals with skill levels higher than their job demands who are unable to secure appropriate work due to their disability. This study will first develop a conceptual framework and methods for costing the exclusion of people with disabilities and then apply it to the Canadian context. It will draw on the cost of illness/ economic burden methodology, and extend it into the sociological domain based on concepts of the disablement process. The question driving the review is: What is the cost to Canadians of excluding people with disability from fully participation in society?

### **Objectives:**

- To develop a counterfactual framework of an inclusive society for application in Canada context.
- To synthesize theoretical and methodological literature on an inclusive counterfactual scenario.
- To develop a grounded counterfactual scenario for application in a cost of exclusion study based on the literature synthesis and to identify measures available to operationalize the counterfactual scenario.
- To estimate the magnitude of key components of exclusion, e.g., labour-market output/ productivity costs, exclusion from social role engagement, expenses for support provision by social programs.
- To identify the distribution of costs of exclusion across stakeholders—people with disabilities and their families, employers, the public sector, and society at large.

**Status:** This initiative is early in its development. Young Jung, a PhD candidate from McMaster Health Policy, was recruited to serve as the research associate on several of the studies. He is also completing a PhD thesis paper as part of the initiative, which is based on a data linkage of the Canadian Community Health Survey with the T1 Family File of tax data. The methodology for the study has been developed, access to the data has been secured, and ethics has been acquired. There are plans for at least two manuscripts from the linked data analysis, one on the societal cost associated with lower labour-market participation and employment earnings of persons with a disability, and one on the earnings gap of women with a disability compared with women without a disability and men with and without a disability. As part of the initiative, a special issue of a journal is planned that will include these contributions, a conceptual front piece, and related studies from Canada and other countries.

**Researchers:** Emile Tompa (Principal Investigator), Young Jung, Kathy Padkapayeva

**Collaborations and Partnerships:** We will be draw on relationships we have established in various policy circles to help guide the development of methods and their execution in the Canadian context. Individuals to be contacted include representatives from Employment and Social Development Canada, the Public Health Agency of Canada, the World Health Organization and the International Labour Organization.

**Potential Audiences and Significance:** This study is of relevance to injured worker and disability communities, employers, policymakers, disability program administrators, and service providers. The methodology to be developed for this study will be of interest to international stakeholders in work disability arena, including the World Health Organization and the International Labour Organization.

**Publications:** none to date

**Presentations:** none to date

**Funding:** Tompa E. The Cost of Exclusion of Persons with Disability in Canada. Centre for Research on Work Disability Policy (CRWDP), \$76,700 (2016-2018).

## **Financial incentives to promote employment of people with disabilities: when and how do they work best? (2295)**

**Project Status:** New

**Introduction:** Financial incentives are widely used to support employers to hire/retain workers with health conditions and disabilities. Financial incentives can take different forms, including providing a wage subsidy, and covering some or all the costs of accommodation. Stakeholders (including employers, disability advocates, people with disabilities, and service providers) have opposing perspectives on the merits of financial incentives for the recruitment and retention of workers with disabilities. The issue is not about whether wage subsidies work, but under what conditions they work well or do not work. Therefore, a greater understanding of the impact of financial incentives for workers with disabilities is needed to develop guidelines for their use. The issue of financial incentives such as wage subsidies is particularly relevant for people with disabilities and employers in Ontario. Ontario is the largest Canadian province with a diverse labour market and a vibrant community of people with disabilities. Specifically, we will take stock of existing knowledge and evidence, explore the perspectives of key stakeholders, and develop case examples showcasing opportunities, challenges, risks and benefits of financial incentives to encourage hiring and retaining workers with disabilities. This project responds to an urgent need to understand the effectiveness of financial incentives, and outline guidelines for how they should or should not be used to increase employment opportunities for people with disabilities.

**Objectives:**

- To conduct a scoping review to determine what is known in the published literature about the use of financial incentives that are designed to encourage or motivate employers to hire and provide accommodation to workers disabilities.

**Status:** The grant was awarded in the final quarter of 2017, the team hired a research coordinator; ran the searches, removed duplicates and completed the screening of 5146 title and abstracts of the scoping review.

**Researchers:** Emma Irvin (Principal Investigator), Quenby Mahood, Kathy Padkapayeva, Emile Tompa, M Haan (Canadian Council on Rehabilitation and Work), R Gewurtz (McMaster University).

**Collaboration and Partnerships:** We established relationships in various policy circles to help guide the development of the scoping review parameters. Individuals contacted include representatives from Employment and Social Development Canada.

**Potential Audiences and Significance:** This study is of relevance to injured worker and disability communities, employers, policymakers, disability program administrators, and service providers.

**Publications:** none to date

**Presentations:** none to date

**Funding:** Irvin E (PI), Tompa E, Haan M, Gewurtz R, Mahood Q, Padkapayeva K. Financial Incentives to Promote Employment of People with Disabilities: When and How Do They Work Best? Ontario Human Capital Research and Innovation Fund (OHCIRF), \$49,016 (2017-2018).

## **Measuring health and function**

Over the past 20 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 can assist in increasing the capacity to measure other return to work and health care outcomes to improve the effectiveness of business management.

In 2017, the Institute continued to strengthen 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. It also strives to improve evidence based selection of indicators and outcomes, including the support for core sets of outcomes to be fielded across studies. 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 and advance 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 advance evidence based approaches to selection of outcome measurement instruments (BOSS Studies) (Best Outcome Selection Study).

**Status:** The measurement group at the Institute for Work & Health continues work on establishing an evidence base for instrument selection methods through the BOSS study. This year saw the completion of a review of over 50 critical appraisal tools for assessing the quality of studies of measurement properties. Work from this is feeding into international efforts for core outcome set development through OMERACT and other collaborations. This year saw many methodological publications on establishing thresholds of change for instruments (Engel, Touma, Beaton), Knowledge Translation of core outcome sets (Beaton), and qualitative methods to clearly define domains to be measured to better understand and capture a patients' perception of their outcome. We offer training experiences in measurement sciences through workshops, training videos/webinars, and teaching at the University.

**Researchers:** Dorcas Beaton (Institute Coordinator), Claire Bombardier, Cynthia Chen, Kim Cullen, , Sheilah Hogg-Johnson, Emma Irvin, Peter Smith, Michael Swift, Dwayne Van Eerd, R Buchbinder (Monash University, Australia), Lisa Engel (University of Toronto), F Guillemin (University of Nancy, France), Z Touma (University of Toronto), P Tugwell (University of Ottawa), G Wells (University of Ottawa).

**Collaborations and Partnerships:** Partners in this project include users of the instruments we support, clinicians, researchers, trainees, and students, as well as organizations collaborating in our activities, including Outcome Measures in Rheumatology (OMERACT).

**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:

**Beaton DE.** Interpretation of perceived health data. Chapter 11 in *Perceived Health and Adaptation in Chronic Disease* edited by Francis Guillemin, Alain Leplege, Serge Briancon, Elisabeth Spitz, Joel Coste Crawford J, Beaton D, Ahmad F, Bierman AS. *Cross-cultural survey development: The Colon Cancer Screening Behaviors Survey for South Asian populations.* BMC Res Notes. 2017 Dec 28;10(1):770. doi: 10.1186/s13104-017-3098-3.

Tugwell P, Grosskleg S, Shea B, **Beaton D**, Wells GA. Introduction. *J Rheumatol.* 2017 Oct;44(10):1511-1514. doi: 10.3899/jrheum.170659.

Luca NJ, Stinson JN, Feldman BM, Benseler SM, **Beaton D**, Campillo S, LeBlanc C, van Wyk M, Bayoumi AM. Validation of the Standardized Universal Pain Evaluations for Rheumatology Providers for Children and Youth (SUPER-KIDZ). *J Orthop Sports Phys Ther.* 2017 Oct;47(10):731-740. Epub 2017 Sep 4.

Shankland B, **Beaton D**, Ahmed S, Nedelec B. Effects of client-centered multimodal treatment on impairment, function, and satisfaction of people with thumb carpometacarpal osteoarthritis. *Journal of Hand Therapy* 2017 Jul - Sep;30 (3):307-313.

Toupin-April K, Barton J, Fraenkel L, Li LC, Brooks P, De Wit M, Stacey D, Légaré F, Meara A, Shea B, Lyddiatt A, Hofstetter C, Gossec L, Christensen R, Scholte-Voshaar M, Suarez-Almazor ME, Boonen A, Meade T, March L, Pohl C, Jull JE, Sivarajah S, Campbell W, Alten R, Karuranga S, Morgan E, Kaufman J, Hill S, Maxwell LJ, Welch V, **Beaton D**, El-Miedany Y, Tugwell PS. Towards the development of a core set of outcome domains to assess shared decision-making interventions in rheumatology: result from an OMERACT Delphi survey and consensus meeting. *Journal of Rheumatology*. 2017 August 1

Tunis SR, Maxwell LJ, Graham ID, Shea BJ, Bingham CO 3<sup>rd</sup>, Brooks P, Conaghan PG, D'Agostino MA, De Wit MP, Gossec L, March LM, Simon LS, Singh JA, Strang V, Wells GA, Tugwell P. Engaging stakeholders and promoting update of OMERACT core outcome instrument sets. *Journal of Rheumatology*. 2017 August 1  
Vaillancourt S, Seaton M, Schull M, Cheng A **Beaton D**, Laupacis A, Dainty K. Patients' Perspectives on Outcomes of Care After Discharge from the Emergency Department: A Qualitative Study. *Ann Emerg Med*. 2017 Jul 14. pii: S0196-0644(17)30670-4.

Finger ME, Boonen A, Woodworth TG, Escorpizo R, Christensen R, Nielsen SM, Leong AL, Scholte Voshaar M, Flurey CA, Milman N, Verstappen SM, Alten R, Guillemin F, Kloppenburg M, **Beaton DE**, Tugwell PS, March LM, Furst DE, Pohl C. An OMERACT Initiative Toward Consensus to Identify and Characterize Candidate Contextual Factors: Report from the Contextual Factors Working Group. *J Rheumatol*. 2017 May 1. pii: jrheum.161200.

Shankland B, **Beaton D**, Ahmed S, Nedelec B. Effects of client-centered multimodal treatment on impairment, function, and satisfaction of people with thumb carpometacarpal osteoarthritis. *J Hand Ther*. 2017 Apr 25. pii: S0894-1130(17)30079-0.

Petkovic J, Barton JL, Flurey C, Goel N, Bartels CM, Barnabe C, de Wit MP, Lyddiatt A, Lacaille D, Welch V, Boonen A, Shea B, Christensen R, Maxwell LJ, Campbell W, Jull J, Toupin-April K, Singh Ja, Goldsmith CH, Sreih AG, Pohl C, Hofstetter C, **Beaton DE**, Buchbinder R, Guillemin F, Tugwell PS. Health equity considerations for developing and reporting patient-reported outcomes in clinical trials: A report from the OMERACT equity special interest group. *J Rheumatol* February 15, 2017. [E-pub ahead of print].

O'Hara N, Garibaldi A, Sprague S, Jackson J, Kwok A, **Beaton D**, Bhandari M, Slobogean G (2017). Rehabilitation, not injury or treatment details, dominate proximal humeral fracture patient concerns: a thematic analysis. *European Journal for Person Centered Healthcare*. 5(3): 351-356.

Engel, L., **Beaton DE**, Touma, Z. (in press). Minimal clinically important difference: a review of outcome measure score interpretation. *Rheumatic Disease Clinics of North America*

#### **Presentations:**

Beaton, D. Promoting Core Outcome Sets: Center for Medical Technology Policy (CMTP). October 2017; Baltimore, USA

Beaton D. From Understanding to Measurement to Understanding 2.0: Reflections on 20 years in measurement sciences. September 2017; Winnipeg, Manitoba: University of Manitoba Alumni Dinner

Beaton D. Core Sets, COMET, COSMIN etc. What could they mean for Health Technology Assessment. May 2017; Toronto, Ontario: Ontario Ministry of Health and Long-Term Care.

## **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. 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 proposal 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. 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).

**Status:** A paper examining the availability, need for, use of and helpfulness of diverse accommodations and workplace policies is in press in *Work, Aging and Retirement*; a paper comparing the retirement expectations and experiences of those with arthritis, diabetes and no chronic conditions is under review; lastly, a paper examining gender similarities and differences in accommodations is in press in *Annals of Work Exposures and Health*. A data transfer agreement has been signed and the data are with co-investigator Vicky Kristman. She and her students are conducting additional analyses that may result in papers and presentations.

**Researchers:** Monique Gignac (Principal Investigator), Dorcas Beaton, Selahadin Ibrahim, Vicki Kristman, Cameron Mustard, Peter Smith, E Badley (Krembil Research Institute),.

**Collaborations and Partnerships:** We will collaborate with IWH's network of educationally influential practitioners in ergonomics, occupational therapy and physiotherapy, as well as 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 conditions. It will also be relevant to employers, disability managers, human resource professionals, occupational health professionals, insurers, and consumer/patient organizations.

### **Publications:**

Gignac, M.A.M., Smith, P. M., Ibrahim, S., Kristman, V., Beaton, D.E., & Mustard, C.A. (under review, 2017). Retirement expectations of older workers with arthritis and diabetes compared to workers with no chronic diseases.

Gignac, M.A.M., Badley, E., Beaton, D., Kristman, V., Mustard, C., Smith, P., & Ibrahim, S. (In press). Are there differences in workplace accommodation needs, use and unmet needs among older workers with arthritis, diabetes and no chronic conditions? Examining the role of health and work. *Work, Aging & Retirement*.

Gignac, M.A.M., Ibrahim, S., Smith, P. M., Kristman, V., Beaton, D. E., & Mustard, C.A. (In press). The role of sex, gender, health factors and job context in workplace accommodation use among men and women with arthritis. *Annals of Work Exposures and Health*. doi: 10.1093/annweh/wxx115. [Epub ahead of print]

**Presentations:**

Gignac, M. A. M. (2017). Behavioural coping efforts to manage workplace activity limitations. Special Session - *Staying at work: work assessments and rehabilitation interventions for people with inflammatory arthritis*. Invited speaker to the British Health Professionals in Rheumatology (BHPR) Annual Scientific Meeting, Birmingham, U.K. Session jointly sponsored by the BHPR and Association of Rheumatology Health professionals (ARHP, U.S.), April 2017. *[This presentation draws on data from 2270 as well as other research]*

Gignac M.A.M (Invited presenter). Keeping the Boom(ers) in the Labour Market: Can Existing Workplace Policies and Accommodations make a Difference? Jun 8 2016; Toronto, Canada: Canadian Institute for the Relief of Pain and Disability (CIRPD) (webinar).

Gignac, M.A.M (Invited speaker). Keeping the Boom(ers) in the Labour Market: Job Accommodations, Benefits & Employment Outcomes among Healthy Older Workers and those with Chronic Diseases.. Apr 19 2016; Toronto, Canada: Educationally Influential Kinesiologists' Expert Forum.

Gignac M, Kristman V, Smith P, Beaton D, Badley E, Mustard CA, Ibrahim S. Keeping the boomers in the labour market: a comparison of workplace accommodations, health and job outcomes among healthy older workers and those with arthritis and diabetes. Oct 16-18 2016; Toronto, Canada: CARWH 2016, the 9th Canadian Association for Research on Work and Health Conference.

Gignac M, Kristman V, Smith P, Beaton D, Badley E, Mustard CA, Ibrahim S. Keeping the boomers in the labour force longer: what are the retirement expectations of older workers with chronic diseases compared to their healthy counterparts? Oct 16-18 2016; Toronto, Canada: CARWH 2016, the 9th Canadian Association for Research on Work and Health Conference.

**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): \$176,466.00 (2013-2015).

## Supporting the employment participation of Canada disabled young adults: scoping review (3210)

**Project Status:** New

**Introduction:** Employment experiences during the young adult life phase are critical to determining a person's career trajectory. During this life phase, young adults report a number of vocational transitions including graduating from school and finding and sustaining paid work. Challenges with employment during young adulthood can have long-term consequences including the risk of future unemployment or underemployment, reduced earnings, or a deterioration of skills. To-date, a majority of research on the employment of disabled young adults has focused on the impact of health factors (e.g., disability type, disease severity, and activity limitations), demographic characteristics (e.g., education, gender) and psychosocial perceptions (e.g., perceived social support, autonomy). It is unclear to what extent studies have examined the role of organizational conditions (e.g., availability of workplace accommodations, modifications, and supports), training needs (e.g., skills building, vocational readiness), disability services (e.g., vocational rehabilitation) and policy-level factors (e.g., incentives to hire disabled young adults, enforcement of duty to accommodate legislation) that may be influential in facilitating the employment participation of young adults living with disabilities.

**Objectives:** To examine the *work-focused* policies and programs that support the transition into labour market of young adults living with disabling health conditions in OECD countries.

**Status:** We have completed stakeholder consultations and level 1 screening of titles and abstracts. Level 2 screening is in progress; we are currently reaching consensus on reviewer conflicts and expect to conduct quality appraisals in early 2018. We anticipate completing the project in the summer of 2018.

**Researchers:** Arif Jetha, Monique Gignac

**Collaboration and Partnerships:** Canadian Disability Participation Project, University of British Columbia Okanagan, Queens University, Guelph University Disability Services

**Potential Audiences and Significance:** Employers, young adults with disabilities and their families, clinicians and rehabilitation professional, policy makers. Findings from this study will provide an evidence-base on policies and practices that support the labour market engagement of young adults with disabilities and inform the design of policies and programs.

**Publications:** none to date

**Presentations:** none to date

**Funding:** Martin Ginis K (PI), Connolly C, Borisoff J, Bray J, Hayes K, Latimer-Cheung A, Mortenson B, Beauchamp M, Miller B, Noreau L, Rimmer J, Horrocks J, Tucker S, Gignac MAM, Bassett-Gunter R, Jetha A. Enhancing community participation in Canadians with physical disabilities: Development, implementation and evaluation of a partnered strategy. Social Sciences and Humanities Research Council (SSHRC): \$2,643,997 over 7 years (\$4,400 awarded to this project).



## **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.

One of our large, multi-year projects, involves the ongoing development and testing of the DASH, a 30-item questionnaire designed to measure disability and symptoms in any or multiple disorders of the upper limb.

## 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 over 50 language translations and 22 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 review of measurement properties.
- To revise the scoring system for the DASH based on the findings of repeated factor analysis.
- To mark the 20th anniversary of the DASH recognizing developers' contribution.

**Status:** The end of the celebrations of the DASH Outcome Measure's 20<sup>th</sup> anniversary were marked in 2017. As expected we had a series of presentations over the year, and marked the year by beginning to envision legacy tools for ensuring the DASH Outcome Measure has the support required to continue to be a useful and useable tool. In 2017 we began to systematically review the evidence supporting the DASH with the work of two graduate students. We will continue these efforts, and their efficient operation.

**Researchers:** Dorcas Beaton (Institute Coordinator), Claire Bombardier, Kim Cullen, Sheilah Hogg-Johnson, Selahadin Ibrahim, Quenby Mahood, Michael Swift, C Kennedy-Yee (Health Quality Ontario).

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

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

### **Publications:**

Kennedy CA, Beaton DE. A user's survey of the clinical application and content validity of the DASH (Disabilities of the Arm, Shoulder and Hand) outcome measure. *J Hand Ther.* 2017 Jan - Mar;30(1):30-40.e2. doi: 10.1016/j.jht.2016.06.008. Epub 2016 Jul 26.

### **Presentations:**

Beaton D. Celebrating 20 years of the DASH Outcome Measure. February 23, 2017; IWH Speaker Series: Toronto, Ontario.

## 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.

**Foundation Programs**

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## **Workplace Safety & Insurance Board data routine statistics (0845/0307)**

**Project Status:** Ongoing

**Introduction:** The Ontario Workplace Safety and Insurance Board (WSIB) 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
- To develop internal capacity to use WSIB data and maintain three staff who can extract data
- To develop set of core competencies regarding WSIB data
- To position IWH to provide assistance to external researchers

**Status:** In 2017, the team of analysts discussed ad-hoc extractions of WSIB data requests and developed further knowledge of WSIB data.

**Researchers:** Cynthia Chen (Institute Coordinator), Hyunmi Lee, Michael Swift

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

**Potential Audiences and Significance:** This IWH research activity is largely of interest to internal Institute colleagues, but has potential interest to WSIB stakeholders also. Data extractions will be conducted solely for Institute researchers as per our research agreement with the WSIB.

## Methodological developments in systematic reviews (0951)

**Project Status:** Ongoing

**Introduction:** IWH is committed to continuously improving the field of systematic review methodology. In 2017, we proposed 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.

**Status:** In 2017 the group successfully ran a course at the University of Toronto Rehabilitation Sciences Institute for PhD and MSc students. Members of the group also, at the request of WorkSafe BC, created an introduction to Systematic Review methods for WorkSafe's research and policy branch. Members of the group submitted two Cochrane reviews, one on alcohol and drug screening of occupational drivers for preventing injury and one on multidisciplinary interventions for subacute low back pain. The second review was published and the first is under final review. A Cochrane protocol for a systematic review of studies developing and/or evaluating search strategies to identify prognosis studies was submitted and accepted, the review is at the evidence synthesis stage and a database of all prognosis reviews and filters created.

**Researchers:** Emma Irvin (Institute Coordinator), Dwayne Van Eerd (Institute Coordinator), Ben Amick, Nancy Carnide, Kim Cullen, Andrea Furlan, Joanna Liu, Quenby Mahood, J Hayden (Dalhousie University), J Jordan (Keele University), R Parker (Dalhousie University), M Van Tulder (VU, Amsterdam), G Wells (University of Ottawa)

**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 are relevant to methods groups of the Cochrane Colloquium and other researchers conducting systematic reviews, and those interested in incorporating stakeholders in the process.

### Publications:

Corp N, Jordan JL, Hayden JA, **Irvin E**, Parker R, Smith A, van der Windt DA. Protocol: a systematic review of studies developing and/or evaluating search strategies to identify prognosis studies. *Systematic Reviews* 2017 Apr 20;6(1):88. doi: 10.1186/s13643-017-0482-y

### Presentations:

Irvin E, Van Eerd. Systematic Review Workshop. September 25, 2017; Vancouver, British Columbia: WorkSafeBC Head Office.

## 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 website, social media, 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 relevant 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 two Issue Briefings each year.

**Status:** No Issue Briefings were published in 2017. One new Issue Briefing was drafted and in review at the end of 2017. The analysis to provide an update to an earlier Issue Briefing was also completed.

**Researchers:** Monica Bienefeld (Project Leader), Kristina Buccat, Cindy Moser, Cameron Mustard

**Collaborations 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 Prevention Knowledge Exchange Group, the CCOHS, the Industrial Relations Centre at U of T, and others who have signed up to receive notices of Issue Briefings. 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:** none to date

## **Educationally Influential Networks (0617)**

**Project Status:** Ongoing

**Introduction:** Many health practitioner groups provide services 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 MSDs, 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 collaborations developed with professional bodies who represent or regulate these disciplines. These organizations have assisted in identifying those individuals across the province who are informal opinion leaders, i.e. Individuals who are identified by their peers as “educationally influential” (EI). EI networks for each practitioner group have been convened to foster a two-way exchange: stakeholder information and opinions shared with IWH (to improve our research and knowledge transfer efforts); and research knowledge shared with, and via, EIs to their peers in an effort to assist evidence-based practice. We may also look to EIs to participate in research projects as advisors. In 2017, we once again brought all EI networks together in a day-long “EI Summit”, intended to encourage cross-disciplinary discussion on research and practice issues.

### **Objectives:**

- To plan and implement annual face-to-face contact with all network members in an EI Summit
- To disseminate regular IWH-news briefs to EI group members as relevant.
- To contribute to association trade publications as relevant research becomes available
- To engage EIs in IWH research

**Status:** EIs were contacted to participate in various research projects as advisory committee members and to assist in promotion, recruitment and dissemination. We held our second annual EI summit meeting in 2017 and will continue using the summit format in place of discipline-specific meetings moving forward. We began sending EIs regular one-item IWH news briefs or links to single research alert articles to forward to their own networks on research findings in 2017 and will continue to do so in 2018.

**Researchers:** Monica Bienefeld (Project Lead), Kristina Buccat, Siobhan Cardoso, Kim Cullen, Sara Macdonald.

**Collaborations 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 physiotherapists, kinesiologists, occupational therapists, chiropractors and ergonomists. 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 either a partner or co-investigator. Individual partner organizations may also promote IWH through their own events or websites.

## Tracking KTE and Evaluation (0629)

**Project Status:** Ongoing

**Introduction:** Consistent with the IWH Five Year Strategic Plan, KTE has identified activities and indicators to be measured. KTE staff will continue to track stakeholder engagement in IWH projects, using templates that we developed for tracking KTE activities associated with each research project and use of tools/guides resulting from those projects. We will complete 5 new case studies of research impact.

**Objectives:**

- To track KTE indicators that are part of the Five Year Strategic Plan.
- To track stakeholder engagement in systematic reviews and other KTE activities.
- To document indicators of research use, e.g., downloads, media mentions, testimonials of research use.
- To document research impact through case studies.

**Status:** Five impact case studies were completed in 2017. These case studies talk about the use of IWH's Seven Principles for Return to Work guide, how a variety of organizations are using IWH's toolkit (Prevention is the Best Medicine) to teach newcomers about workplace OHS, looking at how the breakthrough change model helped develop the framework for a small business centre at a large provincial health and safety association, the use of IWH systematic reviews in informing the WHO guidelines on rehabilitation in health systems, and how IWH research on the economic burden of asbestos-related disease featured in Canada's decision to propose new regulations to ban the use and sale of asbestos. In addition, tracking templates were revised to allow for more integrated feedback from research teams on project-based KTE events and dissemination efforts.

**Researchers:** Monica Bienefeld (Project Lead), Kristina Buccat, Siobhan Cardoso, Kim Cullen, Emma Irvin, Sara Macdonald, Cindy Moser, Dwayne Van Eerd.

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

**Potential Audiences and Significance:** This project is of interest to IWH staff, IWH Board of Directors, external stakeholders, and KTE researchers.

## **Disability Managers and Occupational Health and Safety (OHS) Professionals Networks (0638)**

**Project Status:** Ongoing

**Introduction:** In 2012, IWH established a network of disability management professionals, and in 2015, IWH established an occupational health and safety professionals network. The groups are currently composed of 57 and 55 members. Annual meetings are held at the IWH to discuss research findings, new projects and emerging practice issues. LinkedIn groups were created at the request of the network members to post and discuss research findings and provide networking opportunities. All members also receive regular IWH e-news and At Work and will be receiving new single item alerts on topics relevant to their professions. Members are also approached to participate in research projects or advisory committees.

**Objectives:**

- To facilitate knowledge exchange among IWH researchers and individuals who are involved in the practice of disability management and occupational health and safety in Ontario.
- To gain input on new research ideas and research findings for RTW and OHS audiences.
- To facilitate the dissemination of research findings to the community of disability management and occupational health and safety practitioners in Ontario.
- To facilitate participation in IWH research projects or IWH events (e.g. Workshops, seminars).

**Status:** An annual meeting has been held each spring for the disability managers network and each fall for the OHS professionals network. In 2017, research presentations to the disability managers included “Perspectives of healthcare providers (HCP) and case managers on the HCP role in return to work and the workers compensation system,” by Dr. Kosny; “Managing depression in the workplace for stay at work and return to work,” by Dr. Cullen; and the summary of the IWH systematic review on the effectiveness of return to work interventions through the IWH short video. Disability managers also provided input on the design of the IWH website.

The OHS professionals network meeting was deferred to the spring of 2017 to allow for a combined meeting with the disability managers network. Members in both networks were asked to participate in various ways on IWH research projects, e.g. promoting, recruiting for and completing the survey on managing depression at work.

**Researchers:** Sara Macdonald (Project Lead), Monica Bienefeld, Kristina Buccat, Cindy Moser.

**Collaborations and Partnerships:** Private and public insurers, health and safety associations, Ontario workplaces.

**Potential Audiences and Significance:** Members of the network include workplace disability managers and consultants, case managers, insurance providers and OHS professionals in workplaces, health and safety association consultants, and private consultants. These professionals are increasingly interested in using research evidence in their practice. They often have broad networks of their own within which they share research useful for their work.

## Prevention Partners Networks (0640)

**Project Status:** Ongoing

**Introduction:** KTE will continue to build relationships with the prevention partner community through vehicles like the Prevention Knowledge Exchange Group (PKEG), which is hosted by IWH, with representation from the health and safety associations (HSAs), the Ministry of Labour (MOL), the Workplace Safety and Insurance Board, the Centres for Research Expertise (CRE-MSD and CREOD), and the Occupational Cancer Research Centre (OCRC). This regular committee work is supplemented with seminars and presentations in conferences that involve partners in the Ontario prevention system.

**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.

**Status:** PKEG met on March 3, June 2, September 15, and December 1, 2017, chaired by the Director of KTE at IWH. There were presentations from system partners, a roundtable on ideas for engaging the specialized system research organizations in the Partners in Operations Forum, and IWH presentations on employer spending on OHS and the IWH approach to KTE.

IWH had a booth at the annual Partners in Prevention conference and had three presentations in the main program (on leading indicators, employer investments in OHS, and opioids and work) as well as three scientific posters covering relationship building for OHS KTE and two posters on OHS vulnerability. IWH also participated in the Ergonomics Integrated Planning Action Committee (chaired by MOL) and the Health & Safety Partners Communications Forum, a network of communications professionals representing partners within Ontario's health and safety system, also chaired by the MOL. The IWH KTE Director participated on two advisory councils of the Public Services Health and Safety Association.

**Researchers:** Monica Bienefeld (Project Lead), Kristina Buccat, Siobhan Cardoso, Kim Cullen, Sara Macdonald, Cindy Moser, L Holness and J Brown (CRE-OD), D Kramer (OCRC), R Wells (CRE-MSD).

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

**Potential Audiences and Significance:** For PKEG and EIPAC: Health and safety associations (HSAs), Ministry of Labour, (MOL), WSIB and Centres for Research Expertise (CREs). For the Partners in Prevention Conference, workplace parties and OHS professionals would also be 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 2016, we expanded the membership of our biannual 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. We continued to meet as a group with people from our stakeholder organizations whom we have identified as “influential knowledge users”.

### Objectives:

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

**Status:** At our booth at the Partners in Prevention conference, we signed up 187 new names to our subscription list. We produced an updated version of the handout called “5 things we think you should know”—outlining five IWH research findings of interest to workplace parties. IWH scientists presented research in oral and poster sessions at the conference. Members of the KTE team also set up a booth to promote IWH research and sign up new subscribers at two other non-academic conferences on OHS and disability management in the GTA. IWH hosted and presented research at the Research & Policy Forum on Immigration, Work & Health with over 60 participants. The Employer and the Labour Forums met at IWH in the Spring of 2017. The Influential Knowledge Users Group met in early July. The annual Alf Nachemson memorial lecture took place in November. It was well attended (114 attendees) and continues to be a major OHS networking event hosted by the Institute. This year’s lecture was given by Dr. Linda Goldenhar of CPRW—The Center for Construction Research and Training in the U.S. She talked about improving OHS outcomes in construction through improved safety culture and leadership. She offered concrete tools and guides as take-aways, which the OHS practitioners in the audience appreciated.

**Researchers:** Monica Bienefeld (Project Lead), Kristina Buccat, Siobhan Cardoso, Kim Cullen, Emma Irvin, Sara Macdonald, Cindy Moser, Dwayne Van Eerd.

**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, 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., IWH-OPM Questionnaire, OHS Vulnerability Measure, DASH Outcome Measure, Prevention is the Best Medicine toolkit for newcomers, 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, repackage and market current tools within IWH toolkit as needed.
- To disseminate and document the uptake of IWH tools and guides.
- To administer and coordinate all procedures related to translations of the DASH, *QuickDASH* and maintain related database.
- To monitor and maintain database of requests for commercial and non-commercial use of DASH.

### Status:

1) DASH Outcome Measure: DASH and QuickDASH commercial and non-commercial database requests were maintained and all downloads were tracked. There were 269 user profiles submitted, a 45% increase from 2016, and it was determined that 7 of these fit into the conditions for commercial use. Five of these applicants took out new licences, also an increase from 2016. We received several complicated applications from users requesting to incorporate DASH and *QuickDASH* into Electronic Medical Record systems or privately developed software platforms. It was agreed that we would allow this use without requiring a commercial licence because in all cases the end users were clinicians. In 2017, we approved 14 of these applications for free use. The large increase in the number of User Profiles received in 2017 may be partially attributable to the new DASH website and the automated response system. There were 96,316 individual visitors, 301,147 pageviews, and 102,901 downloads from the website. Two new licenses for translations of the DASH were issued in 2017 and there were nine new translation requests approved. There were 52 iPad apps sold in 2017,

2) eOfficeErgo-Ergonomics e-Learning for Office Workers: Jointly with Public Services Health and Safety Association, IWH continues to monitor the uptake of the e-learning program. Reports were sent quarterly to PSHSA. A user survey was conducted in 2017 and work was begun to launch a French-language version of this online learning tool in 2018.

3) IWH-OPM tool: The IWH-OPM was launched as an official tool, available for download and print, containing guidance on interpreting scores. PSHSA continued work on an app for the OPM to assist leaders in improving their OHS performance.

4) The OHS Vulnerability measure was launched in 2016 as a tool for workplace parties to assess vulnerability in their workplaces. In 2017, a French-language version of the worker survey was made available through the IWH website.

In 2017, we developed 3 new tools: an operational handbook for putting evidence in context for use in OHS; a guide to support people in managing depression in the workplace; and a process guide for addressing essential skills gaps within an existing OHS training program. In 2018, we will post these tools on our redesigned website and disseminate these tools to a wider audience, as well as develop new resources from any new IWH research results appropriate for this use.

**Researchers:** Jocelyn Dollack (Project Lead), Cindy Moser (Co-Lead), Monica Bienefeld, Kristina Buccat, Siobhan Cardoso, Kim Cullen, Jan Dvorak, Sara Macdonald.

**Collaboration and Partnerships:** Partners involved in this project include the health and safety associations and research project funders.

**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 2017.

**Objectives:**

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

**Status:** Registration and preparation for the Systematic Review workshop was ongoing. We held a workshop from May 3-5, 2017.

**Researchers:** Emma Irvin (Project Lead), 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.

## 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.

**Status:** 2017 saw IWH's research messages reach further through the Institute's website, e-alerts, social media and videos/slidecasts. IWH News subscriptions rose to 5,400 by the end of 2017, up from 4,956 at the end of 2016. The 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 subscribers at the end of 2017 stood at 5,730, up from 5,299 at the end of 2016. Subscribers to other products also rose slightly over the year. In all, the total number of subscribers to any IWH product (excluding DASH) rose to 6,258 at the end of 2017, up from 5,817 at the end of 2016.

Corporate communications in 2017 was devoted for the most part to the reorganization and redesign of the IWH website, a project taken on by an internal IWH team. The first half of the year concentrated on the reorganization of the website, basing this on extensive statistical and in-person research (the latter leveraging the IWH's networks) designed to understand better how users navigate the site. The second half of the year concentrated on the redesign of the website, making it lighter, friendlier and more accessible to lay audiences. New content was also added, including project pages. The new website was launched on March 1, 2018. Website views were down in 2017 after years of exponential growth. This was due in part to website activity being focused on the redesign of the site, as well as to the ongoing trend of fewer views to the What Researchers Mean By pages, which account for the bulk of unique page views on the IWH website. In Q4, the number of unique page views was 234,947 and the number of unique visitors was 185,773, both down about 30 per cent from the same quarter last year.

With respect to media relations, six releases were issued in 2017, four on IWH research (OHS Vulnerability Measure, return-to-work systematic review, WHO rehabilitation guidelines and prolonged occupational standing) and two on IWH-related events (Nachemson lecture and CRWDP conference). Media mentions were at an all-time high in 2017, with 175 media mentions in Q3 2017 alone. In 2015, the highest media mentions in a quarter was 121; in 2016, it was 84. Research on the relationship between prolonged standing and heart disease and on the societal economic burden of occupational asbestos exposures accounted for most of the mentions in Q3 2017.

Social media outreach continued to grow in 2017 despite continuing to spend less total time on it as a team. The number of Twitter followers went over 3,000 in December, up from 2,497 at the end of 2016; the number of LinkedIn subscribers grew to 2,088, up from 1,880 at the end of 2016; and the number of video/slidecast views held steady in Q4 2017 at 2,524, about the same number as Q4 2016. In 2017, IWH created three video shorts, including an English- and French-language video short on the OHS Vulnerability Measure, and another on the

findings of the return-to-work systematic review. IWH also posted 12 plenary slidecasts on its YouTube channel, as well as the Nachevson lecture slidecast.

IWH hosted its annual Nachevson lecture in early November. The lecture was delivered by Dr. Linda Goldenhar of CPRW—The Center for Construction Research and Training in the U.S. She talked about improving OHS outcomes in construction through improved safety culture and leadership. She offered concrete tools and guides as take-aways, which the OHS practitioners in the audience appreciated. The event was attended by 114 people.

IWH also staffed a booth at the Partners in Prevention trade show in May 2017, where a package was handed out that included “5 things we think you should know,” an annual offering that communicates five key IWH research findings from the previous year. Also included were the IWH Product Guide, and the Winter 2017 issue of At Work. A badge scanner was used again and, after eliminating people who were already in our CRM, it collected 187 new IWH News subscribers.

The annual report for 2016, released in 2017, focused on the way in which IWH research makes a difference in workplaces. It included five case studies in which Ontario workplaces shared how they have used IWH research to better their OHS or RTW programming.

Internally, 2017 saw the almost-weekly production of the staff newsletter, [thistweek@iwh](mailto:thistweek@iwh), as well as incremental improvement to the wiki-based staff intranet.

**Researchers:** Cindy Moser (Project Lead), Monica Bienefeld, Kristina Buccat, Siobhan Cardoso, Kim Cullen, Jan Dvorak, Sara Macdonald, Lyudmila Mansurova, Uyen Vu

**Collaborations and Partnerships:** In 2016, Communications Manager Cindy Moser and Communications Associate Uyen Vu continued to attend regular meetings of a Ministry of Labour-led network called the Health and Safety Partners Communication Forum. This network allows the communications team to meet and work with communications counterparts in Ontario’s prevention system, including the MOL, WSIB and health and safety associations.

**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.

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## Publications and Awards

### Journal articles: Published

Ansari H, **Beaton DE**, Sujic R, Rotondi NK, Cullen JD, Slater M, Sale JEM, Jain R, Bogoch ER; Ontario Osteoporosis Strategy Fracture Screening and Prevention Program Evaluation Team. Equal treatment: no evidence of gender inequity in osteoporosis management in a coordinator-based fragility fracture screening program. *Osteoporosis International*. 2017;28(12):3401-3406.

**Beaton DE**, Mamdani M, Zheng H, Jaglal S, Cadarette SM, Bogoch ER, Sale JEM, Sujic R, Jain R; Ontario Osteoporosis Strategy Fracture Clinic Screening Program Evaluation Team. Improvements in osteoporosis testing and care are found following the wide scale implementation of the Ontario Fracture Clinic Screening Program: An interrupted time series analysis. *Medicine (Baltimore)*. 2017 ;96(48):e9012.

**Beaton DE**, Vidmar M, Pitzul KB, Sujic R, Rotondi NK, Bogoch ER, Sale JEM, Jain R, Weldon J. Addition of a fracture risk assessment to a coordinator's role improved treatment rates within 6 months of screening in a fragility fracture screening program. *Osteoporosis International*. 2017;28(3):863-869.

Bielecky A, **Ibrahim S**, **Mustard CA**, Brisson C, **Smith P**. An analysis of measurement invariance in work stress by sex: are we comparing apples to apples? *Journal of Articles in Support of the Null Hypothesis*. 2017;13(2);37-47.

Black O, Keegel T, Sim MR, Collie A, and **Smith P**. The effect of self-efficacy on return-to-work outcomes for workers with psychological or upper-body musculoskeletal injuries: a review of the literature. *Journal of Occupational Rehabilitation*. 2018;28(1):16-27

Black O, Sim MR, Collie A, and **Smith P**. Early-claim modifiable factors associated with return-to-work self-efficacy among workers injured at work: are there differences between psychological and musculoskeletal injuries? *Journal of Occupational & Environmental Medicine*. 2017; 9(12):e257-e262.

Bogoch ER, Elliot-Gibson V, **Beaton D**, Sale J, Josse RG. Fracture Prevention in the Orthopaedic Environment: Outcomes of a Coordinator-Based Fracture Liaison Service. *The Journal of Bone and Joint Surgery. American Volume*. 2017 ;99(10):820-831.

Buchbinder R, Page MJ, Huang H, Verhagen AP, **Beaton D**, Kopkow C, Lenza M, Jain NB, Richards B, Richards P, Voshaar M, van der Windt D, Gagnier JJ, Shoulder Core Outcome Set Special Interest Group. A preliminary core domain set for clinical trials of shoulder disorders: A report from the OMERACT 2016 Shoulder Core Outcome Set Special Interest Group. *Journal of Rheumatology*. 2017;44(12):1880-1883.

Canizares M, **Gignac MAM**, **Hogg-Johnson S**, Glazier R, Badley EM. Do baby boomers use more healthcare services than other generations? Longitudinal trajectories of physician service use across five birth cohorts. *BMJ Open* 2016;29;6(9):e013276.

Canizares M, **Hogg-Johnson S**, Gignac MA, Glazier RH, Badley EM. Increasing trajectories of multimorbidity over time: Birth cohort differences and the role of changes in obesity and income. *The Journal of Gerontology*. 2017;[Epub ahead of print].

Canizares M, **Hogg-Johnson S**, **Gignac MAM**, Glazier RH, Badley EM. Changes in the use practitioner-based complementary and alternative medicine over time in Canada: Cohort and period effects. *PLoS One*. 2017;12(5):e0177307.

Cassidy JD, Boyle E, Côté P, **Hogg-Johnson S**, Bondy SJ, Haldeman S. Risk of carotid stroke after chiropractic care: A population-based case -crossover study. *The Journal of Stroke and Cerebrovascular Diseases*. 2017;26(4):842-850.

Del Valle-Hernández E, Marrero-Barrera PA, **Beaton D**, Bravo D, Santiago S, Guzmán-Pérez H, Ramos-Alconini N. Complications associated with pediatric supracondylar humeral fractures. *Puerto Rico Health Sciences Journal*. 2017;36(1):37-40.

de Wit M, Kirwan JR, Tugwell P, **Beaton D**, Boers M, Brooks P, Collins S, Conaghan PG, D'Agostino MA, Hofstetter C, Hughes R, Leong A, Lyddiatt A, March L, May J, Montie P, Richards P, Simon LS, Singh JA, Strand V, Voshaar M, Bingham CO 3rd, Gossec L. Successful stepwise development of patient research partnership: 14 years' experience of actions and consequences in Outcome Measures in Rheumatology (OMERACT). *Patient*. 2017;10(2):141-152.

Dimitriadis C, LaMontagne AD, Lilley R, **Hogg-Johnson S**, Sim M, **Smith P**. Cohort profile: workers' compensation in a changing Australian labour market: the return to work (RTW) study. *BMJ Open*. 2017;7(11):e016366.

**Fan J**, Black O and **Smith P**. Examining age differences in duration of wage-replacement by injury characteristics. *Occupational Medicine*. 2016;66(9): 698-705.

Ferrario MM, Landsbergis P, Tsutsumi A, Li J, Hynek P, Krause N, Smith P, Holtermann A, and Clays AE. Work environment: an opportunity for ground-breaking collaborations in cardiovascular disease prevention. *European Journal of Preventive Cardiology*. 2017; 24(2 suppl):4-6.

**Jetha A, Chen C, Mustard C, Ibrahim S**, Bielecky A, **Beaton D, Smith P**. Longitudinal examination of temporality in the association between chronic disease diagnosis and changes in work status and hours worked. *Occupational and Environmental Medicine*. 2017;74(3):184-191.

**Jetha A**, Kernan L, Kurowski A. ProCare Research Group. Conceptualizing the dynamics of workplace stress: A systems-based study of nursing aides. *BMC Health Services Research*. 2017; 17(1):12.

**Jetha A**, Montagne T, Lilley R, **Hogg-Johnson S**, Sim M and **Smith PM**. Workplace social system and sustained return-to-work: A study of supervisor and co-worker supportiveness and injury reaction. *Journal of Occupational Rehabilitation*. 2017; [Epub ahead of print]

**Jetha A**, Theis KA, Boring MA, Barbour KE. Education and employment participation in young adulthood. What role does arthritis play? *Arthritis Care and Research*. 2017;69(10):1582-1589.

Lahey PM, **Tompa E**, MacDermid JC, Kirsh B, Gewurtz RE. Placing health in welfare policy: A HIAP approach in Ontario Canada. *Canadian Review of Social Policy*. 2017;77:67-95

Lane TJ, Lilley R, **Hogg-Johnson S**, LaMontagne AD, Sim MR, and **Smith PM**. A prospective cohort study of the impact of return-to-work coordinators in getting injured workers back on the job. *Journal of Occupational Rehabilitation*. 2017; [Epub ahead of print].

McInnes JA, Akram M, MacFarlane E, Sim MR and **Smith P**. Association between high ambient temperature and acute work-related injury: a case-crossover analysis using workers' compensation claims data. *Scandinavian Journal of Work, Environment & Health*. 2016;43(1): 86-94.

McInnes JA, MacFarlane EM, Sim MR, and **Smith P**. The impact of sustained hot weather on risk of acute work-related injury in Melbourne, Australia. *International Journal of Biometeorology*. 2017;62(2),153-163

McInnes JA, MacFarlane EM, Sim MR, **Smith P**. Working in hot weather: a review of policies and guidelines to minimise the risk of harm to Australian workers. *Injury Prevention*. 2017;23(5):334-9.

**Mustard CA**. Work disability prevention: should we focus on high body weights or heavy physical workload? *Journal of Occupational Environmental Medicine*. 2017;74(9):619-620.

Nichol K, Kudla I, **Robson L**, Hon C-Y, Eriksson J, Holness DL. The development and testing of a tool to assess joint health and safety committee functioning and effectiveness. *American Journal of Industrial Medicine*. 2017; 60(4):368-376

Roseboom KJ, van Dongen JM, **Tompa E**, van Tulder MW, Bosmans JE. Economic evaluations of health technologies in Dutch healthcare decision-making: a qualitative study of the current and potential use, barriers, and facilitators. *BMC Health Services Research*. 2017;17(1):89.

Rotondi NK, **Beaton DE**, Ilieff M, Adihetty C, Linton D, Bogoch E, Sale J, **Hogg-Johnson S**, Jaglal S, Jain R, Weldon J. The impact of fragility fractures on work and characteristics associated with time to return to work. *Osteoporosis International*. 2017;28(1):349-358.

Schieir O, Tosevski C, Glazier RH, Hogg-Johnson S, Badley EM. Incident myocardial infarction associated with major types of arthritis in the general population: a systematic review and meta-analysis. *Annals of the Rheumatic Diseases* 2017; 76(8):1396-1404.

Sears JM, Bowman SM, Blonar L, **Hogg-Johnson S**. Industrial injury hospitalizations billed to payers other than workers' compensation: Characteristics and trends by state. *Health Services Research* 2017;52(2):763-785

Taylor AM, Phillips K, Patel KV, Turk DC, Dworkin RH, Beaton D, Clauw DJ, **Gignac MAM**, Markman JD, Williams DA, Bujanover S, Burke LB, Carr DB, Choy EH, Conaghan PG, Cowan P, Farrar JT, Freeman R, Gewandter J, **Van Eerd D**, **Saunders R**. An organizational approach for stakeholder engagement and communications. *Scholarly and Research Communication*. 2017; 8(1): 0101274.

Van Genderen S, Plasqui G, Landewé R, Lacailee D, Arends S, van Gaalen F, van der Heijde D, Heuft L, Luime J, Spoorenberg A, Gignac MAM, Boonen A. Social role participation in patients with ankylosing spondylitis: A cross-sectional comparison with population controls. *Arthritis Care & Research*, 2016;68(12):1899-1905.

Van Genderen, S., Plasqui, G., van der Heijde, D., Van Gaalen, F., Heuft, L., Luime, J., Spoorenberg, A., Arends, S., Lacaille, D., **Gignac, M.A.M.**, Landewe, R., Boonen, A. Social role participation and satisfaction with life: a study among patients with ankylosing spondylitis and population controls. *Arthritis Care & Research*. 2018;70(4):600-607.

Williams CM, Penkala S, **Smith P**, Haines T and Bowles K. Exploring musculoskeletal injuries in the podiatry profession: an international cross-sectional study. *Journal of Foot and Ankle Research*. 2017;10 :3.  
Wong IS, Smith PM, Ibrahim S, Mustard CA, Gignac MAM. Mediating pathways and gender differences between shift work and cognitive function. *Occupational and Environmental Medicine*. 2016 ;73(11):753-760.

### **Journal articles: Forthcoming**

Besen E, **Jetha A**, Gaines B. Examining the likelihood of experiencing productivity loss and receiving social security disability income following the onset of chronic disease. *Journal of Occupational And Environmental Medicine*. 2018;60(1):48-54.

**Kosny A**, Newnam S, Collie A. Family matters: compensable injury and the effect on family. *Disability and Rehabilitation*. 2018;40(8):935-44.

Scott KA, Fisher GG, Barón AE, **Tompa E**, Stallones L, DiGuseppi C. Same-level fall injuries in US workplaces by age group, gender, and industry. *American Journal of Industrial Medicine*. 2018;61(2):111-9.

### Journal articles: Submitted

Biswas, A., **Smith, P.M., Gignac, M.A.M.** Facilities At or Near Work to Increase the Leisure Time Physical Activity of Workers: A Propensity-Score Weighted Population Study. *Environmental Health Perspectives*

**Jetha A,** Montagne T, **Smith P.** Let's be positive! Supervisor and co-worker supportiveness and injury reaction and its impact on return-to-work. Submitted to *Journal of Occupational Rehabilitation*.

**Jetha A, Bowring J,** Furrie A, Smith F, **Breslin C.** Supporting the transition into employment: A study of Canadian young adults living with disabilities. Submitted to *Journal of Youth and Adolescence*

Lahey P, Gewurtz R, Kirsh B, **Tompa E,** MscDermid JV. Adding health to welfare policy: A HIAP approach in Ontario, Canada. Submitted to *Canadian Review of Social Policy*.

Riaño-Casallas M, **Tompa E.** Cost-benefit analysis of investment in Occupational Health and Safety (OHS) in Colombian companies. Submit to *Journal of Occupational and Environmental Medicine*.

Samano M, Jos V, Jani R, Ijaz S, **Breslin C,** Gummesson K. Occupational safety and health interventions to protect young workers from hazardous work in low and middle income countries - A scoping review. Submitted to *Safety Science*

Scott K, **Liao Q,** Fisher GG, Stallones L, DiGuseppi C, **Tompa E.** Early Labor Force Exit Subsequent to Permanently Disabling Occupational Injury or Illness Among Workers 50-64 Years of Age. Submitted to *American Journal of Industrial Medicine*.

Shevchenko A, Pagell M, Johnston D, Veltri A, **Robson L.** Joint management systems: a routine-based perspective. *Journal of Cleaner Production*.

### Books/Chapters: Published

**Beaton D.** Chronic conditions, Disability and Perceived health: Empirical support of a conceptual model. Chapter 12 in *Perceived Health and Adaptation in Chronic Disease*, Routledge, 2017.

**Furlan A,** Robidas A. *My Opioid Manager* (2015). By University Health Network, Toronto. ISBN: 978-0-969-1780-6-4. Available online at [http://www.opioidmanager.com/uploads/3/4/3/2/3432072/myom\\_book\\_final.pdf](http://www.opioidmanager.com/uploads/3/4/3/2/3432072/myom_book_final.pdf)

**Mustard CA.** Workplace. In: Pike I, Richmond S, Rothman L, and Macpherson A, editors. *Canadian injury prevention resource: an evidence-informed guide to injury prevention in Canada*. Toronto: Parachute; 2015. p. 499-509.



## 2017 Funding and Awards

### Research Project Funding – Awarded in 2017

Bornstein S, Irvin E. Synthesizing Evidence to support workplaces and policy makers in Newfoundland and Labrador. WorkplaceNL, \$160,000, 2 years.

Cullen K (PI), Irvin E (Co-PI), Amick III BCA, Van Eerd D, Mahood C, Cardoso S, Geary J. System-based return-to-work and disability management/support interventions. A systematic review. WorkSafeBC, \$102,291, 1 year

Irvin E (PI), Tompa E, Haan M, Gewurtz R, Mahood Q, Padkapayeva K. Financial Incentives to Promote Employment of People with Disabilities: When and How Do They Work Best? OHCRIF Call for Proposals 2017-2018, \$49,135, year 1 (of 3-year project).

Jetha A, Tucker L, Backman C, Kristman V, Proulx L, Gignac MAM. Work disability prevention for Millennial young adults with rheumatic disease. The Arthritis Society Young Investigator Operating Grant, \$142,647, 3 years.

Mustard C, Smith P. Improving information on worker health protection in Ontario. Ministry of Labour- Research Opportunities Program, \$160,000, 2 years.

Smith P, Carnide N, Furlan A, Slade K, Meister S, Porath A. Toking 9 to 5? Clearing the haze on cannabis consumption in the Canadian workplace. CIHR Catalyst Grant, \$100,000, 1 year.

Tompa E, Mustard C, Saunders R. Tracking Long-term Outcomes of Injured Workers in Ontario to Better Target Supports. WSIB Grants Program, \$299, 970, 2 years.

### Non-IWH Research Project Funding – Awarded in 2017

Cameron, J.I. (PI), Gignac, M.A.M., Blacqueire, D., Naglie, G., Huijbregts, M., Bayley, M., Silver, F., Gewurtz R (PI), Kosny A, Holness D, Premji S, McKinnon J, Mantis S, Copes T, Laidley J. Injured workers and social assistance: policy research and action. SSHRC Individual Connection Grant, \$25,000, 1 year.

Gewurtz R (Principal Investigator), Tompa E, Lysaght R, Kirsh B, Moll S, Rueda S, Harlos K, Sultan-Taïeb H, MacDougall A. The Aspiring Workforce in Canada: Building the business case for employers to actively recruit and retain people living with mental illness. Mental Health Commission of Canada, \$74,992, 1 year.

Kristman, V.L., Gilbeau, A., Moeller, H., Mushquash, C., Chambers, L., Matthews, R., Schiff, R., Stroink, M., Shaw, W., Gignac, M.A.M., Macdonald, S. (2017). Understanding labour force participation, work productivity and disability in the Indigenous context: a partnership with the Nookiwin Tribal Council. Social Sciences & Humanities Research Council (SSHRC), Partnership Development Grant, \$200,000, 3 years.

Stephanie Premji, Agnieszka Kosny, Ellen MacEachen. Strategies for the Successful Return-to-Work of Linguistic Minorities. WSIB Grants Program, \$110,872, 2 years.

van den Heuvel S, van der Zwaan L, van Bree T, Poliakov E, van Emmerik M, Hausemer P, Porsch L, Dragulin M, Vincze MP, Rabuel L, Plašilová I, Tompa E. Estimation of the costs of work-related injuries, illnesses and deaths for at least 5 countries out of EU28 + Norway and Iceland, using national OSH and economic data. European Agency for Safety and Health at Work Tender, EU-OSH, €274, 496, 2 years.

Warner, G., Green, T., Phillips, S. Collaborators: Cristofaro, K., Brown, G., Pickering, S., MacPhail, C., Pauley, T., Kelloway, L., Tee, A., and Rosen, K. (2017). Identifying Families' Needs during Palliative Care Post-stroke: A Qualitative Study. Heart and Stroke Foundation of Canada. \$114,684, 2 years.

Yazdani A, Meyers R, Tompa E (Co-leads). Canadian Work Disability Prevention Standard for Paramedics with PTSI. Defence Research and Development Canada, \$772,720.00, 3 years.

Kristman, V.L. (PI), Sinden, K., Martin, L., Sanderson, K., Chambers, L., Schiff, R., Matthews, R.S., Vis, J-A, Gignac, MAM, Shaw, W., Moeller, H., Kone, A., Mushquash, C. (2017). Development of the Research Institute for Enhancing Prevention of Injury and Disability (EPID). Lakehead University Office of Research Services, SSHRC Aid to Small Universities Grant. \$15,000, 1 year.

### **Research Project Funding – Submitted in 2017**

Amick B, Van Hulle H, Van Eerd D, Slade K. Organizational Supports for Successful RTW of Workers Exposed to Patient Violence. WSIB Grants Program, \$392,500, 2 years.

Furlan A, Carnide N, Irvin E, Van Eerd D, Mahood Q, Macdonald S, Hassan S, Santos M-L, Hama A. Informing an 'all hands on deck' approach to the opioid crisis: A systematic review of the effectiveness of prevention, treatment, harm reduction, and enforcement strategies to prevent and reduce opioid-related harms. CIHR Knowledge Synthesis, \$109,537, 6 months.

Furlan A, Carnide N, Ware M, Murphy L, Irvin E, Van Eerd D, Mahood Q, Cardoso S, Mittal N, Popal S. Cannabis and the opioid crisis: Scoping the literature to understand the relationship between cannabis and opioid use and related benefits and harms. CIHR Knowledge Synthesis, \$59,645, 6 months.

Gignac MAM (Project Director), Jetha A, Van Eerd D, Saunders R, Smith P, Tompa E, Irvin E, MacDermid J, Breslin C, Franche R-L, Thompson A, Beaton D, Shaw W. Accommodating and communicating about episodic disabilities (ACED): A partnership to deliver workplace tools and resources to sustain the employment of people with chronic, episodic conditions. SSHRC\CIHR HWP Stage 2, \$1,300,000.000, 4 years.

Jetha A, Breslin C, Gignac M, Mustard C, Smith P. Hopping jobs or locked in? Comparing job mobility of Millennials with and without disabilities. SSHRC Insight Grant, \$62,800, 2 years.

Kosny A, Daly T, Smith P. The implementation of workplace violence prevention legislation in community organizations providing healthcare. CIHR Project Grant, \$170,000, 18 months

Kosny A, Yanar B (Co-PI), Premji S (Co-I). Safe employment integration of newcomers to Canada: The Role of Employers. OHCRIF, \$43,705, 6 months.

Kristman VL, Gilbeau A, Wright K, Schiff R, Chambers L, Asselstine JM, Matthews RS, Shaw W, Gignac M, Mushquash C. Improving workplace mental health for First Nations workers: phase one of a feasibility study for a workplace intervention. WorkSafeBC, \$50,000, 1 year.

Mustard CA (Project Director), Jetha A, Kristman K, Tompa E, Robson L, McLeod C, Furlan A, Kosny A, Smith P. Strengthening disability management practices in the Ontario municipal sector. SSHRC\CIHR HWP Stage 2, \$1,300,000, 4 years.

Smith P, Mandzia J, Gilbert-Ouimet M, Hall R, Kapral M. A longitudinal examination of the relationship between stroke and future activity, participation and health outcomes, among working aged Canadians. CIHR Project Grant, \$255,000, 2 years.

Smith P, Mustard C. Minimising the impact of secondary mental health conditions on return to work and recovery outcomes. WSIB Grants Program, \$220,000, 2 years.

Smith P, Saunders R, Tompa E, Breslin C. Measuring Occupational Health and Safety Vulnerability in Alberta. OHS Futures Alberta, \$98,500, 1 year.

Smith P. Considering sex and gender to support a psychologically healthy workplace. CIHR SGBA Health Policy-Research Partnerships, \$150,000, 2 years.

Yazdani A, Tompa E, Meyers R, Irvin E, Mahood Q, Callaghan J. Synthesis of Best-evidences for Development of an Agriculture Workplace Toolbox for Work Disability Prevention Management System. WorkSafe Manitoba, \$112,760.00, 2 years.

### **Non-IWH Research Project Funding – Submitted in 2017**

Ballantyne P (PI), Kosny, A (co-PI), Premji S, Casey R, O'Hagan F, Cater B, Mantis S. Understanding Optimal Outcomes and Successful Adaptation to Permanent Impairment Following Work Injury. WSIB Grants Program, \$230,948

Yazdani A, Tompa E (Co-principal Investigators), Meyers R, Amell T (Co-investigators). Developing a Canadian Standard for Work Disability Prevention Management Systems. Ontario Ministry of Labour Occupational Health, Safety and Prevention Innovation Program (OHSPiP), \$199,000, 2 years.

Allison Crawford, Javed Alloo, Sanjeev Sockalingam, Andrea Furlan, Paul Kurdyak, Maria Mylopoulos, Eva Serhal. Evaluating the impact of the Project ECHO model on primary care management of mental health and addictions. CIHR Project Grant Competition, \$573,750, 3 years.

CSA Group, Centre for Research on Work Disability Policy (CRWDP), Conestoga College, Centre of Research Expertise for the Prevention of Musculoskeletal Disorders (CRE-MSD) partnership. Supporting the Emerging Cross-Sectoral Need for Work Disability Management Competencies. Employment and Social Development Canada Sectoral Initiative Program, \$1,313,500, 3 years.

### **Research Personnel Funding & Other Awards**

*Up to March 31, 2017*

Furlan A. \$75,000, Merit Award, University of Toronto- Department of Medicine  
Gilbert-Ouimet M. CIHR Fellowship Award, \$23,333 plus \$5000 allowance  
Smith P. CIHR Sex and Gender Chair Award, \$100,000 plus \$60,000 allowance

*Up to March 31, 2018*

Gilbert-Ouimet M. CIHR Fellowship Award, \$40,000 plus \$5000 allowance  
Smith P CIHR Sex and Gender Chair Award, \$100,000 plus \$60,000 allowance

## Staff and Participating Organizations

### Participating Organizations

*Ontario Ministry of Labour (MOL)*: The MOL's occupational health and safety (OHS) mandate is to set, communicate and enforce OHS legislation, largely through the *Occupational Health and Safety Act* and its regulations. It also develops, coordinates and implements strategies to prevent workplace injuries and illnesses and can set standards for health and safety training.

*Workplace Safety & Insurance Board (WSIB)*: is an independent trust agency that administers compensation and no-fault insurance for Ontario workplaces. It provides no-fault collective liability insurance and access to industry-specific health and safety information to employers, loss-of-earnings benefits and health-care coverage to injured workers, and help and support to both employers and workers when it's time for an injured worker to go back to work.

*Infrastructure Health & Safety Association (IHSA)*: one of four MOL-funded sector-based OHS associations in the province, delivers consulting services, training programs and information resources to the construction, electrical and utilities, and transportation sectors.

*Public Services Health & Safety Association (PSHSA)*: one of four MOL-funded sector-based OHS associations in the province, delivers consulting services, training programs and information resources to the health-care, education, municipal, First Nations and provincial government sectors.

*Workplace Safety North (WSN)*: one of four MOL-funded sector-based OHS associations in the province, delivers consulting services, training programs and information resources to the forestry, mining, smelter, refining, paper, printing and converting sectors.

*Workplace Safety & Prevention Services (WSPS)*: one of four MOL-funded sector-based OHS associations in the province, delivers consulting services, training programs and information resources to the agriculture, manufacturing and service sectors.

*Occupational Health Clinics for Ontario Workers (OHCOW)*: aims to protect workers and their communities from occupational disease, injuries and illnesses by identifying workplace factors that are detrimental to the health and well-being of workers, by empowering workplace parties to make positive occupational health changes in their workplace, and by providing information, knowledge and organizational skills to the workplace parties to eliminate work practices that cause injury, illness and disability.

*Workers Health & Safety Centre (WHSC)*: As Ontario's designated health and safety training centre, WHSC offers training for workers, their representatives and employers in every workplace in the province, regardless of sector, size, location or union status.

*Centre of Research Expertise for the Prevention of Musculoskeletal Disorders (CRE-MSD)*: conducts research to improve the understanding and prevention of work-related musculoskeletal disorders (MSDs). MSDs are painful or disabling injuries to the muscles, tendons or nerves in the lower back, shoulders, neck, elbows, wrists or hands.

*Centre for Research Expertise in Occupational Disease (CREOD)*: conducts research focused on the prevention and early recognition of non-malignant occupational disease. Programs are organized around disease and exposure themes including skin disease, respiratory disease, vibration related disorders and biological hazards.

*Occupational Cancer Research Centre (OCRC)*: is dedicated to studying workplace cancer. Its goals are to identify cancer-causing agents in Ontario workplaces, increase awareness of the risk of workplace cancer, and identify the best means to control exposure to carcinogens and improve workers' health.

## Collaborating research organizations

*Centre of Research Expertise for the Prevention of Musculoskeletal Disorders (CRE-MSD)*: conducts research to improve the understanding and prevention of work-related musculoskeletal disorders (MSDs). MSDs are painful or disabling injuries to the muscles, tendons or nerves in the lower back, shoulders, neck, elbows, wrists or hands.

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*Canadian Association for Research on Work and Health (CARWH)*: is a non-profit association of Canadian researchers with a mission to enhance and promote research on work health, safety and well-being in Canada and to advocate for research on how work and work environments can be altered to improve health, safety and wellness among Canadians. Membership is open to anyone who identifies as a work and health researcher in Canada.

*Cochrane Canada*: is the Canadian arm of Cochrane – an independent global network of over 37,000 health-care practitioners, researchers, patient advocates and others. Cochrane works to turn the evidence generated through research into useful information for making everyday decisions about health. Canada is one of 130 countries involved in this non-profit organization that promotes evidence-based decision-making by producing high-quality systematic reviews that are free from commercial sponsorship. Cochrane Canada, established in 1993, is one of 14 Cochrane centres worldwide.

*UBC Centre for Health Services and Policy Research (CHSPR)*: is an independent research centre based in the School of Population and Public Health of the University of British Columbia. Its mission is to stimulate scientific enquiry into health system performance, equity and sustainability. By focusing on policy-relevant research, graduate training and knowledge transfer, CHSPR's work engages and informs health policy and issues that matter to Canadians.

*Institute for Clinical Evaluative Sciences (ICES)*: is a not-for-profit research institute that conducts studies to evaluating health-care delivery and outcomes. ICES researchers access a vast and secure array of Ontario's health-related data, including population-based health surveys, anonymous patient records, as well as clinical and administrative databases. Its mission is research excellence resulting in trusted evidence that makes policy better, health care stronger and people healthier.

*Safety Net Centre for Occupational Health and Safety Research*: Based at Memorial University, SafetyNet is a community alliance for multidisciplinary research, knowledge exchange and education in occupational health and safety. It is dedicated to improving the safety of workplaces and the health of workers in Newfoundland and Atlantic Canada through broadly-based partnerships between academic researchers and stakeholders in communities, government, industry, and labour.

*National Institute of Disability Management and Research (NIDMAR)*: founded in 1994, is an internationally recognized organization committed to reducing the human, social and economic costs of disability. As an education, training and research organization, NIDMAR's primary focus is the implementation of workplace-based reintegration programs that international research has proven to be the most effective way of restoring and maintaining workers' abilities, while reducing the costs of disability for workers, employers, government and insurance carriers.

*Work Wellness and Disability Prevention Institute (WWDPI):* Formerly known as the Canadian Institute for the Relief of Pain and Disability (CIRPD), WWDPI is a global centre of excellence with a mandate to create and sustain work wellness, prevent disability, and eliminate impairment-related job loss and worklessness for those with, or at risk of, chronic and episodic health-related challenges. It aims to do this through credible, science-informed and practical tools and educational resources that reduce the gap between what is known from high-quality research and what is done in practice.

*McMaster University:* Founded in 1887, McMaster University in Hamilton, Ont. has an enrolment of over 31,000 full- and part-time graduate and undergraduate students, and has more than 184,000 alumni. The university has about 950 full-time faculty members, each averaging \$405,000 in research funding, and is home to more than 70 research centres and institutes.

*University of Toronto:* Founded in 1827, the University of Toronto in Toronto, Ont. Has an enrolment of over 88,000 full- and part-time students in its undergraduate and graduate programs, and over 550,000 alumni. The university has 14,240 active faculty members, 700 undergraduate programs and 200 master's and PhD programs. It received over \$1.2 billion in research funding in 2015-16.

*University of Waterloo:* Opened in 1957, the University of Waterloo in Waterloo, Ont., has more than 36,000 full- and part-time students in undergraduate and graduate programs, and over 195,000 alumni. The university has six faculties, 11 faculty-based schools and over 40 research centres and institutes. Waterloo received more than \$205 million in research funding from public and private sources in 2016-2017

*York University:* Founded in 1959, York University in Toronto, Ont. has over 52,000 full- and part-time students in undergraduate and graduate programs, and over 300,000 alumni. With over 7,000 faculty and staff, the university has 11 faculties and over 200 undergraduate and graduate degree programs. In 2014-15, York researchers received over \$14 million from the Social Sciences Humanities Research Council (SSHRC), over \$11 million from NSERC (National Sciences and Engineering Research Council) and over \$3 million from the Canadian Institutes of Health Research (CIHR).

### **Professional association and other collaborators**

*Board of Canadian Registered Safety Professionals (BCRSP):* (formerly the Association for Canadian Registered Safety Professionals) is a public-interest, not-for-profit association with a membership dedicated to the principles of health and safety as a profession in Canada. A CRSP® is a person who has met the requirements for registration established by BCRSP. A CRSP® applies broad-based safety knowledge to develop systems that will achieve optimum control over hazards and exposures detrimental to people, equipment, material and the environment. A CRSP® is dedicated to the principles of loss control, accident prevention and environmental protection as demonstrated by their daily activities.

*Canadian Society of Safety Engineering (CSSE):* is Canada's largest national and most-established professional organization for health and safety practitioners. It has over 4,000 members across Canada, the United States and around the world working together to enhance the health, safety and environmental profession.

*Ontario Occupational Health Nurses Association (OONHA):* is the professional association of occupational health nurses in Ontario. Occupational health nursing provides integrated occupational health and safety services to employers and employees to maintain, promote and restore employee health, safety and well-being. Members are registered nurses with a diploma and/or degree in nursing who may also have a college certificate in occupational health nursing, a university diploma in occupational health or specialized education and/or experience.

*Alberta Occupational Health Nurses Association (AOHNA):* is a non-profit organization representing occupational health nurses working in Alberta. It is a specialty practice group of the College and Association of Registered Nurses of Alberta (CARNA). Its mandate is to promote healthy working environments, protect the health of workers, and prevent occupational injuries and illnesses.

*Occupational and Environmental Medical Association of Canada (OEMAC):* is an active association of physicians with an interest in occupational and environmental medicine, a medical specialty that focuses on the prevention and management of occupational and environmental injury, illness and disability, and the promotion of health and productivity of workers, their families, and communities. OEMAC serves as a unified voice for Canadian occupational and environmental medicine.

*Schedule 2 Employers' Group:* is not-for-profit association comprised of Schedule 2 employer representatives from public- and private-sector organizations from across Ontario. Members are workplace health, safety and disability management professionals who are interested in collaborating on issues related to workers' compensation and occupational health and safety. Schedule 2 employers include firms funded by public funds, firm legislated by the province but self-funded and other firms who are privately owned but involved in federal-regulated industries such as telephone, airline, shipping and railway.

*Canadian Centre for Occupational Health and Safety (CCOHS):* A federal department corporation, CCOHS is Canada's national resource for the advancement of workplace health and safety. It promotes the total well-being – physical, psychosocial and mental – of working Canadians by providing information, training, education, management systems and solutions that support health, safety and wellness programs.

*Association of Workers' Compensation Boards of Canada (AWCBC):* is a non-profit organization that facilitates the exchange of information among Canada's workers' compensation boards and commissions. Its aim is to drive a strong Canadian leadership role in providing the safest and healthiest workplaces in the world and a fair, affordable workers' compensation insurance system—through data analysis, shared knowledge, education and networking.

*Canadian Association of Administrators of Labour Legislation (CAALL):* is an association of federal-provincial-territorial departments of labour and heads of occupational safety and health agencies. It provides a continuous forum for federal, provincial and territorial senior officials. CAALL provides governments with an opportunity to develop strong and cooperative working relationships. Through CAALL, deputy ministers of labour and other senior officials have a means of working together in seeking solutions to similar problems, including problems related to workplace health and safety.

## 2017 Institute for Work & Health Staff

\* denotes staff no longer at the IWH

### Research

Al-Khooly, Dina; MSc, Research Associate  
Amick, Benjamin; PhD, Senior Scientist  
Beaton, Dorcas; PhD, Senior Scientist  
Begum, Momtaz, MSc, Research Assistant  
Biswas, Aviroop, PhD, Mustard Post-Doctoral Fellow  
Bowring, Julie; MA, Research Coordinator  
Breslin, F. Curtis; PhD, Scientist  
Canga, Albana; BA, Administrative Assistant  
Carnide, Nancy; PhD, Post-Doctoral Fellow  
Chen, Cynthia; MSc, Research Associate, Analyst  
Cullen, John, MSc, Research Associate  
D'Elia, Teresa; MA, Project Coordinator  
Dollack, Jocelyn; MHSc, Research Assistant/Administrative Assistant  
Ferron, Era Mae; PhD, Research Associate\*  
Fooks, Katie, Summer student  
Fooks, Sara, Summer student  
Furlan, Andrea; MD, PhD, Scientist  
Gignac, Monique; PhD, Associate Scientific Director and Senior Scientist  
Habrin, Shireen; Dip. Library and Information Technician, Managing Editor, Cochrane Back & Neck  
Hajee, Yasmine, MSC, Practicum Student\*  
Heath, Charmaine; Dip. Business Administration, Administrative Assistant  
Hogg-Johnson, Sheilah; PhD, Senior Scientist  
Ibrahim, Selahadin; MSc, Associate Scientist  
Iman, Sabrina; MSc, Research Assistant  
Irvin, Emma; BA, Director, Research Operations  
Jetha, Arif, PhD, Associate Scientist  
Johnston, Heather, PhD student, Research Associate  
Kosny, Agnieszka; PhD, Scientist  
Kristman, Vicki; PhD, Associate Scientist  
Landsman, Victoria; PhD, Scientist  
Latour-Villamil, Desiree; MA, Research Assistant  
Lay, Morgan; MPH, Research Associate\*  
Le Pouésard, Morgane, MSc, Project Coordinator



Lee, Hyunmi; MSc, Programmer Analyst  
Liao, Qing; MSc, Research Associate, Analyst  
Liu, Joanna; BA, Diploma Library and Information Technology, Library Technician  
Mahood, Quenby; MI, Manager, Library Services  
Maselli, Paolo; Network Administrator/Systems Analyst  
McAllister, Ashley: PhD, Post-Doctoral Visitor\*  
McLeod, Chris; PhD, Associate Scientist  
Mofidi, Amir, PhD Visiting Student  
Nasir, Kay; BA, Research Assistant  
Padkapayeva, Kathy; BA, Research/Administrative Assistant  
Portt, Andrea. MSc, Summer practicum student  
Raktoe, Shanti; BSc, Administrative Assistant  
Ramkissoon, Avinash, BSc, Summer Practicum student\*  
Robson, Lynda; PhD, Scientist  
Severin, Colette; MSc, Manager, Research Operations  
Shaikh, Umer; Summer student\*  
Smith, Peter; PhD, Senior Scientist  
Sousa, Isabel; PhD, Project Coordinator\*  
Swift, Michael; MSc, Research Associate, Data Manager/Programmer  
Tiong, Maggie; BA, Library Technician  
Tomba, Emile; PhD, Senior Scientist  
Tonima, Sabrina; BASc, Project Coordinator  
Van Eerd, Dwayne; PhD, Associate Scientist  
Yanar, Basak; PhD, Research Associate  
Yao, Grant; BComm, Network Administrator/Systems Analyst

### **Knowledge Transfer & Exchange**

Bienefeld, Monica, PhD, Director of Knowledge Transfer and Exchange, Associate Scientist  
Buccat, Kristina; Dip. Radio and Television Production, Administrative Assistant  
Cardoso, Siobhan; MEd, KTE Associate/ Manager, Research Operations/Research Associate  
Cullen, Kim; PhD, KTE Associate and Associate Scientist  
Dvorak, Jan; BA, Web & Design Coordinator  
Macdonald, Sara; QEHS Management Diploma, KTE Associate  
Moser, Cindy; BA, Communications Manager  
Saunders, Ron; PhD, Director of Knowledge Transfer and Exchange, Senior Scientist\*  
Vu, Uyen; 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

### **2017 Institute for Work & Health Research Trainees**

Bogaert, Laura; PhD Student

Fan, Jonathan; PhD Student

Dobson, Kathleen; PhD Student

Jung, Young; PhD Student

Gilbert-Ouimet, Mahée; PhD, Post-doc

Pickard, Angela; PhD Student

Mofidi, Amir, PhD Student

## Adjunct Scientists

Dr. Carlo Ammendolia is the director of the Spine Clinic and the Spinal Stenosis Program at the Rebecca MacDonald Centre for Arthritis and Autoimmune Diseases at Mount Sinai Hospital in Toronto. He is also an assistant professor in the Institute of Health Policy, Management and Evaluation, the Department of Surgery and the Institute of Medical Sciences at the University of Toronto. In 2012, Ammendolia received the Professorship in Spine Award from the Department of Surgery in the Faculty of Medicine at the University of Toronto. In 2015, he was awarded the Chiropractor of the Year Award from the Ontario Chiropractic Association, and in 2016 he received the Researcher of the Year Award from the Canadian Chiropractic Association. Ammendolia has been in clinical practice for over 35 years and now combines clinical practice and research in the areas of workplace health non-operative treatment of mechanical, degenerative and inflammatory spinal disorders with a special interest in degenerative lumbar spinal stenosis.

Dr. Peri Ballantyne is an associate professor in the Department of Sociology at Trent University in Peterborough, Ontario. At Trent, she is a member of the Frost Centre for Canadian and Indigenous Studies and the Trent Centre for Aging and Society. A health sociologist, she is affiliated with the Leslie Dan Faculty of Pharmacy at the University of Toronto. She currently teaches undergraduate courses in research methods, the sociology of health care, and the sociology of pharmaceuticals. Ballantyne's current research focuses on work and health across the life course, on lay-professional negotiations of illness, diagnosis and health care, and on the sociology of pharmaceutical use. In the area of work and health, she has led two studies examining broad social, health and economic outcomes for workers who have sustained a disability as a result of a workplace injury. She is currently pursuing research involving long-term follow-up of a sample of Workplace Safety and Insurance Board claimants to document the evolving contexts associated with optimal and sub-optimal outcomes. She is also interested in the role that pharmaceuticals play in the lives of injured workers or others living with chronic pain injuries, or with mental health problems that follow workplace injury, permanent impairment, chronic under-employment, economic insecurity and social isolation.

Dr. Philip Bigelow is an associate professor in the School of Public Health and Health Systems 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. Previously, Bigelow was a faculty member in the Department of Environmental Health at Colorado State University for over 10 years. Bigelow's research focuses on interventions in occupational health; evaluation and measurement of health and safety management systems; and risk assessment and standard setting in occupational health. Bigelow, a Registered Occupational Hygienist, also has extensive field experience, having managed occupational health and safety programs in a variety of industries and having held leadership positions on the Threshold Limit Values Committee.

Dr. Claire Bombardier is a professor of medicine and a widely published clinical researcher and rheumatologist. She is currently a senior scientist at the Toronto General Research Institute and a rheumatologist at Mount Sinai Hospital. She is a former senior scientist/clinical research coordinator at the Institute for Work & Health (1990-2014). She's also the former co-editor at Cochrane Back and Neck (1995-2013), where she still serves on the group's editorial board as a founding editor emeritus. Bombardier previously served as director of rheumatology at the University of Toronto, co-scientific director at the Canadian Arthritis Network, Pfizer Research Chair in Rheumatology and Canada Research Chair in knowledge transfer for musculoskeletal care. She is an international expert for quality improvement research, and has led the development of guidelines for the safe pharmacologic treatment of rheumatoid arthritis patients in Canada and abroad. Bombardier has published more than 360 scholarly articles, and received many international and Canadian awards, including the American College of Rheumatology (ACR) Distinguished Clinician Scholar Award (2016) and the prestigious ACR Master Designation Award in 2013 for outstanding contributions in the field of rheumatology.

Dr. Cécile Boot is an associate professor in the Department of Public and Occupational Health at the Vrije Universiteit (VU) University Medical Center in Amsterdam, the Netherlands. Her research is embedded within the Amsterdam Public Health Research Institute (previously EMGO+ Institute for Health and Care Research). Boot's research resides within the Societal Participation and Health Program at the Amsterdam Public Health Research Institute. Her research interests include sustained employability and older workers, working with chronic conditions, prolonged work participation, informal care-giving and worksite health promotion, with a preference for

interdisciplinary collaboration. Boot is an associate editor of the *Journal of Occupational Rehabilitation* and a reviewer for several journals in the field of occupational health. She was trained as a health scientist, obtaining her PhD at the Radboud University Nijmegen, where she focused on the sick leave of workers with chronic obstructive pulmonary disease and asthma.

Dr. Sandra Brouwer is a tenured professor of occupational medicine in the Department of Health Sciences at the University Medical Center Groningen, the Netherlands. Her focus within the department is on the labour market participation of people with chronic diseases. Brouwer also coordinates two academic collaborative centers in insurance medicine, serves as a member of the Program Board of the National Research Center for Insurance Medicine, and serves as a member of Cochrane Insurance Medicine. Brouwer obtained her MSc and PhD from the Faculty of Human Movement Sciences at the University of Groningen. Her PhD work focused on measuring work-related limitations in patients with chronic low-back pain. As a post-doctoral researcher and assistant professor, she worked on several projects regarding chronic diseases and work participation. She was member of the local organizing committee of the International Scientific Conference on Behavioral Medicine (2014) and the International Scientific Conference on Work Disability Prevention and Integration (2012). Brouwer's research focuses on workers with ill health and the impact of health on work. It includes observational and intervention studies, and studies using large datasets. She has broad experience with interdisciplinary collaboration.

Dr. Andrea Chaplin (née Chambers) is an evaluation specialist in the Department of Infection Prevention and Control at Public Health Ontario. Her work is focused on the development, implementation and evaluation of provincial-level interventions drawing on best practices and novel approaches in behavioural sciences, implementation science and program development. Chaplin previously worked at the Institute for Work & Health, where she completed her doctoral training. Her work focused on examining the impact and implementation of system-level interventions that serve to improve health and safety outcomes for health-care workers in Ontario. As a post-doctoral fellow, she worked closely with Parachute, a national charitable organization dedicated to preventing injuries across Canada, to develop a model to guide evidence-informed decision-making in the field of injury prevention. Chaplin is a mixed-methods researcher with interests in program evaluation, advancing the application of implementation science approaches in public health, and implementation research. She earned her PhD in public health from the University of Toronto, with a specialization in health and behavioural sciences. She received her MSc in epidemiology from the University of Ottawa.

Dr. Donald Cole is a professor 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 and an associate scientist with the International Potato Center. His research focuses on occupational and environmental epidemiology, complex intervention evaluation, and research capacity development, with an interest in agricultural work, food systems and human health. He teaches, mentors and contributes mixed-methods research evidence to practice, programs and policy. Cole has received the Vic Neufeld Mentorship Award in Global Health Research (2015), the Robin Badeley Award for Teaching Excellence in Public Health Sciences (2011) and the Royal College of Physicians and Surgeons of Canada's International Travelling Fellowship (2008/2009).

Dr. Paul Demers is the director of the Occupational Cancer Research Centre in Toronto, based at Cancer Care Ontario. He is also a senior scientist in prevention, screening and cancer control at Cancer Care Ontario; 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. Demers is internationally recognized for his expertise on the health effects of workplace exposures and sits on many expert panels, including the International Agency for Research on Cancer (IARC) working groups that evaluated carcinogens such as dusts and fibres, firefighting and formaldehyde. He has extensive research experience and accomplishments, including his leadership of a national program known as CAREX Canada, a workplace and environmental exposure database. Demers has an MSc in industrial hygiene and a PhD in epidemiology, both from the University of Washington in Seattle. Over his academic career, he has held numerous research grants, supervised many graduate students and has published extensively.

Dr. Carolyn Dewa is an assistant professor in the Department of Psychiatry and Behavioral Sciences in UC Davis's Faculty of Medicine in Sacramento, Calif. She is also the director of the university's Behavioral Health Center of Excellence Evaluation and Outcomes Core. Prior to UC Davis, Dewa headed the Work and Well-being

Research and Evaluation Program at the Centre for Addiction and Mental Health (CAMH), where she was a senior scientist in the Health Systems Research and Consulting Unit in the Social and Epidemiological Research Department. She also held 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. Dewa's research focuses on services and systems for people experiencing mental health problems, from a public health perspective. Her research seeks to understand how to create more effective systems and structures that can provide a sturdy framework for all players involved in the system.

Dr. Renée-Louise Franche is a senior psychology advisor at WorkSafeBC (British Columbia's workers' compensation system), and a consultant in work disability prevention and organizational health. She is also an adjunct professor in the School of Population and Public Health at the University of British Columbia (UBC) in Vancouver and in the Faculty of Health Sciences at Simon Fraser University. Franche was previously a scientist at the Institute for Work & Health. With over 50 peer-reviewed publications, she has been an active member of the international research community in work disability prevention. Franche's work focuses on developing a better understanding of how organizational, health-care, insurer and individual factors contribute to safe, sustainable and healthy return to work following injury or ill health. While at IWH, she led the development of best practices for return-to-work/stay-at-work interventions, and led a cohort study of injured workers, both of which had significant impacts on policies and practices of workers' compensation systems and employers.

Dr. Ulrik Gensby is an assistant professor of work and rehabilitation in the Department of Medicine and Health Sciences, Helix Competence Centre, at Linköping University in Sweden. He is also a senior consulting scientist in workplace disability management at Team Arbejdsliv ApS in Denmark. With a sociological background in work and health, Gensby was previously a post-doctoral research scientist at the National Centre for Occupational Rehabilitation in Norway, and a fellowship trainee with the CIHR Strategic Training Program in Work Disability Prevention at the University of Toronto. Gensby's research interests focus on understanding the prevention and management of work disability in organizations, the industrial relations of return to work, and knowledge exchange to sustain relationships with workplace parties and research use. His research expertise includes synthesis research, process evaluation, and participatory and qualitative research methods. His research is broadly related to helping engage workplace stakeholders in capacity building, and the systematic development and evaluation of workplace disability management policy and practice.

Dr. Jill Hayden is associate professor and head of the Back Pain Evidence Synthesis and Translation Program in the Department of Community Health and Epidemiology at Dalhousie University, where she is also curriculum head of the Undergraduate Medical Education Research in Medicine Program in the university's Faculty of Medicine. She also leads the Nova Scotia site of Cochrane Canada and is the Nova Scotia science lead for the Maritime SPOR SUPPORT Unit. With a clinical background in chiropractic, Hayden was previously a scientist with the Centre for Research Expertise in Improved Disability Outcomes (CREIDO), housed at the University Health Network in Toronto, and an assistant professor in the Department of Health Policy, Management and Evaluation at the University of Toronto. Hayden's research expertise includes systematic review and meta-analysis methods, prognostic research and musculoskeletal health—specifically low-back pain. Her research is broadly related to improving the quality and use of research evidence for more effective health-care decision-making and improved patient outcomes.

Dr. Gail Hepburn is research associate and collaborator with the GAP-Santé Research Unit at the University of Ottawa and a research consultant and educator in organization psychology. She was previously a senior research associated at the Conference Board of Canada, an assistant professor in the Department of Psychology at the University of Lethbridge in Alberta, and a scientist at the Institute for Work & Health. 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. Hepburn earned her master's degree in industrial and organizational psychology and her PhD in organization psychology at Queen's University.

Dr. Linn Holness is a professor in the Dalla Lana School of Public Health and Department of Medicine at the University of Toronto. She is the director of the Division of Occupational Medicine in the Department of Medicine at the University of Toronto and at St Michael's Hospital. Holness is also the director of the Centre for Research Expertise in Occupational Disease (CREOD). Holness is an occupational medicine physician whose clinical

practice deals with occupational skin disease and patch testing. Her research interests include occupational skin and lung disease, as well as occupational health services.

Dr. Mieke Koehoorn is a professor and head of the Occupational and Environmental Health Division at the University of British Columbia (UBC)'s School of Population and Public Health. She is also co-director of the Partnership for Work, Health and Safety, a funding research partnership between UBC and WorkSafeBC (the province's workers' compensation system), as well as the co-lead of the B.C. cluster of the Centre for Research on Work Disability Policy. Koehoorn is an epidemiologist whose program of research focuses on the surveillance of occupational injury/disease, the determinants of occupational injury and disability, and the evaluation of workers' compensation programs. She has a special interest in using "big data" (administrative data), including the use of workers' compensation data linked to other health databases, for work and health research. Koehoorn currently holds a Canadian Institutes for Health Research (CIHR) Research Chair in Gender, Work and Health (2013-2018).

Dr. Vicki Kristman is an associate professor in the Department of Health Sciences and the Northern Ontario School of Medicine at Lakehead University in Thunder Bay, Ont. She is also an associate editor of the *Journal of Occupational Rehabilitation* and a board member of the Canadian Society of Epidemiology and Biostatistics. Kristman currently holds a Canadian Institutes for Health Research (CIHR) New Investigator Award in community-based primary health care, focusing on preventing work disability through accommodation. Previously, she held a CIHR post-doctoral fellowship in work disability and epidemiology at the Toronto Western Research Institute and was an associate scientist at the Institute for Work & Health. Her research interests include understanding the influence of workplace factors on work disability, specifically the influence of supervisors and workplace accommodation, with a focus mainly on musculoskeletal and brain injuries and, more recently, mental health.

Dr. Marie Laberge is an associate professor in the Faculty of Medicine's School of Rehabilitation and a scientist at the Marie Enfant Rehabilitation Centre and the Sainte Justine University Hospital Research Centre, all at the University of Montreal. 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. Laberge earned her MSc and PhD in ergonomics at the Université du Québec à Montréal. She was a post-doctoral fellow at the Institute for Work and Health in 2012 and completed the Canadian Institutes of Health Research (CIHR) Strategic Training Program on Work Disability Prevention at the University of Toronto in 2013.

Dr. Tony LaMontagne is a professor of work, health and wellbeing in the Centre for Population Health Research, School of Health & Social Development, at Deakin University in Melbourne, Australia. He leads a Work, Health and Wellbeing Unit, and serves as director of the Centre overall. He is also an honorary professorial fellow at the University of Melbourne's School of Population and Global Health, and a research affiliate at the Center for the Promotion of Health in the New England Workplace at the University of Massachusetts (USA). LaMontagne's broad research interest is in developing the scientific and public understanding of work as a social determinant of health and translating this research into policy and practice to improve workplace and worker health. He has a specific interest in occupational health and safety intervention research, with expertise in workplace mental health, improving job quality and psychosocial working conditions, and evaluating workplace health policy and practice interventions. LaMontagne earned a Master of Education from the University of Massachusetts, an MA in molecular toxicology from Harvard University, and a doctor of science in occupational and environmental health from the Harvard School of Public Health.

Dr. Ellen MacEachen is an associate professor and associate director in the School of Public Health and Health Systems in the University of Waterloo's Faculty of Applied Health Sciences, where she oversees the graduate research program. She is also co-founder of the Centre for Research on Work Disability Policy, an associate editor with the *Journal of Occupational Rehabilitation*, former president of the Canadian Association for Research on Work and Health, and editor of the forthcoming book *The Science and Politics of Work Disability Policy* (Routledge). MacEachen's research examines the design and performance of work and health systems in relation to fast-changing economic, social and technological environments of the global economy. She is particularly interested in international work disability policy, precarious employment, and the health risks and

opportunities of new forms of digitalised work. She specializes in qualitative and evaluation research, informed by a sociological lens. She works closely with community partners and policy-makers to ensure research relevance and improve research impact.

Greg McIntosh is an epidemiologist and director of clinical research at CBI Health Group in Toronto. He also sits on the advisory board of the journal *Spine*, performing peer reviews. During his 25-plus years in health care, McIntosh has been active in research that facilitates further understanding of musculoskeletal conditions and improvement in treatment. In addition to authorship of over 40 medical journal publications, he conducts numerous scientific and invited international presentations. At CBI Health, he designed and implemented a company-wide clinical data collection system and clinical database, and he has been active in using that data to further the understanding and treatment of low-back pain.

Dr. W. Patrick Neumann is a full professor in the Department of Mechanical and Industrial Engineering at Ryerson University in Canada. Neumann has been engaged in both epidemiological studies of low-back pain in the auto sector and ergonomics intervention research. His research now focuses on the design of work systems that are effective and sustainable from both human and technical perspectives. Areas of R&D interest include human factors and firm strategy, industrial system design processes, organizational design and change management, simulation and virtual performance modelling, and performance and exposure measurement. Neumann's collaborations have been acknowledged with the Elsevier Clinical Biomechanics Award (in 1997), the International Journal of Production Research's 55th Anniversary Editors Top 10 pick, and the Best Paper Award from the German Association of Business Management Scholars ("Kommission Produktionswirtschaft"). His work was also acknowledged by Taylor and Francis as being among the top 10 most downloaded articles in the ergonomics field in 2014.

Dr. Mark Pagell holds the Chair in Global Leadership and is a professor of sustainable supply chain management in the School of Business at University College Dublin (UCD) in Ireland. He is also the co-editor-in-chief of the *Journal of Supply Chain Management*. Prior to joining UCD, Pagell was a professor of operations management and information systems at the Schulich School of Business at York University in Toronto. During that time, he spent the 2009-2010 academic year at UCD on a Marie Curie International Incoming Fellowship studying sustainable supply chain management. Pagell's research focuses on sustainable supply chain management, human resources issues including employee safety in operational environments, and operational responses to environmental uncertainty. His research has won a number of awards, including two Emerald Citation of Excellence Awards (2013, 2017), best papers published in the *Journal of Supply Chain Management* (2009), *International Journal of Operations and Production Management* (2005) and *Journal of Operations Management* (2002), as well as best paper on operations management at the Academy of Management meetings in 2001 and 2003, and the best paper on sustainability at the Decision Sciences meetings in 2008 and 2011.

Dr. Glenn Pransky is an associate professor in the Department of Family Medicine and Community Health at the University of Massachusetts Medical School and a visiting lecturer at the Harvard School of Public Health and the University of Massachusetts/Lowell. He is also a senior editor for the *Journal of Occupational Rehabilitation*. Pransky founded and directed the Center for Disability Research at the Liberty Mutual Research Institute for Safety from 1999 to 2017. His research group conducted scientific investigations on disability prevention strategies, enhancing recovery in musculoskeletal disorders, work disability in older workers, and methods to achieve safe and sustained return to work. Prior to joining Liberty Mutual, he directed the Occupational and Environmental Health Program at the University of Massachusetts, overseeing research activities and training in occupational health. In 1995, he was a visiting scholar at the Agency for Health Care Policy and Research in Washington, DC, focusing on health services research. Pransky has produced more than 120 peer-reviewed scientific publications and book chapters, and frequently presents at international scientific conferences. He received the National Institute for Occupational Safety and Health (NIOSH) Innovative Research Award in 2008, the American College of Occupational and Environmental Medicine (ACOEM)'s Keogh Award for Academic Excellence in 2009, the Royal Society of Medicine's Osler Medal in 2011, and the ACOEM Health Excellence Award in 2015. He is an active member of ACOEM and the National Academy of Social Insurance, as well as the co-founder and past chair of the Work Disability Prevention Scientific Committee of the International Commission on Occupational Health.

Dr. Stéphanie Premji is an assistant professor in the School of Labour Studies and the Department of Health, Aging and Society, both in the Faculty of Social Sciences at McMaster University in Hamilton, Ontario. Premji researches how employment issues affect health, including issues such as 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. Premji wrote the guidance for incorporating gender in healthy workplace initiatives for the World Health Organization.

Dr. Ron Saunders currently a consultant in knowledge transfer and exchange (KTE), recently retired from the position of KTE director and senior scientist at the Institute for Work & Health. Saunders is a policy expert with a passion for labour issues. He has coupled these two interests throughout his career, whether working in the public service, academia or applied research. During his tenure as KTE director at the Institute, from 2008 to 2017, Saunders helped strengthen IWH's integrated KTE model, which provides for multiple types of engagement with stakeholders throughout the course of a research project. He also played a key role in expanding and deepening IWH's relationships with its stakeholder networks. These include the employer and labour networks, which he established, and the Prevention Knowledge Exchange Group (PKEG), which he nurtured into a lively gathering of Ontario's prevention system representatives to exchange information about research and practice. Before joining IWH, Saunders was with the Canadian Policy Research Network (CPRN), where he was the vice-president of research. His own research at CPRN centred on vulnerable workers, the school-to-work transition, access and quality issues in post-secondary education, and skills development and training. Prior to that, he spent 17 years in the Ontario public service, most notably as the assistant deputy minister of policy, communications and labour management services in the Ministry of Labour. There, he was instrumental in developing policies related to employment standards and labour relations. Saunders also spent time in the academic world, having taught at the University of Toronto and, in 2001/2002, at Queen's University School of Policy Studies. He currently holds an appointment as associate professor in the School of Public Policy and Governance at the University of Toronto.

Dr. Jeanne Sears is a research associate professor with the Department of Health Services at the University of Washington (UW). She is adjunct faculty with the UW Department of Environmental and Occupational Health Sciences, and associate faculty with the Harborview Injury Prevention and Research Center (HIPRC). She is also co-director of the Occupational Health Services Research Training Program, which is part of the Northwest Center for Occupational Health and Safety, an education and research centre funded by the National Institute for Occupational Safety and Health (NIOSH). Sears' research interests include occupational health services, occupational injury surveillance methodology, policy and program evaluation, and disparities in health and access to health care. Sears has evaluated the impact of legislation expanding the role of nurse practitioners and physician assistants in the workers' compensation system, as well as policy changes to the vocational rehabilitation system for injured workers. She is also involved in several studies assessing interventions to reduce high-risk opioid prescribing, as well as interventions related to substance use and harm reduction.

Dr. Harry Shannon is a professor emeritus at McMaster University in Hamilton, Ont. Shannon also holds a status appointment in the Dalla Lana School of Public Health at the University of Toronto. Shannon was previously chair of the Methodology Working Group for the Canadian Longitudinal Study on Aging. He is currently completing a simulation study comparing ways of sampling populations in difficult settings, such as natural disasters or conflict zones. Shannon's research interests have included workplace health and safety, especially the role of organizational factors and interventions to create safe workplaces. More recently, as the population ages, he has been interested in health and safety issues in older workers.

Dr. William Shaw is an assistant professor and director of the Division of Occupational and Environmental Medicine at the University of Connecticut Health Center in Farmington, Conn. He also holds an adjunct appointment as instructor in the Department of Family Medicine and Community Health at the University of Massachusetts Medical School in Worcester, Mass. Previously, Shaw was a principal research scientist with the Liberty Mutual Research Center for Safety and Health. He was also a faculty member in the CIHR Strategic Training Program in Work Disability Prevention. His primary research interest is the occupational health and safety of workers with injuries and illnesses, especially regarding return to work, stay at work and other work disability outcomes. Much of his research is focused on psychosocial factors and organizational support for workers with musculoskeletal conditions and chronic illnesses. His work has involved both individual- and organizational-level interventions to prevent work disability. He is also involved in several collaborative projects in



Australia, Canada, Sweden and the Netherlands. Shaw has received the NORA Innovative Research Award for Worker Health and Safety from the National Institute for Occupational Safety and Health (NIOSH) and a Research Travel Award from the International Association for the Study of Pain.

Dr. Ivan Steenstra is the manager of research and analytics at Morneau Shepell in Toronto, Ontario. Before joining Morneau Shepell, he was the research facilitator in the Ted Rogers School of Management at Ryerson University, an associate scientist at the Institute for Work & Health and a senior scientist at the Coronel Institute in the Netherlands. Steenstra was the recipient of IWH's Mustard Fellowship in Work Environment and Health from 2006-2008. His research interests focus on predicting work and health outcomes, big data, and evidence-based decision-making for workplaces. Steenstra obtained a master's degree in human movement sciences in work and health from the University of Groningen and a master's degree in epidemiology at the Vrije Universiteit (VU) in Amsterdam. He completed his PhD at the Institute for Extramural Research (EMGO) in the Department of Public and Occupational Health at the VU Medical Center.

Dr. Mary Stergiou-Kita is an assistant professor in the Department of Occupational Science and Occupational Therapy at the University of Toronto. She is also an affiliate scientist at the Toronto Rehabilitation Institute (part of the University Health Network) and an associate of the Graduate Department of Rehabilitation Science at the University of Toronto. Stergiou-Kita's program of research focuses on work and community reintegration, across rehabilitation populations (including traumatic brain injury, electrical injuries, cancer, burns). She aims to bridge health, community and employment contexts in order to develop strategies and tools to enhance clinical practice and improve return-to-work outcomes for vulnerable injured, ill and disabled workers. She is currently leading a pan-Canadian team of researchers and inter-sector safety partners in developing a suite of projects to enhance men's health and safety in high-risk work and applying gender theories. Stergiou-Kita has led national and international teams in developing inter-professional guidelines for vocational evaluation (in brain injury and burn injuries), examined workplace accommodations following complex physical and psychological injuries (e.g. brain and electrical injuries), and developed return-to-work recommendations for cancer survivors. She has over 15 years of clinical expertise in both brain injury and vocational rehabilitation (in public and private settings).

Dr. Zahi Touma is an assistant professor of medicine in the Division of Rheumatology at the University of Toronto, and a staff physician and clinician scientist in the Division of Rheumatology at Toronto Western Hospital and Mount Sinai Hospital. Touma's research interests include outcome measurement, particularly for systemic lupus erythematosus and including assessment of lupus disease activity and patient-reported outcomes. He is currently working on determining the best instruments for the screening and diagnosis of cognitive dysfunction in patients with lupus and studying the role of blood biomarkers in the assessment of cognitive dysfunction. He is also involved in collaborative projects with scientists at the Institute for Work & Health related to the review of critical appraisal tools of studies on measurement properties.

Dr. Richard Wells is an associate director and past 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. He is also a professor emeritus in the Department of Kinesiology, Faculty of Applied Health Sciences at the University of Waterloo in Waterloo, Ontario. His research focuses on work-related musculoskeletal disorders (MSDs) of the upper limb and back and translating best current knowledge into MSD prevention guidelines. He uses a number of approaches to look at the problem including laboratory studies of hand function, workplace studies to quantify the demands of various jobs, ergonomic intervention studies to examine the process and effectiveness of changing the workplace, and epidemiological studies to link the work people perform and injuries and disorders that might result. Wells has been involved in ergonomics standards and regulations with the American Conference of Governmental Industrial Hygienists (ACGIH) and the Occupational Safety and Health Administration (OSHA) in the United States, and in the Ontario Strategy for the Prevention of MSDs and the Canadian Standards Association (CSA). He also acts as a consultant and speaker on ergonomics issues.

## **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

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 2000-present.

Co-Chair: Worker Productivity Measurement Initiative, OMERACT (Outcome Measures in Rheumatology 2006-present.

Advisory Meetings: 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)

Research Ethics Board, St. Michael's Hospital: March 2001-April 2004 (ad hoc member: 2004- present)

Cataract Surgery Decision Tool Advisory Committee: University Health Network, January 2016 – present

Interprofessional Practice Based Research Advisory Board, St. Michael's Hospital: January 2015 – present

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.

### **BRESLIN, Curtis**

Professor, Seneca College Applied Arts and Technology, Department of English and Liberal Studies

Associate Member: School of Graduate Studies, University of Toronto

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

Associate Member: School of Graduate Studies, University of Toronto

Member: Ontario College of Psychologists

Member: Canadian Psychological Association

Member: Work Disability Prevention CIHR Strategic Training Program, University of Toronto

Member: Editorial Board at Journal of Occupational Health Psychology (ongoing)

### **CARNIDE, Nancy**

Reviewer, Canadian Medical Association Journal

Reviewer, Journal of Occupational and Environmental Medicine

### **CULLEN, Kim**

Registered Kinesiologist. College of Kinesiologists of Ontario

Member: Ontario Kinesiology Association

Member: Canadian Association for Research on Work and Health

### **FURLAN, Andrea**

Staff Physician: Physiatry, Toronto Rehabilitation Institute

Associate Professor: Department of Medicine, Division of Physiatry, University of Toronto

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

Associate Member: Institute of Medical Science, University of Toronto

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: 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**

Professor, Dalla Lana School of Public Health, University of Toronto, Status Appointment, Toronto, Ontario (July 2015- present)  
Associate Professor, Dalla Lana School of Public Health (formerly Department of Public Health Sciences), Faculty of Medicine, University of Toronto, Status Appointment, Toronto, Ontario (Jul 1, 2005- present)  
Research Investigator, Arthritis Community Research and Evaluation Unit (ACREU), the University Health Network (until June 1998 ACREU was with The Wellesley Hospital Research Institute) (Jul 1995- present)  
Full Member, Graduate Department of Public Health Sciences, University of Toronto (Jul 2007 – present)  
Affiliate Scientist: Division of Health Care & Outcomes Research, University Health Network  
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), 2011 to 2016  
Decanal Promotions Committee: Dalla Lana School of Public Health (DLSPH), University of Toronto, 2015 to present  
Member: Ontario Episodic Disabilities Forum (OEDF), 2011 to present,  
Member: Advisory Council, Community Health Solutions, Simon Fraser University, British Columbia, 2013 to present  
Member: Scientific Advisory Committee (SAC), The Arthritis Society (TAS), 2011 to present  
Member: Technical Advisory Group (TAG) on Persons with Disabilities Data and Information Strategy, Employment and Social Development Canada (ESDC) in partnership with Statistics Canada, 2011 to present  
Member: International Working Group for the Measurement of Work Productivity, Outcome Measures in Rheumatology (OMERACT)  
Member: American Psychological Association (APA)  
Member: Canadian Association on Gerontology (CAG)  
Member: Gerontological Society of America (GSA)  
Member: Association of Rheumatology Health Professionals (ARHP)  
Member: Institute Advisory Board on Chronic Conditions, Canadian Institutes of Health Research

### **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**

Member: Canadian Association for Research on Work and Health

### **JETHA, Arif**

Adjunct Assistant Professorship (Nov 2014 to Present): DeGroote School of Business, McMaster University, Hamilton (November 2014-present)  
Assistant Professor (status only): Dalla Lana School of Public Health University of Toronto (August 2016-present)  
Contributing Content Expert: Spinal Cord Injury Rehabilitation Care High Performance Indicators Project (SCI-HIGH), Toronto Rehabilitation Institute, University Health Network  
Project Collaboration: Arthritis Program, Centers for Disease Control and Prevention, Atlanta, GA, USA

Collaborator, Centre for Research on Work Disability Policy (Jul 2015 – present)  
Executive Board Member, Canadian Association for Research on Work and Health (CARWH) (Sep 2016 – present)  
Board Member, Dalla Lana School of Public Health Alumni Association (Jan 2017- present)  
Member: Centre for Disability Participation Project, McMaster University  
Member: Rehabilitation Institute, UHN (Feb 2016- present)  
Member: Association of Rheumatology Health Professionals (ARHP) (2013- present)  
Member: American Public Health Association (APHA) (2013-present)

**KOSNY, Agnieszka**

Assistant Professor (Status Only): Dalla Lana School of Public Health (Social and Behavioural Sciences)  
Steering Committee: Bancroft Institute  
CRWDP Co-Investigator/Academic Partner

**MUSTARD, Cameron**

Member: Teaching Evaluation Committee, Dalla Lana School of Public Health, University of Toronto, January 2016 to December 2016.  
Member: Dean's Advisory Board, Dalla Lana School of Public Health, University of Toronto, April 2015 to March 2018  
Member: Expert Advisory Committee, Parachute, July 2014 to September 2017)  
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 –  
Member: School Council Appeals Committee, Dalla Lana School of Public Health, University of Toronto, July 2016 to June 2017  
Member: Review College, 2017 Canada Foundation for Innovation (CFI) Fund, University of Toronto, May 2016  
Member: Endowed Chair Renewal Committee, Dalla Lana School of Public Health, University of Toronto, February 2016  
Member: Leadership Table on Workplace Violence Prevention in Health Care, January 2016 to December 2016.  
Member: Health Reports Editorial Board, February 2017 to February 2020  
Member: Epidemiology Curriculum Committee, Dalla Lana School of Public Health, University of Toronto, October 2016 to October 2017  
Member: Steering Committee, International Forum on Disability Management (IFDM) 2018, August 2016 to August 2018  
Member: Health Reports Editorial Board (February 2017 to February 2020)  
Member: Epidemiology Curriculum Committee, Dalla Lana School of Public Health, University of Toronto (October 2016 to October 2017)  
Member: Steering Committee, International Forum on Disability Management (IFDM) 2018 (August 2016 to August 2018)  
Member: Epidemiology Faculty Advisory Committee, Dalla Lana School of Public Health, University of Toronto (2016- present)  
Member: School Council Appeals Committee, Dalla Lana School of Public Health, University of Toronto (July 2016 to June 2017)  
Chair:CIHR Public, Community & Population Health Grants Committee, August 1, 2015 to July 31, 2016.

**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 (June 2010-present)  
Member: Education and Culture Advisory Council, Public Services Health & Safety Association (June 2011-present)  
Member: Editorial Advisory Board, Canadian Occupational Safety Magazine (September 2011- present)  
Member: Advisory Council for Education and Culture, Public Services Health & Safety Association (June 2011-present)  
Member, Knowledge Translation and Exchange Advisory Group, The Arthritis Society, since November 2016.  
Member, Advisory Board for project "On the Move: Employment-Related Geographical Mobility in the Canadian Context." Principal Investigator: B Neis. Funded by Social Sciences and Humanities Research Council (2012-2019 for \$2.5 million) (2012-present)

### **SMITH, Peter**

Associate Professor: Dalla Lana School of Public Health, University of Toronto  
Associate Professor: School of Public Health and Preventive Medicine, Monash University  
Member: Scientific Committee for the 2016 Epidemiology in Occupational Health (EPICOH) Conference.  
Member: Scientific Committee of the 2016 International Conference on Sustainable Employability  
Member: Scientific Committee 2016 Canadian Association for Research on Work & Health (CARWH)  
Committee Member. Epidemiology PhD Admissions Committee, Dalla Lana School of Public Health, University of Toronto

### **TOMPA, Emile**

Adjunct Associate Professor: Department of Economics, McMaster University, 2012-present  
Adjunct Assistant Professor: Public Health Sciences, University of Toronto. 2004-present  
Co-director: Centre for Research on Work Disability Policy  
Member: Canadian Association for Research on Work and Health  
Member: Workers' Compensation Research Group  
Member: Mentorship Committee, Work Disability Prevention CIHR Strategic Training Program, University of Toronto  
Member: Editorial Board, Journal of Occupational Rehabilitation (2009-present)  
Member: Steering Committee, Bancroft Institute for Studies in Workers' Compensation and Work Injury  
Advisory Committee, EU-OSHA project entitled "Estimating the costs of work-related injuries, illnesses and death at the European Level," 2015-present  
Technical Committee Member, Canadian Standards Association Initiative on Work Disability Prevention, 2014-present  
Member: Canadian Standards Association Committee for the development of standards for work disability prevention management systems, beginning Fall 2016  
Member: Canadian Standards Association Committee for the development of standards for work disability prevention management systems, beginning April 2016  
Research Subcommittee: Ontario Centre for Workforce Innovation (OCWI), September 2016- present.  
Member, Editorial Board of BMC Public Health, October 2017-present  
Member, Canadian Institutes of Health Research (CIHR) College of Reviewers, October 2017-present  
Member, Labour Market Information Council National Stakeholder Advisory Panel, October 2017-present  
Co-Chair of the Canadian Standards Association Committee for the development of standards for work disability prevention management systems.

### **VAN EERD, Dwayne**

Researcher, Centre for Research Expertise for Musculoskeletal Disorders, University of Waterloo  
Member, Knowledge Translation Trainee Collaborative supported by KT Canada.  
Syme Fellowship Committee (2017)

## Teaching, Educational and Service Activities

### **AMICK, Benjamin**

#### Service Activities

Editorial Board: Journal of Occupational Rehabilitation, 2010 –

### **BEATON, Dorcas**

#### Teaching/Educational Role

Course Instructor Committee: Institute of Health Policy, Management and Evaluation, Faculty of Medicine, University of Toronto (2009-present)

Lecture: Measurement in rehabilitation research, 1999-present.

Lecturer: Advanced measurement course, University of Toronto

Lecturer: Advanced Clinician Practitioner in Arthritis Care (ACPAC), St. Michael's Hospital, 2011-present.

#### Service Activities

Operating Grants: Canadian Institutes of Health Research, 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. CIHR Stage 2 Foundation Grant Program (2015-present)

Ontario Graduate Scholarships (OGS) Review Panel: Department of Occupational Sciences and Occupational Therapy, University of Toronto (2008-present)

### **BRESLIN, Curtis**

#### Teaching/Educational Role

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

#### Service Activities

Editorial Board: Journal of Occupational Health Psychology

Advisory Committee: Occupational injury among young workers project (PI: Sandra Moll & Mary Stergiou-Kita) funded by the Ontario Ministry of Labour

Reviewer: Ontario Ministry of Labour, Request for Proposal 2014 submission

Reviewer for: Attitudes and Beliefs of the Parents of Working Ontario Teenagers About the Work of Their Children, Journal of Adolescent Health

Reviewer for: Equal Education, Unequal jobs: College and University students with disabilities. Industrial Relations

### **CULLEN, Kim**

#### Teaching/Educational Role

Sessional lecturer graduate level course entitled: Evidence-based Practice for Occupational Therapy (OT 747). School of Rehabilitation Science, McMaster University (Fall 2017).

### **FURLAN, Andrea**

#### Teaching/Educational Role

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

PhD Thesis Committee member: N. Carnide,

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

Post-graduate Supervisor: M. Prieto

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

Member: CIHR Knowledge Synthesis Grant Committee

Member: External Advisory Board, NIH NCCAM

**GIGNAC, Monique**

Teaching/Educational Role:

Student Supervisor: Angela Pickard, Ph.D. student, Dalla Lana School of Public Health. Thesis title: TBA. (Primary Supervisor) (Sep 2014 – present)

Thesis Committees:

Ph.D. Committee Member for Kristina Kokorelias, Rehabilitation Sciences, University of Toronto. Supervisor: Jill Cameron. Thesis title: TBA. (Sep 2016 to present)

Ph.D. Committee Member for Jonathan Fan, Epidemiology program, Dalla Lana School of Public Health, University of Toronto. Supervisor: Peter Smith. Thesis title: TBA. (May 2016 to present)

M.Sc. Committee Member for Sabrina Kolker, Institute for Health Policy, Management and Evaluation, Clinical Epidemiology program. Supervisor: Aileen Davis. Thesis title: TBA. (Sep 2014 – present)

Ph.D. Committee Member for Mayilee Canizares, Institute of Medical Science, Supervisor: Elizabeth M. Badley. Thesis title: TBA (Oct 2013 – present)

Ph.D. Committee Member for Ellie Pinsker, Institute of Health Policy, Management, & Evaluation, University of Toronto. Supervisor: Dorcas Beaton. Thesis title: TBA. (2012 – present)

Service Activities:

American Psychological Association (APA) (since 1987)

Canadian Association on Gerontology (CAG) (since 1987)

Gerontological Society of America (GSA) (since 1991)

Association of Rheumatology Health Professionals (ARHP) (since 2006)

Associate Editor, Arthritis Care & Research, (Impact factor 2013/2014: 4.04) (April 2011-present)

Member, International Working Group for the Measurement of Work Productivity, Outcome Measures in Rheumatology (OMERACT) (Feb 2011 – present)

Reviewer, Journal of the American Medical Association

Reviewer, Work Arthritis Care & Research

Reviewer, Social Science and Medicine

Reviewer, Journal of Occupational Rehabilitation

Reviewer, European Health Psychology

Reviewer, Journal of Rheumatology

Reviewer, Canadian Journal of Aging (English & French)

Reviewer, OMERACT 10

Reviewer, Canadian Journal of Behavioural Science

Reviewer, Journal of Psychosomatic Research

Reviewer, Bulletin of the World Health Organization

Reviewer, Disability and Rehabilitation

Reviewer, Canadian Journal of Nursing Research

Reviewer, International Journal of Clinical Rheumatology

Reviewer, BMC Pulmonary Medicine

## **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

Mentor: Symposium on Methodological Challenges in Work Disability Prevention Research: Cohort Studies, CIHR Work Disability Training Program

Teaching: HAD 5302 Measurement in Clinical Research, University of Toronto

Instructor: Privacy Policy Training, IWH

PhD Thesis Committee Member: Orit Schieir, Mayilee Canizares Perez, Chamila Adhichetty

PhD Thesis Supervisor: Nancy Carnide

### Service Activities

Journal Referee: Canadian Medical Association Journal, Occupational and Environmental Medicine, Scandinavian Journal of Work, Environment and Health, BMC Musculoskeletal, American Journal of Public Health

Special Consultant to the Editorial Board: The Spine Journal

Assistant Editorial Board: European Spine Journal

Editorial Board: Journal of Occupational Rehabilitation

## **IBRAHIM, Selahadin**

### Teaching/Educational Role

Assistant Professor (status only) 2015-present

Co- teaching: Advanced Quantitative Methods in Epidemiology (Winter 2016)

PhD Thesis Committee Member: Mana Rezai and Alanna Mihic, Dalla Lana School of Public Health.

## **IRVIN, Emma**

### Teaching/Educational Role

Instructor: IWH Systematic Reviews Workshop

Instructor: Privacy Policy Training

Invited Lecturer: Research Methods, University of Toronto, Rehabilitation Sciences Institute.

Invited Lecturer: Meta-analysis, University of Toronto, School of Occupational Therapy (Fall)

Lead instructor for the course: REH 3600H Synthesis Toolkit, University of Toronto

Invited lecturer: SR Workshop at the WorkSafeBC Head Office, Vancouver, BC (September 25, 2017)

### Service Activities

Peer reviewer: CIHR Knowledge Synthesis grant

Abstract reviewer: 2018 CADTH Symposium

Reviewer: Journal of Rheumatology

Reviewer: Journal of Occupational Rehabilitation

Reviewer: Journal of Occupational and Environmental Medicine

Reviewer: Arthritis Care and Research

Reviewer, Canadian Medical Association Journal Open

Reviewer, Canadian Medical Association Journal

Reviewer, Work

## **JETHA, Arif**

### Teaching/Education Role

Co-Instructor CHL5308: Public Health Policy. Course Director Robert Schwartz

Co-Instructor CHL 5004: Introduction to public health. Course director Dr. Howard Hu

Student supervisor: Robert Shaw, Ph.D. summer student, University of British Columbia. (Summer practicum student) (May 2017 – present)



### Service Activities

Conference abstract reviewer: American College of Rheumatology  
Reviewer, Rheumatology  
Reviewer, Occupational and Environmental Medicine  
Reviewer, Journal of Occupational Rehabilitation  
Reviewer, Journal of Rheumatology  
Reviewer, Arthritis Care & Research  
Reviewer, Human Relations  
Reviewer, Spinal Cord Injury  
Reviewer, Accident Analysis and Prevention  
Reviewer, Disability and Health Journal  
Reviewer, New Media & Society  
Reviewer, Quality of Life Research

### **KOSNY, Agnieszka**

#### Teaching/Educational

PhD Admissions Committee: Dalla Lana School of Public Health (Social and Behavioural Sciences) (2017)  
Reviewer for two PhD theses (Queensland University and Waterloo)

### **MAHOOD, Quenby**

Lecturer: Literature searching for Systematic Reviews, REH 3600H Synthesis Toolkit, University of Toronto (Winter 2017)  
Lecturer: Literature searching tutorial, HAD5302H: Measurement in clinical research, University of Toronto (Winter 2017)  
Instructor: Literature searching for systematic reviews, IWH Systematic Review Workshop (Spring 2017)  
Reviewer, Journal of Evidence-Based Medicine  
Reviewer, Environmental International

### **MUSTARD, Cameron**

#### Teaching/Educational Role

Co-instructor: CHL 5426, Population Perspectives for Epidemiology. Dalla Lana School of Public Health. September-December 2016.  
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 –  
Primary Supervisor: Laura Bogaert, PhD candidate, Dalla Lana School of Public Health, University of Toronto.  
External Examiner: Doctoral Thesis Defence Committee for Deepa Rao, University of Ottawa, January 2016.  
Reviewer: Doctoral Thesis Defence Committee for Chantel Ramraj, University of Toronto, July 2016

#### Service Activities

Reviewer, PhD (Epid) Admissions Committee, Dalla Lana School of Public Health, University of Toronto, (November 2016 to January 2017)

### **ROBSON, Lynda**

#### Teaching/Educational Role

PhD Thesis Committee Member: Sharvani Sharma, Schulich School of Business, York University  
Guest Lecturer, Organizational change and its relationship to OHS management systems, In: OHS 818 System Management II, Ryerson University, 2017 Mar 17.

#### Service Activities

Member, Public Services Health & Safety Association Advisory Council for Municipal and Community Affairs (2014-present)  
Associate Editor, International Journal of Workplace Health Management, (2015-present)  
Reviewer, International Journal of Workplace Health Management, Occupational and Environmental Medicine, Safety Science (2017)  
Reviewer, American Journal of Industrial Medicine, International Journal of Workplace Health Management, Safety Science (2017)

### **SAUNDERS, Ron**

#### Teaching/Educational Role

Saunders R. Instructor, Knowledge Translation Professional Certificate program, SickKids Learning Institute (2013-present)

### **SMITH, Peter**

#### Teaching/Educational Role

Course co-instructor (Autumn, 2017): CHL5428 – Epidemiological methods for causal mediation analyses  
Course co-instructor (Autumn, 2017): CHL5426 – Population Perspectives in Epidemiology

Co-supervisor to Mahée Gilbert-Ouimet, Post-Doc student, Institute for Work & Health. Research topic: Evaluating the pathways linking adverse psychosocial work factors to diabetes and cardiovascular diseases among men and women - a 16-year prospective study among 5,700 Canadian workers (September 2016-present)

Supervisor to Kathleen Dobson, PhD Candidate, Epidemiology, Dalla Lana School of Public Health, University of Toronto. Research topic: TBD (September 2016 - present)

Primary Supervisor to Jonathan Fan, PhD Candidate, Epidemiology, Dalla Lana School of Public Health, University of Toronto. Research topic: Examining age-related differences in work injury and disability (September 2015 - present)

Supervisor to Oliver Black, PhD Candidate, Department of Epidemiology and Preventive Medicine, Monash University. Topic: Differences in return to work between work-related mental health conditions and physical injuries

Supervisor to Judith McInness. PhD Candidate, Department of Epidemiology and Preventive Medicine, Monash University. Topic: Hot weather and worker health in a changing climate

Thesis Committee Member to Chris Tait, PhD Candidate Epidemiology, Dalla Lana School of Public Health, University of Toronto. Research topic: The Role of Obesity in Explaining the Relationship Between Dietary Patterns and Type 2 Diabetes

Thesis Committee Member to Laura Bogaert PhD Candidate Epidemiology, Dalla Lana School of Public Health, University of Toronto. Research topic: Quantifying the burden of hearing loss among Canada's military population

#### Service Activities

Associate Editor: Occupational and Environmental Medicine

Associate Editor: Annals of Work Exposures and Health

Reviewer. CIHR Project Grant Competition

Departmental Reviewer: Sarah Edwards, PhD defence. Jan 30<sup>th</sup>, 2017

### **TOMPA, Emile**

#### Teaching/Educational Role

Sessional Lecturer: Centre of Industrial Relations and Human Resources, 2013-present

Course Co-Instructor, Advanced Topics in Health Economics (Econ791) January-April 2017.

Course Coordinator and Instructor, Current Topics: Health and Safety (IRE 2715H/IRE1655H), Centre for Industrial Relations and Human Resources, University of Toronto (Fall 2016)

Thesis Committee Member for Dan Samosh, Ph.D. candidate, Smith School of Business, Queen's University (September 2017 – present)  
Thesis Committee Member for Sabrina Hossain, M.A. candidate, School of Rehabilitation Sciences, McMaster University (January 2017 – present).  
Committee Member for Young Jung, Ph.D. candidate, Health Policy, McMaster University (May 2016-present)  
Student Mentor for Amir Mofidi, Ph.D. candidate, Department of Occupational Health and Safety, Tarbiat  
Student Mentor for Martha Isabel Riano Casallas, Ph.D. candidate, Faculty of Economic Sciences, National University of Columbia (Spring 2016)  
Thesis Committee Member for Alexis Buettgen, Ph.D. candidate, Critical Disabilities Studies, York University (December 2015 - present)  
Thesis Committee Member for Christina Hackett, Ph.D. candidate, Health Policy, McMaster University (September 2015- present)  
Thesis Committee Member for Saeed Rana, Ph.D. candidate, Department of Economics, McMaster University, (January 2015 - present)  
Thesis Committee Member for Pam Lahey, Ph.D. candidate, School of Rehabilitation, McMaster University (2014 - present)

#### Service Activities:

Scientific Committee. Workshop on Health and Labour Policy Evaluation, hosted by the Institute for Research and Information in Health Economics (IRDES), taking place February 1-3, 2017.  
Reviewer, Ontario Centre for Workforce Innovation (OCWI) (2016).  
Research Subcommittee, Ontario Centre for Workforce Innovation (OCWI), September 2016- present.  
Reviewer, New Investigator Salary Awards, Canadian Institutes for Health Research.  
Reviewer, Agence National de la Recherche (ANR), France. Novembre 2016-June 2017.  
Journal/book/report referee: American Journal of Industrial Medicine, Health Affairs, Health Policy, International Journal for Equity in Health, International Journal of Health Economics and Management, Journal of Cancer Survivorship, Journal of Occupational and Environmental Medicine, Journal of Occupational Health Psychology, PLOS1, Scandinavian Journal of Work, Environment and Health, Institute for Research on Public Policy, Institute for Safety, Compensation and Recovery Research (ISCRR), Workers' Compensation Research Institute (2016)  
Reviewer, Agence National de la Recherche (ANR), France. Novembre 2016-June 2017.

#### **VAN EERD, Dwayne**

##### Teaching/Educational Role

Invited lecturer: SR Workshop at the WorkSafeBC Head Office, Vancouver, BC (September 25, 2017)  
Instructor: IWH Systematic Reviews Workshop  
Instructor: REH 3600H Synthesis Toolkit, University of Toronto  
Invited lecturer: SR Workshop at the WorkSafeBC Head Office, Vancouver, BC (September 25, 2017)

##### Service Activities

Reviewer, Applied Ergonomics  
Reviewer, International Journal of Workplace Health Management  
Reviewer, International Archives of Occupational and Environmental Health  
Reviewer, American Journal of Industrial Medicine.