

# Institute for Work & Health Accomplishments Report 2018/19



Institute  
for Work &  
Health

Research Excellence  
Advancing Employee  
Health



## **2018/19 Accomplishments Report**

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2018/19 ACCOMPLISHMENTS REPORT

Table of Contents

**Introduction..... 1**

**Research**

**Prevention of Work-Related Injury and Illness ..... 2**

Vulnerable workers .....4

Effective occupational health and safety practice .....9

Working conditions and health ..... 16

**Prevention and Management of Work Disability..... 29**

Clinical treatment ..... 31

Return to work practices ..... 34

Compensation and benefits ..... 45

Measuring health and function ..... 58

Evidence guides and tools..... 62

**Foundation Programs ..... 64**

**Knowledge Transfer & Exchange..... 74**

**Publications and Awards ..... 87**

**Collaborators and Staff ..... 93**

## **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 2018/19 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 2018/19 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 backend sections report on 2018/19 publications, grants and awards. The final pages of the report also list all IWH staff in 2018/19, 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.

**Prevention of Work-Related Injury and Illness**

Vulnerable workers .....4

    Occupational health and safety risk in Ontario (1175) .....5

    Addressing essential skills gaps among participants in an OHS training program: a pilot study (1340) .....6

    Evaluating the impact of mandatory awareness training on OH&S vulnerability in Ontario (1336) .....7

Effective occupational health and safety practice .....9

    Implementing participatory organizational change: evaluation a participatory intervention in long-term care (1281) ..... 10

    Employer investments in occupational health and safety: establishing benchmarks for Ontario (1345) ..... 11

    Evaluation of the implementation and effectiveness of the Ontario working at heights training standard (1360) ..... 13

    Development of benchmarking reports and a dashboard to change the conversation in construction (1365) . 15

Working conditions and health ..... 16

    The measurement and surveillance of working conditions and lost-time claims in Ontario (0417) ..... 17

    Examining gender/sex differences in the relationships between work stress and disease, work injury risk, and the consequences of work injury (1310) ..... 18

    Developing a gender/sex-sensitive understanding of how the psychosocial work environment is related to chronic disease (1315) ..... 20

    Improving information on worker health protection in Ontario (1370) ..... 22

    Measuring cannabis use in Canadian workplaces (1375) ..... 23

    Strategies for reducing the future risk of cancer in the Ontario construction industry (2285) ..... 25

    Central nervous system agents and the risk of workplace injury and death: a systematic review of the literature (3200) ..... 27

## **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 2018/19 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 2018/19, the Institute completed a project that examined 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 (1175)

**Project Status:** Ongoing

**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)'. 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), Morgan Lay, Victoria Landsman

**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 has completed analysis of the survey findings.

**Potential Audiences and Significance:** The members of the Ontario Mining Association will have interest in the results of this work. We also anticipate interest on the part of the Section 21 Mining Committee.

### **Publications:**

Mustard CA, Landsman V, Lay M. Worker participation and the prevention of occupational injury: cross-sectional study in the Ontario mining industry. Submitted to American Journal of Public Health.

### **Presentations:**

Mustard CA, Parent M. Internal responsibility system climate assessment and audit tool update. Mining Health and Safety Conference 2017. April 19, 2017, Sudbury, Canada.

Mustard C, Landsman V, Lay M. Worker participation and the prevention of occupational injury: cross-sectional study in the Ontario mining industry. Oct 21-23 2018; Vancouver, BC: Canadian Association for Research on Work and Health 2018.



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

**Project Status:** Completed

**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 2018/19, we completed, published (on the IWH website) and disseminated a guide to embedding an essential skills curriculum within an OHS training program. The guide includes a summary of the project findings. We also revised the manuscript for submission to a peer-reviewed journal.

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

**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:**

"Essential Skills and OHS Training: A guide to embedding an essential skills curriculum within an OHS training program." Available at <https://www.iwh.on.ca/tools-and-guides>. Published April 2018.

**Presentations:** NA

**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 (2015-2018).

Saunders R, Myers K, Breslin FC. Addressing essential skills gaps among participants in an OHS training program: a pilot study. Max Bell Foundation: \$225, 312 (2015-2018).

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

**Project Status:** Completed

**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 British Columbia 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:** A final survey was conducted for this project in late 2017. A final manuscript from the project will be completed in 2019 and submitted to peer-review.

**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:**

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). *Safety Science*. 2018;108:286-291.

Lay AM, Kosny A, Aery A, Flecker K, and Smith P. The occupational health and safety vulnerability of recent immigrants accessing settlement services. *Canadian Journal of Public Health* 2018;109(3):303-311.

Yanar B, Lay M, and Smith P (2018) The interplay between supervisor safety support and occupational health and safety vulnerability on work injury. (In press) *Safety and Health at Work*

**Presentations:** NA

**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 2018/19, we completed work on obtaining detailed estimates of firm-level expenditures in occupational health and safety in a representative sample of Ontario employers. Also completed, was a study on evaluating the implementation and effectiveness of the Ontario working at heights training standard.

## **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:** From January 2018 to March 2019 all EPIC program implementation activities were completed at both interventions sites. Time 2 and 3 follow up survey data collection was completed at all four study sites. Baseline and time 2 and 3 follow up interviews were completed at the two intervention sites. Follow up (end-of-program) onsite observations were completed at all four study sites. All data has been entered, transcribed and analysis is underway. A CRE-MSD grant was awarded to enhance an online participatory approach tool for use in the long term care sector, a key project deliverable. Key meetings took place with our PSHSA stakeholders and our CRE-MSD grant partners at Conestoga College. All four study sites participated in tool development by completing feedback surveys on a video tool prototype. Final project consultations and tool development focus groups were scheduled for April 2019 at both control sites. Animation is underway for a prototype introductory participatory approach whiteboard animation video.

**Researchers:** Dwayne Van Eerd (Co-Principal Investigator), Ben Amick (Co-Principal Investigator), Teresa D'Elia, Sheilah Hogg-Johnson, Cameron Mustard, Lynda Robson, E Ferron (PSHSA), 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:** NA

### **Presentations:**

Van Eerd D, D'Elia T, Ferron EM, Amick B. A Sustainable Participatory Approach to Reducing Staff Musculoskeletal Injuries and Slips, Trips, and Falls. Together We Care, 2019, Toronto Canada.

**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).

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

**Project Status:** Completed

**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:**

Mustard C, Tompa E, Landsman V, Lay M. What do employers spend to protect the health of workers? *Scandinavian Journal of Work, Environment and Health*. 2019;45(3):308-311. doi:10.5271/sjweh.3778.

Mustard C, Orchard C. What do employers spend to protect the health of workers? *Issue Briefing*, Institute for Work & Health. August 2018.

**Presentations:**

Mustard C, Tompa E, Landsman V, Lay M. Expenditures on Occupational Health And Safety for a Representative Sample of Canadian Employers. Oct 21-23 2018; Vancouver, BC: Canadian Association for Research on Work and Health 2018.

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

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

What do Ontario employers spend to prevent work-related injury and illness? Mustard CA, Lay M, Imam S, Nasir K, Tompa E. 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, 2 years (2015-2017).

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

**Project Status:** Completed

**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 2018-19, the research team updated our extract of administrative data on training activity and expanded the analysis of it to describe the distribution of learners by employer sector (size and geography information not available). Over the course of the year we conducted supplementary analyses with the employer survey data collected in 2017. We then analyzed the learner survey data collected in 2017 to measure pre-post changes in knowledge and self-reported work practices, and to identify barriers to transferring knowledge. We conducted two surveys: a pilot survey of steamfitters with Ontario College of Trades and a survey of 87 training providers and analyzed data to document changes to their training arising from the standard. In addition, we analyzed WSIB lost-time claims data to assess trends over time in the incidence of falls from heights, as well as pre-post changes. Lastly, we continued and completed analysis on the inspector interview data collected in 2017

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

**Collaborations and Partnerships:** IHSA was a collaborator on the learner follow-up study. Ontario College of Trades collaborated on the survey of steamfitters.

**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 – Final report. Submitted to Ministry of Labour, Government of Ontario. Toronto: IWH; February 22, 2019. Available from: <https://www.iwh.on.ca/scientific-reports/evaluation-of-implementation-and-effectiveness-of-ontario-working-at-heights-training-standard-final-report>

Robson L, Mustard C. Implementation and effectiveness of the Ontario working at heights training standard – Interim Report II. Submitted to Ministry of Labour, Government of Ontario, September 30, 2018.

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



**Presentations:**

Robson LS, Mustard C. Evaluation of the implementation and effectiveness of the Ontario working at heights training standard. Provincial Labour-Management Health & Safety Committee (Construction) Meeting, Toronto, ON, Apr 3, 2019. (invited)

Robson LS, Mustard C. Evaluation of the implementation and effectiveness of the Ontario working at heights training standard. Council of Ontario Construction Associations Meeting, Toronto, ON, Mar 19, 2019. (invited)

Robson LS, Mustard C. Evaluation of the implementation and effectiveness of the Ontario working at heights training standard. COR™ Open House and OGCA Leadership Conference, Toronto, ON, Mar 1, 2019. (invited)

Robson LS, Mustard C. Evaluation of the implementation and effectiveness of the Ontario working at heights training standard. Ontario Prevention Council, Toronto, ON, Feb 28, 2019. (invited)

Robson LS, Mustard C. Evaluation of the implementation and effectiveness of the Ontario working at heights training standard. IWH Speaker Series, Toronto, ON, Feb 26, 2019.

Robson L, Mustard C, Smith P, Amick III B, Lee H, Tonima S, Landsman V, Sousa I. Implementation and Effectiveness of the Ontario Working at Heights Training Standard. Oct 21-23 2018; Vancouver: Canadian Association for Research on Work and Health 2018.

Robson L, Mustard C, Smith P, Amick III B, Lee H, Tonima S, Landsman V, Sousa I. Evaluation of the Implementation and Effectiveness of the Ontario Working at Heights Training Standard. Oct 16-18 2018; Morgantown, WV: National Occupational Injury Research Symposium.

Robson L, Imam S, Nasir K, Tonima S. Interim findings: evaluating the implementation and effectiveness of the Ontario Working at Heights Training Standard. IWH Speaker Series, IWH, Toronto, Mar 6, 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, 2 years (2017-2019).

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

**Project Status:** Ongoing

**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 the past year, we held two meetings with the Project Advisory Committee to finalize the benchmarking report template and pilot the alpha version of the performance dashboard. We developed a recruitment video and concluded all promotion and advertising activities. We received all requested data from WCB Manitoba and validated the claims cost data. We closed data collection and cleaned the survey dataset. We linked WCB administrative data to the survey data and developed evidence-based industry benchmarks. We conducted data analyses. We created resources for CSAM's project webpages to help participants better understand their benchmarking scores. We generated and distributed participant benchmarking reports. We conducted a presentation of the preliminary study results at CSAM's annual safety conference.

**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:** NA

### **Presentations:**

Amick B, Jones M, Van Eerd D, McLeod C, Swift M, Fan J, Macdonald S, Severin C. Benchmarking Your Organization's Occupational Health and Safety Performance: What You Can Do to Move the Needle. CSAM – The Safety Conference, February 5-6, 2019; Winnipeg, Canada.

**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, 2 years (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 2018/19, we completed work on a systematic review study that examined the literatures on central nervous system agents and potential workplace outcomes from using these agents, namely, workplace injury and fatality. So far, the potential impact of legalization of cannabis on the occupational health and safety and productivity of workers has received little attention; therefore, in 2018/19, we began work on measuring cannabis use in Canadian workplaces.

## **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.

**Publications:** NA

**Presentations:** NA

## **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 research chair program will be winding down over the next 12 months. Much has been gained about quantitative analytical approaches to integrating sex and gender into work and health research, including a co-editorial on a special issue of the *Annals of Work Exposures and Health* on integrating sex and gender into work and health research.

**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:**

Chen C, Smith PM, Mustard C. Gender differences in injuries attributed to workplace violence in Ontario 2002–2015. *Occupational and Environmental Medicine*. 2019;76(1):3-9.

Dobson KG, Gilbert-Ouimet M, Mustard CA, Smith PM. Association between dimensions of the psychosocial and physical work environment and latent smoking trajectories: a 16-year cohort study of the Canadian workforce. *Occupational and Environmental Medicine*. 2018;75(11):814-821.

Gilbert Ouimet M, Smith M, Brisson CS, Duchaine C, Mustard CA. Psychosocial work factors and diabetes: what is known and what is left to know? *Journal of Diabetes, Metabolic Disorders & Control*. 2018;5(4):138-139.

Quinn MM, Smith PM. Gender, work, and health. Editorial. *Annals of Work Exposure and Health* 2018;62(4):389-392.

Smith P, Cawley C, Williams A, Mustard CA. Male/female differences in the impact of caring for elderly relatives on labour market attachment and hours of work: 1997 to 2015. *Journal of Gerontology. Series B, Psychological Sciences and Social Sciences* 2019: [Epub ahead of print]. doi:10.1093/geronb/gbz026

Ramkissoon A, Smith P and Oudyk J (2019) Dissecting the effect of workplace exposures on workers' rating of psychological health and safety. (in press). American Journal of Industrial Medicine

Fan JK and Smith PM. Self-reported work conditions in Canada: examining changes between 2002 and 2012. Canadian Journal of Public Health. 2018;109:882–890

Lanthier S, Bielecky A and Smith P (2018) Examining Risk of Workplace Violence in Canada: A Sex/Gender-Based Analysis. Annals of Work Exposures and Health, 62 (8), 1012 -- 1020

**Presentations:**

Smith P. Approaches to make gender and sex more visible in quantitative research in work and health. November 28, 2018; IGH trainee network, University of Waterloo.

**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:** Completed

**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:** A small amount of additional analytical work is needed to finalise the objectives related to the longitudinal impact of psychosocial work conditions and disease risk using the Canadian Community Health Survey – Ontario Health Insurance Plan (CCHS-OHIP) linked data stored at the Institute for Clinical Evaluative Sciences (ICES). The overall study was completed and a small amount of additional analysis will conclude over the next few months.

**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:**

Biswas A, Smith PM, and Alter DAI. Is promoting six hours of standing an appropriate public health message? *European Journal Of Preventive Cardiology*. 2018;25(7):751-752

Dobson KG, Gilbert-Ouimet M, Mustard CA, and Smith PM. Association between dimensions of the psychosocial and physical work environment and latent smoking trajectories: a 16-year cohort study of the Canadian workforce. *Occupational and Environmental Medicine* 2018;75(11):814-821.

Dobson KG, Ibrahim S, Gilbert-Ouimet M, Mustard CA, and Smith P. 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, Ma H, Glazier R, Brisson C, Mustard C, Smith P. Adverse effect of long work hours on incident diabetes in 7,065 Ontario workers followed 12 years. *BMJ Open Diabetes Research & Care* 2018;6(1):e000496.

Padkapayeva K, Gilbert-Ouimet M, Bielecky A, Ibrahim S, Mustard C, Brisson C, and Smith P. Gender/sex differences in the relationship between psychosocial work exposures and work and life stress. *Annals of Work Exposure and Health* 2018;62(4):416-425.

**Presentations:**

Smith P. Sitting versus standing at work. Which is best for occupational health? Occupational Health Seminar, Ryerson University; February 13, 2019.

**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).



## **Improving information on worker health protection in Ontario (1370)**

**Project Status:** Ongoing

**Introduction:** The December 2010 report of the Expert Advisory Panel on Occupational Health and Safety made a number of recommendations to the Ontario Minister of Labour to improve the reliability and validity of data on the health of Ontario workers, both to improve the recognition of hazards in contemporary workplaces and to strengthen the measurement of the performance of the Ontario prevention system. This project aims to respond to these recommendations, by making use of population-based records of emergency department visits to improve the surveillance of work-related injury and illness in the province of Ontario, with a particular emphasis on vulnerable workers. This study has the broad purpose of evaluating emergency department encounter records as a source of information for monitoring work-related injury and illness in Ontario. The primary objective of the study is to conduct a formal record linkage of emergency dept. records for the treatment of work-related injury and illness (N=1,300,000) and workers' compensation claims (N=2,300,000) over the period 2004-2017. A primary interest of this study is in describing characteristics of the approximately 40% of emergency department records for the treatment of a work-related injury or illness that do not link to a workers' compensation claim.

### **Objectives:**

- To identify the factors associated with a divergence in the two administrative data sources following the 2009 recession in Ontario (specifically, an annual increase in emergency department visits for work-related conditions, contrasted to annual declines in the registration of lost-time and no lost-time claims).
- Improved understanding of geographic differences in trends in the nature of injury and injury events.
- Enhanced detail and precision of injury nature and event information for compensation claims that only required medical care only (claims that did not require wage replacement benefits).

**Status:** In the first year of the project workplan, the team completed data custodian agreements to obtain person-identifying information to conduct the record linkage phase. The record linkage phase was completed in Q1/2019. Initiation of the analytic objectives has commenced.

**Researchers:** Cameron Mustard (Principal Investigator), Aviroop Biswas, Victoria Landsman, Peter Smith.

**Collaboration and Partnerships:** This project involves the agreement of the Ontario Workplace Safety & Insurance Board and the Canadian Institute for Health Information to endorse the methods of the proposed record linkage.

**Potential Audiences and Significance:** We expect that the Ontario Ministry of Labour and the Ontario Workplace Safety & Insurance Board will be primary users of the knowledge arising from this project. Additional stakeholders who may be interested in the results of this proposed research include policy-makers in provincial workers' compensation authorities, representatives of organized labour, and representatives of employer organizations in Ontario.

**Publications:** NA

**Presentations:** NA

**Funding:** Mustard C, Biswas A, Smith P. Improving information on worker health protection in Ontario. Ministry of Labour Research Opportunities Program, \$199,152, 2 years (2018-2020).

## Measuring cannabis use in Canadian workplaces (1375)

**Project Status:** Ongoing

**Introduction:** In October 2018, non-medical cannabis was legalized in Canada. The potential impact of legalization on workers and occupational health and safety and productivity has received little attention. Any increases in cannabis use by workers have the potential to affect a large proportion of Canadians and may have spillover effects on the workplace. However, workplace parties do not feel prepared to address the issues that may arise from legalization. A critical first step to understanding the potential impact of legalization on the workplace is to gather pre-legalization information on how workers use cannabis in relation to the workplace and their perceptions and attitudes towards workplace use. Yet, we know virtually nothing about the current magnitude of cannabis use in Canadian workplaces. To address this critical knowledge gap, we will collect pan-Canadian data on workplace cannabis consumption and related perceptions from a special survey of workers.

### **Objectives:**

- To estimate the magnitude of workplace cannabis consumption and impairment.
- To measure intentions to use cannabis in the workplace following legalization, current reasons for use and expectancies of effect in the workplace, knowledge of cannabis effects, perceptions of risk and consequences of workplace use, and workplace cannabis norms and perceived workplace availability.
- To examine the association between reasons for use, expectancies of effect, perceptions of risk, and workplace cannabis norms and availability and workplace cannabis consumption.
- To examine whether these constructs differ according to age, sex, labour market gender roles, province/territory, and occupational hazard exposure.

**Status:** We developed the survey in consultation with our stakeholder advisory committee, obtained ethics, and engaged a survey data firm to conduct online and telephone interviews with workers from across Canada. A total of 2,014 workers participated in the survey. We completed data cleaning and descriptive analysis of the data. We met with our stakeholder advisory committee to discuss the initial results. Further analyses are ongoing.

**Researchers:** Nancy Carnide (Co-Principal Investigator), Peter Smith (Co-Principal Investigator), Andrea Furlan, M Frone (University at Buffalo), A Porath, S Meister (Canadian Centre on Substance Use and Addiction), K Slade (Public Services Health & Safety Association), M Ware (McGill University),

**Collaboration and Partnerships:** Partners include Health Canada, Labour Program (Employment and Social Development Canada), Public Services Health & Safety Association, Canadian Centre on Substance Use and Addiction, Canadian Centre for Occupational Health and Safety, Ontario Ministry of Labour, Ontario Building Trades, Unifor, Workplace Safety North, Workplace Safety & Prevention Services, and WorkSafeBC

**Potential Audiences and Significance:** This project will lead to the development of a population-level dataset to monitor the long-term impact of cannabis legalization in Canadian workplaces. It will also provide employer and labour groups, OHS associations, and provincial and territorial policy makers information for workplace policies and prevention initiatives to lower risk cannabis use in the workplace.

**Publications:** NA

### **Presentations:**

Carnide N. Clearing the Haze on Cannabis Consumption and Related Perceptions Among Canadian Workers. Strengthening Knowledge Exchange on Work and Health: Institute for Work & Health Forum with OHS Leaders From the Employer Community. Toronto, ON. January 30, 2019.

Carnide N. Clearing the haze: Understanding how Canadian workers use and perceive cannabis at work. Federal/Provincial/Territorial Cannabis Data Working Group (FPT CDWG) Meeting. Webinar. Ottawa, ON. January 23, 2019.

Carnide N. Cannabis and work – workers' perspectives on use and impairment. Institute for Work & Health Educationally Influential Practitioners Meeting. Toronto, ON. November 22, 2018.

Carnide N. Clearing the haze: Understanding how Canadian workers use and perceive cannabis at work. Institute for Work & Health Speaker Series. November 20, 2018.

Carnide N. Toking 9 to 5? Clearing the haze on cannabis consumption in the Canadian workplace. Institute for Work & Health Labour Forum. Toronto, ON. May 30, 2018.

Carnide N. Understanding cannabis consumption and related knowledge, perceptions, and attitudes among Canadian Workers. Institute for Work & Health OHS Professionals and Disability Managers Networks Meeting. Toronto, ON. April 11, 2018.

**Funding:** 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, Canadian Institutes of Health Research Catalyst Grant, \$100,000, 1 year (2018-2019).

## Strategies for reducing the future risk of cancer in the Ontario construction industry (2285)

**Project Status:** 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, we completed the silica dust exposure analysis that included an evaluation of two best practices prevention methods—personal protective equipment (PPE), specifically half mask, and the wet method which entails wetting down stone, masonry and other material that results in silica dust when cut or handled. The human burden reduction and cost-benefit analyses for these two prevention methods were estimated and compared. We began estimation of the human burden reduction and cost-benefit analysis of best practices for the prevention of ultraviolet exposure. We are focusing on PPE, specifically protective clothing that includes long sleeve shirts, long pants and wide brimmed hats. Prevention best practices for the other two exposure that are part of this project-- diesel fuel and asbestos—will only be given high level evaluations. The project is to be completed in 2019.

**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:**

Mofidi A, Tompa E, Mortazavi S, Esfahanipour A, Demers PA. Economic Evaluation of Silica Control Interventions in Construction Sector Using Bayesian Network. In preparation for submission to Occupational and Environmental Medicine.

Mofidi A, PhD Thesis. Development of Economic Evaluation Method for Health and Safety Interventions. Faculty of Medical Sciences, Tarbiat Modares University, January- 2019.

**Presentations:**

Tompa E. The Business Case for Occupational Health and Safety in the Workplace: Jurisdictional- and Sectoral-level Analyses. Ontario Ministry of Labour Talk, Toronto, November 13, 2018.

Tompa E. An Impact Analysis of Two Silica Dust Exposure Reduction Strategies. IWH Speaker Series, Toronto, November 6, 2018.

Tompa E. A 30-year Impact Analysis of the Implementation of Best Practices for Silica Dust Reduction in Construction: Costs, Benefits and Health Related Quality of Life. CARWH 2018: Research and Practice to Improve Health in a Changing World of Work, October 21-23, 2018, Vancouver BC.

**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, 2 years (2016-2018).

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

**Project Status:** Completed

**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 2018, the team completed quality appraisal and data extraction on 31 eligible studies. We then synthesized the evidence from 23 medium- and high-quality studies using the IWH best evidence synthesis algorithm. We met with stakeholders to discuss the evidence and its implications, as well as how to best present it. A final report was submitted to WorkSafeBC and results were presented at CARWH in Vancouver in October 2018. We are currently preparing two publications for submission to a peer-reviewed journal.

**Researchers:** Nancy Carnide (Co-PI), Andrea Furlan (Co-PI), Kim Cullen, Emma Irvin, Quenby Mahood, Christopher McLeod, Dwayne Van Eerd, A Ramkissoon (University of Toronto), 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:**

Carnide N, Irvin E, Van Eerd D, Cullen K, Ramkissoon A, Mahood Q, McLeod C, Furlan AD. Select Central Nervous System Agents and the Risk of Workplace Injuries and Deaths: A Systematic Review of the Literature. Final report for WorkSafeBC. Toronto, ON: Institute for Work & Health. 2018.

### **Presentations:**

Carnide N, Irvin E, Cullen K, Van Eerd D, Ramkissoon A, Mahood Q, McCleod C, Furlan AD. Risk of Workplace Injuries and Death Associated with the Use of Select Prescription Central Nervous System Drugs: A Systematic Review. Oct 21-23, 2018; Vancouver, BC: Canadian Association for Research on Work and Health Conference.

Carnide N, Irvin E, Van Eerd D, Cullen K, Ramkissoon A, Mahood Q, McCleod C, Furlan AD. The Impact of Cannabis Use on Occupational Safety Outcomes: A Systematic Review. Oct 21-23, 2018; Vancouver, BC: Canadian Association for Research on Work and Health Conference.

**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 2018/19, 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 and disability management. 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.



## Prevention and Management of Work Disability

Clinical treatment.....	31
Cochrane Back and Neck group: systematic reviews of the scientific literature on spinal disorders (0440) ...	32
Predicting successful return to work in workers on disability due to low back pain (2210).....	33
Return to work practices.....	34
Employment needs and experiences of workers with arthritis and diabetes: Keeping the Boomers in the labour market (2230) .....	35
Examining the role of job accommodations and communication practices in supporting the employment participation of Canadians living with disabilities (2255) .....	37
Sustainable work participation: work disability prevention and improvement of employment outcomes among those with chronic, episodic health conditions (2270/2271).....	39
Strengthening disability management in the Ontario municipal sector (2275).....	41
Conceal or reveal? Facilitators and barriers to older workers' communication of accommodation (2280) .....	43
Work disability prevention for Millennial young adults with rheumatic disease (2310) .....	44
Compensation and benefits .....	45
Benefits adequacy for workers compensation claimants, 1999-2006 (2150) .....	46
Income security and labour-market engagement: envisioning the future of disability policy in Canada (2195) .....	47
Assessment of the human and economic burden of workplace cancer (2205) .....	49
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) .....	51
Extended working life and its interaction with health, wellbeing and beyond (2260) .....	52
The cost of exclusion of persons with disability in Canada (2265) .....	54
Financial incentives to promote employment of people with disabilities: when and how do they work best? (2295) .....	55
Tracking long-term outcomes of injured workers in Ontario to better target supports (2305).....	56
Measuring health and function .....	58
Measurement methodology studies (0925).....	59
Supporting the employment participation of Canada disabled young adults: scoping review (3210).....	61
Evidence guides and tools.....	62
Development and testing of the DASH outcome measure - DASH instrument (0425).....	63

## **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 site.

## **Cochrane Back and Neck 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 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 apprise stakeholders of our activities via our website, news bulletins, and social media (Twitter and Facebook).

### **Objectives:**

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

**Status:** In 2018, the CBN was suspended from April to the end of October. However, the trials register was updated throughout the year; QuickDecks, summary slides of our published reviews (KT tool), were updated and published on the CBN website (March 2019); and priority setting topics were finalized (March 2019) with input from guideline developers, Cochrane Impact Factor results, BMJ scoping review on priority setting (Bourne 2019), and expert opinion.

**Researchers:** Andrea Furlan, Claire Bombardier, Shireen Harbin, Emma Irvin, J Hayden (Dalhousie University), R Chou (OHSU, Oregon).

**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:** NA

**Presentations:** NA

**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:** Data analysis for predictive models for two distinct cohorts of CBI clients was completed. Modelling for the 2012 cohort was completed including validation analysis. Modelling for the 2016 cohort is complete. Project outcomes have been presented at IWH and a final paper is underway.

**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:** NA

### **Presentations:**

McIntosh G, Hall H, Steenstra I, Chen C, Hogg-Johnson S, Amick B, D'Elia T, Carter T. Low Back Pain Prognostic Factors for Time Receiving Wage Replacement Benefits. Feb 28-Mar 3 2018; Banff AB: 18th Annual Scientific Conference of the Canadian Spine Society.

Steenstra IA, McIntosh G, Chen C, D'Elia T, Amick B, Hogg-Johnson S. Validation of a Prognostic Model Developed in a Cohort of Low Back Pain Claimants Receiving Rehabilitation. Nov 15-16 2018; Groningen, Netherlands: Society for Back Pain Research Conference.

**Funding:** Steenstra IA, McIntosh G, Amick BC, Furlan AD, Hogg-Johnson S. Predicting successful return to work in worker on disability due to low back pain. Canadian Institutes of Health Research, \$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 completed 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 2018/19, the Institute was granted a multi-year partnership award focused on sustainable work participation that will enhance the breadth of partnerships related to managing episodic physical and mental health conditions.

## **Employment needs and experiences of workers with arthritis and diabetes: Keeping the Boomers in the labour market (2230)**

**Project Status:** Completed

**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:** This project is largely complete. Three papers are published or in press and several presentations have been given. A data transfer agreement has been signed and the data are with co-investigator Vicky Kristman. She and her students will conduct additional analyses that may result in papers and presentations. Peter Smith is also supervising a student who is using the data to familiarize herself with mediation modeling.

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

**Collaborations and Partnerships:** We have provided presentations and dissemination information to 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. Retirement expectations of older workers with arthritis and diabetes compared to workers with no chronic diseases. *Canadian Journal on Aging*. 2019.

Gignac, M. A. M., Kristman, V., Smith, P. M., Beaton, D. E., Badley, E. M., Ibrahim, S., Mustard, C. A. 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 Context. *Work, Aging and Retirement*. 2018; 4(4): 381–398.

Gignac, M. A. M., Ibrahim, S., Smith, P. M., Kristman, V., Beaton, D. E., Mustard, C. A. 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*. 2018;1–15.

**Presentations:**

Gignac MAM. Coping and Adaptation Efforts to Manage Arthritis-Related Workplace Activity Limitations. May 31-Jun1 2018; Edmonton, AB: International Symposium: Tackling Arthritis in Vulnerable Populations.

Armstrong, J.J., Kristman, V.L., Gignac, M.A.M. (2018) Keeping the Boomers in the Labour Market: Examining Workplace Accommodation Needs of Older Workers Across Job Sectors. Paper presented at the Canadian Association of Research on Work & Health. November 2018, Vancouver, BC

**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, 2 years (2013-2015).

## **Examining the role of job accommodations and communication practices in supporting the employment participation of Canadians living with disabilities (2255)**

**Project Status:** Ongoing

**Introduction:** Studies of working-aged Canadians indicate that people living with disabilities are more likely to experience difficulties finding and sustaining employment and report work productivity loss (i.e., absenteeism and presenteeism) and job disruptions (e.g., arriving late to work or taking frequent breaks) when compared to their peers not living with a disability. Research on the relationship between job accommodations and communication practices and employment participation is required in a larger sample of Canadians living with different disabling conditions. Absent from existing research are insights into: 1) the relationships between communication/disclosure of disability and accommodations; 2) life course differences in accommodation needs and use among individuals of different ages and career stages; 3) a more in-depth understanding of work context factors and their relationship with communication and accommodation use (e.g., job sector; contract or part-time work; unionized employment; job type; managerial responsibilities; job control); and 4) experiences of workers without a disability, but who work with a disabled individual who requires accommodations.

### **Objectives:**

- To examine the role of formal job accommodations and informal work modifications in the employment participation of Canadians living with disabilities.
- To examine the role of workplace communication practices in the employment participation of Canadians living with disabilities and their association with perceived availability and utilization of job accommodations and work modifications.
- To examine the reported availability, perceived need for and use of formal job accommodations and informal work modifications, practices among Canadians who do not live with a disability, and their perceptions of accommodation and communication policies, including the use of accommodations by others with a disability.

**Status:** This is a sub-grant of a large partnership grant. In 2018, a new questionnaire (n = 1800) was fielded, including new items to assess work participation, job supports and accommodation, and communication about personal needs in the workplace. Analysis and manuscript preparation are underway.

**Researchers:** Monique Gignac (Co-Principal Investigator), Arif Jetha (Co-Principal Investigator), K Martin Ginnis (McMaster University).

**Collaboration and Partnerships:** Candian Disability Participation Project, UBC, McMaster (Kathleen Martin Ginnis (PI), March of Dimes, Canadian Centre for Rehabilitation and Work, Neil Squire Society

**Potential Audiences and Significance:** Findings will offer a specific set of recommendations that employers and policy makers can use to support the work participation of Canadians living with disabilities. Audiences include policymakers, work disability managers, rehabilitation professionals, and human resource managers.

### **Publications:**

Bonaccio S, Connelly CE, Fisher SL, Gellatly IR, Gignac MAM, Jetha A. Beyond managing research partnerships: partnered research as an integrated methodological approach. *Industrial and Organizational Psychology*. 2018;11(4):613-619.

Bonaccio S, Connelly CE, Gellatly IR, Jetha A, Martin Ginnis KA. The participation of people with disabilities in the workplace across the employment cycle: employer concerns and research evidence. *Journal of Business and Psychology*. 2019:[Epub ahead of print]. doi:10.1007/s10869-018-9602-5

Jetha A, Bowring J, Furrie A, Smith F, Breslin C. Supporting the transition into employment: a study of canadian young adults living with disabilities. *Journal of Occupational Rehabilitation*. 2019;29(1):140-149.



Jetha A, Shaw R, Sinden AR, Mahood Q, Gignac MA, McColl MA, et al. Work-focused interventions that promote the labour market transition of young adults with chronic disabling health conditions: a systematic review. *Occupational and Environmental Medicine*. 2019;76(3):189-198.

**Presentations:**

Jetha A, Bonaccio S, Connelly CE, Fisher S, Forwell, Gignac MAM, Tucker S, Gellately I. Perfect Strangers: Benefits and Barriers in the Collaboration of Health Science and Organizational Behaviour Researchers in Studies of People with Disabilities. Oct 21-23 2018; Vancouver: Canadian Association for Research on Work & Health 2018 Conference.

Jetha A, Bowring J, Furrie A, Smith F, Breslin C. Accommodations Best Served Soft: Supporting the Needs of Disabled Young Adults in the Workplace. Apr 29-4 2018; Ireland: ICOH Conference.

Jetha A. Supporting The Labour Market Participation of Millennial Young Adults with Chronic Episodic Health Conditions. June 2018; Toronto, ON: Education at Work Professional Conference.

McLaren C, Bourbonniere A, Contreary K, Ben-Shalom Y, Gifford B, Jetha A. Workers with Disabling Injury and Illness: Data and Research to Inform Policy. Nov 8-10 2018; Washington, DC: Association for Public Policy Analysis and Management.

Tucker S, Birch G, Connelly C, Gignac MAM, Jetha A, Johnson A, Marting-Ginis KA. Assessing High Quality Employment Counselling on the Mental Health of Individuals with Mobility Impairments. Oct 21-23 2018; Vancouver: Canadian Association for Research on Work and Health 2018 Conference.

**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, M. A. M., Bassett-Gunter, R. (2014). Enhancing community participation in Canadians with physical disabilities: Development, implementation and evaluation of a partnered strategy. Social Sciences and Humanities Research Council. 7 years, \$2,643,997 (file 895-2013-1021).

Gignac, M.A.M. (Co-PI) & Jetha, A. (Co-PI). (2018). Examining the role of job accommodations and communication practices in supporting the employment participation of Canadians living with disabilities. Canadian Disability Participation Project (CDPP) sub-grant (see above). \$50,500, 1 year.

## **Sustainable work participation: work disability prevention and improvement of employment outcomes among those with chronic, episodic health conditions (2270/2271)**

**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:** Our original Phase 1 application (2270) was successfully extended in 2018 as a larger Phase 2 project (2271). Additional funding was secured from Employment and Social Development Canada (ESDC) to help with knowledge translation and exchange, as well as from Great-West Life Assurance Company to help test a new job demands and accommodation planning tool (JDAPT). Phase 1 research is largely complete with 27 key informant interviews conducted and resource coding completed. Key informant interviews have been coded and a manuscript is being prepared. Phase 2 work is underway. This includes development and testing of the JDAPT and new communication decision-making tools.

**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 (Western University), W Shaw (University of Connecticut), A Thompson (WSIB)

**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, support decision making and accommodations, and sustain employment.

**Publications:** NA

### **Presentations:**

Gignac MAM. 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. February 2018; Toronto, Ontario: National Partnership Meeting of the Multiple Sclerosis Society of Canada.

Gignac, MA M. 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. September 2018, Toronto, Ontario; National Board of Directors, Arthritis Society.

Bowring J, Van Eerd D, Breslin C, Jetha A, Le Pouésard M, Liu J, Mahood Q, Gignac MAM. Communicating about Episodic Disabilities in the Workplace: Is the Evidence Being Used? Oct 21-23 2018; Vancouver, BC: Canadian Association for Research on Work and Health Conference.

Gignac MAM, Bowring J, Breslin C, Jetha A, Van Eerd D, Irvin E, Franche RL, Smith P, Tompa E, Beaton D, Saunders R. Challenges in Accommodating Mental and Physical Health Conditions: What Workplace Parties Are Saying. Oct 21-23 2018; Vancouver, British Columbia: Canadian Association for Research on Work and Health Conference.

Gignac, MAM. Challenges in accommodating mental and physical health conditions: What workplace parties are saying. June 5, 2018, Toronto, Ontario; IWH Speaker Series' Presentation.

Gignac, MAM. "M-192, Episodic Disabilities." December 6, 2018; Ottawa, Ontario; Witness appearing before the Standing Committee on Human Resources, Skills and Social Development and the Status of Persons with Disabilities, House of Commons, Government of Canada.

#### **Funding:**

Gignac MAM (PI), 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. Canadian Institutes of Health Research (CIHR) / Social Science and Humanities Research Council of Canada (SSHRC) Healthy and Productive Work Signature Initiative, Phase 1 (Partnership Development Grant): \$145,95, 2 years (2016-2018).

Gignac, M. A. M. (PI/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. (2018). 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 & Humanities Research Council (SSHRC)-Canadian Institutes of Health Research (CIHR) Joint Initiative in Healthy and Productive Work: Partnership Grant. \$1,224,864 (plus \$905,380 Host Institution/Partnership support), 5 years.

Gignac, M. A. M. (Project Director) and the ACED partnership team. (2020). 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. Employment and Social Development Canada (ESDC) Supplemental Funding for the Healthy and Productive Work: Partnership Grant. \$44,705, 3 years.

Gignac, M. A. M. (Project Director) and the ACED partnership team. (2019). 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. Great-West Life Assurance Company. Matching Funding for the Healthy and Productive Work: Partnership Grant. \$90,000, 3 years.

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

**Project Status:** Completed

**Introduction:** This initiative partnered 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. Quality improvement initiatives in workplace disability prevention practices would 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.

**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:** The initiative collaborated with five Ontario municipalities. The project methodology had four components: 1) Key informant interviews, 2) Benchmarking disability management policies and practices, implementing the NIDMAR Workplace Disability Management Assessment (WDMA), 3) Descriptive analysis of disability episode incidence and duration, and 4) Development of a multi-year quality improvement plan for municipal disability management programs.

*Key Informant Interviews:* A total of 30 participants in key informant interviews were asked to about the characteristics of their organization's disability management program with an emphasis on their perceptions of program characteristics that contributed to avoidable disability days. Participants were recruited from among disability program managers, case workers, and supervisors who had experience supporting the return-to-work of a disabled employee.

*Benchmarking disability management policies and practices*

Three municipalities accepted the invitation to participate in an audit of their disability management program. Participating municipalities received a detailed assessment report, including recommendations for improvement. Two municipalities declined the invitation, having recently conducted an external disability management program audit.

*Baseline descriptive analysis of disability episode incidence and duration*

Three Ontario municipalities provided electronic records of individual work disability episodes for the three year period January 2015 to December 2017. The IWH research team conducted an analysis of incidence and duration of work disability episodes insured by short-term disability plans, the WSIB or long-term disability plans. The differences in annual disability days per 100 employees identified in this analysis are substantial. Some of these differences may be attributed, in part, to differences in the age, health status and occupational composition of the individual municipality workforces. At the same time, an important share of the differences described in this analysis may be attributed to benefit policies and disability management administrative practices, indicating the potential for quality improvement initiatives in disability management to reduce avoidable disability days.

*Development of a multi-year quality improvement plan for municipal disability management programs*

In this final phase of work, the IWH research team synthesized findings from the key informant interviews and the WDMA benchmarking of disability management policies and practices. The objective of this synthesis was to identify needs or challenges that were common across partner municipalities and to propose quality improvement initiatives that were feasible to implement across the partner municipalities.

With the endorsement of our municipal partners, the IWH research team developed a funding application for \$2,291,800 outlining four initiatives that would be the focus of a four year quality improvement initiative: 1) Evaluating the costs and the benefits of expedited access to cognitive behavioral therapy among municipal

employees on short term disability leave for a mental health condition; 2) Developing and implementing a brief professional development intervention 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; 4) Measuring the impact of these three initiatives on the incidence of avoidable disability days. The funding application was submitted to a national granting agency competition in November 2017. Notification that the application was not awarded funding was received in May 2018. Over the period June 2018 to December 2018, project activities were concluded.

**Researchers:** Cameron Mustard (Principal Investigator), Arif Jetha, Christopher McLeod, Lynda Robson, Basak Yanar, A Kosny (Workplace Safety Insurance and Appeals Tribunal), M Lay (Canadian Institutes of Health Research)

**Collaboration and Partnerships:** This research partnership combined 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 staff.

**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:**

Jetha A, Yanar B, Lay AM, Mustard C. Work disability management communication bottlenecks within large and complex public service organizations: a sociotechnical systems study. In press: Journal of Occupational Rehabilitation.

Mustard CA, Kosny A, Jetha A, Robson L. Final Report: Strengthening disability management practices in the Ontario municipal sector. Ontario Workplace Safety & Insurance Board. March 20, 2019.

**Presentations:**

Jetha A, Lay M, Yanar B, Mustard CA. Communication Gaps within Large and Complex Organizations and Their Contribution to Avoidable Disability Days: A Systems-Based Study. Oct 14-17 2018; Vancouver, BC: International Forum on Disability Management.

Jetha A, Lay M, Yanar B, Mustard CA. Communication Gaps within Large and Complex Organizations and Their Contribution to Avoidable Disability Days: A Systems-Based Study. Oct 21-23 2018; Vancouver: Canadian Association for Research on Work & Health 2018 Conference.

**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).

## **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 coding has been completed. Analyses are underway and will inform questionnaire development. A questionnaire will be launched in 2019 and will focus on older adults. If funding permits, we may also include other age groups as a comparison.

**Researchers:** Monique Gignac (Principal Investigator), Julie Bowring, Arif Jetha, Vicki Kristman, J Cameron (University of Toronto), A Kosny (Workplace Safety and Insurance Appeals Tribunal)

**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:** NA

**Presentations:** NA

**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 (2016-2021).

## **Work disability prevention for Millennial young adults with rheumatic disease (2310)**

**Project Status:** Ongoing

**Introduction:** Despite advances in clinical care, rheumatic disease (RD) remains one of the most commonly reported causes of work disability, which includes difficulties finding employment and remaining productive at work. Millennial young adults (born 1982-1999) represent a growing share of the workforce. When compared to previous generations, Millennials report greater levels of education but are less likely to find full-time work. Millennial young adults with RD may have added challenges as they transition into employment, and greater workplace support needs. A small amount of research suggests that workplace policies and practices play an important role in supporting the employment of people with RD, even after accounting for disease management. Existing studies have been primarily conducted on older adults with RD and indicate that formal accommodations (e.g., modified hours), work modifications (e.g., rearranging tasks), or extended health benefits (e.g., access to drug benefits) are effective strategies for the prevention and management of work disability. It is unclear if Millennial young adults, beginning their career with RD, have workplace support needs that differ from their older counterparts. Our study is one of the first to examine the needs of Millennials with RD within the workplace.

### **Objectives:**

- Identify the workplace supports needed by Millennial young adults with RD, and to what extent are they available and used.
- Examine characteristics of Millennial young adults with RD and how their work conditions relate to unmet workplace support needs.
- Review findings to assess if those that report greater unmet workplace support needs are more likely to indicate difficulties with employment.
- Examine whether or not work conditions impact the relationship between unmet workplace support needs and difficulties with employment?

**Status:** Baseline data collection is currently in progress. To date, we have recruited a total sample of 430 participants with inflammatory arthritis and osteoarthritis. The average age of participants is 29 years. We will be presenting preliminary findings to the Scientific Advisory Committee and submitting abstracts to the American College of Rheumatology Conference. Through this project, we have built strong research and knowledge mobilization partnerships with consumer groups including Arthritis Society, Canadian Arthritis Patient Alliance and Cassie and Friends Society.

**Researchers:** Arif Jetha, Julie Bowring

**Collaboration and Partnerships:** Canadian Arthritis Patient Alliance, The Arthritis Society, University of British Columbia (Catherine Backman and Lori Tucker), Lakehead University (Vicki Kristman)

**Potential Audiences and Significance:** We will offer concrete messages and strategies that can be used by workplaces to encourage the employment participation of Millennial young adults with RD. Findings will also inform recommendations delivered to adolescents with RD who are preparing to enter the labour market. Interventions that support early involvement in employment not only promote economic activity but will also benefit the health and quality of life of Millennials with RD. Audiences include Millennials with RD, employers, clinicians and rehabilitation professionals

**Publications:** NA

**Presentations:** NA

**Funding:** 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 (2017-2020).

## **Compensation and benefits**

The Canadian OHS and disability policy systems aim to 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:** Completed

**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:** In 2018 this project was winding down, though several manuscripts are currently under preparation for publication. The CIHR funding report was completed. A newly funded study (Project 2305) will compare short and long-term outcome of the 1998-2006 cohort from this study 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:**

Scott KA, Fisher GG, Baron 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):111-119.

**Presentations:** NA

**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:** In June 2018, a *Disability & Work in Canada policy roundtable* was convened that provided an opportunity for dialogue among senior federal and provincial policymakers on the challenges and opportunities for improving employment outcomes of persons with a disability in Canada. The roundtable was attended by over a dozen of federal-level policymakers, and almost a dozen of representatives from seven Canadian provinces. These discussions contributed to the development of a draft *Pan-Canadian Strategy for Disability and Work* that was presented and discussed at *the second Disability and Work in Canada (DWC) conference* held in December 2018. The conference brought together policymakers from both the federal and provincial levels, employers, and representatives from community service organizations, unions and the research community from across the country. Most importantly, the delegates included many injured workers and persons with disabilities—visible and invisible, episodic and chronic, mental and physical. In January 2019, “*Engagement and Consultation on the Pan-Canadian Strategy on Disability and Work*” a pan-Canadian strategy was initiated and after extensive stakeholder consultation the goal is to complete it by the end of June. 2018 was marked by significant development of CRWDP Student and New Researcher activities, eight Student/New Researcher webinars have been conducted. Further, a mentoring initiative to connect students with faculty/co-investigators was launched. Three seed grant projects were funded, two of which focused on young adults with disabilities in transition from school to work, and another one is to develop a Canadian work disability accommodation law resources digital portal. The Office of the Auditor General Ontario requested a meeting in preparation for their 2019 annual report, to discuss current issues in the Ontario Disability Support Program (ODSP). Over 2018, we continued to develop CRWDP website to provide resources to CRWDP partners and stakeholders. CRWDP Provincial Cluster activities included: 1) Ontario Cluster In-Person Meeting; 2) NL Cluster Roundtable on Inclusion, 3) The Disability Inclusion Group of Memorial University (DIG-MUN for short) meeting

**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 MacAhonic, 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:**

NB: The initiative includes numerous projects being undertaken by the 60+ academics and 60+ partners, a short list of reports on projects undertaken under the umbrella of the initiative can be found at <http://www.crwdp.ca/en/new-studies>.

A preliminary list of publications by academics in the initiative can be found at: <http://www.crwdp.ca/en/research/library>.

**Presentations:**

Disability and Work in Canada: A Partnering Strategy for Moving Forward. Planning Committee December 4-5, 2018, held in Ottawa, Canada. See <http://www.crwdp.ca/en/disability-and-work-canada-national-conference-2018>.

Disability and Work in Canada (DWC) Policy RoundTable, held in Ottawa, June 26, 2018. See [http://www.crwdp.ca/sites/default/files/conference\\_2017/18\\_10\\_03\\_dwc\\_policy\\_roundtable\\_2018\\_summary\\_comments\\_incorporated.pdf](http://www.crwdp.ca/sites/default/files/conference_2017/18_10_03_dwc_policy_roundtable_2018_summary_comments_incorporated.pdf).

Tompa E. National Conference Highlights, Presentation given at Disability and Work in Canada (DWC) Policy RoundTable, held in Ottawa, June 26, 2018.

A more complete list of presentations given by academics in the initiative can be found at <http://www.crwdp.ca/en/presentations>.

**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, MacAhonic 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).

Yazdani A, Meyers R, Tompa E (Co-leads). Canadian Work Disability Prevention Standard for Paramedics with PTSI. 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 2018, this project scaled down, but continued to be active. Several manuscripts are still in the works, including one on lung cancer from various occupational exposures, and one on breast cancer from shift work. Previously submitted manuscripts continued to be fine tuned as reviewers from various journals provide feedback.

**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:**

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. Submitted to American Journal of Industrial Medicine.

Jung Y, Tompa E, Longo C, Kalcevich C, Kim J, Song C, et al. The economic burden of bladder cancer due to occupational exposure. Journal of Occupational and Environmental Medicine. 2018;60(3):217-225.  
<https://10.1097/JOM.0000000000001242>

Mofidi A, Tompa E, Spencer J, Kalcevich C, Peters CE, Kim J, Song C, Mortazavi SB, Demers PA (2018). The Economic Burden of Occupational Non-Melanoma Skin Cancer Due to Solar Radiation. *Journal of Occupational and Environmental Hygiene*, 15.6: 481-491. <https://doi.org/10.1080/15459624.2018.1447118>

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*.

**Presentations:**

Tompa E. The Business Case for Occupational Health and Safety in the Workplace: Jurisdictional- and Sectoral-level Analyses. Ontario Ministry of Labour Talk, Toronto, November 13, 2018.

Tompa E. The Economic Burden of Lung Cancer and Mesothelioma due to Occupational and Paraoccupational Asbestos Exposure. Occupational & Environmental Health Seminar Series organized by the Occupational Cancer Research Centre, Toronto, September 28, 2018.

Tompa E, Kalcevich C, McLeod C, Lebeau M, Song C, McLeod K, Kim J, Demers PA. Economic Burden of Asbestos. Scientific Advisory Committee Meeting, held in Toronto, May 17 – 18, 2018

**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 Status:** Ongoing

**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:** The analysis for this project was completed in the summer of 2018 and the report was drafted and revised over through the fall. The final report was submitted to EU-OSHA in December 2018 along with five Excel pivot tables, one for each of the countries under study (Germany, Italy, Poland, The Netherlands and Finland) that allowed for various “what if” sensitivity analyses to be considered. A manuscript is under preparation for submission to *Occupational and Environmental Medicine*.

**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:**

Tompa E, Mofidi A, van den Heuvel S, van Bree T, Michaelsen F, Jung Y, Porsch L, van Emmerik M. December 2018. Estimation of the costs of work-related injuries and disease. Final Report prepared for the European Agency for Safety & Health at Work. 104 pp.

### **Presentations:**

Tompa E. The Business Case for Occupational Health and Safety in the Workplace: Jurisdictional- and Sectoral-level Analyses. Ontario Ministry of Labour Talk, Toronto, November 13, 2018.

**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, 2 years (2017-2019).

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

**Project Status:** Completed

**Introduction:** In Europe and North America, 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 distributed equally. 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 has conducted comparative research to understand differences between Canada, Denmark, Sweden and the UK in the relationship between socioeconomic status, health and labour force participation among older adults.

### **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:** Over the three-year workplan of this project, 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 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:**

Bentley L, Liao Q, Mustard CA, Barr B. Temporal trends in comorbidity among older adults by SES in Canada and England. Submitted to Journal of Social Science and Medicine.

McAllister A, Bentley L, Bronnum-Hansen H, Koitzsch Jensen N, Nylén L, Andersen I, Liao Q, Bodin T, Mustard CA, Burström B. Inequalities in employment rates among older men and women in Canada, Denmark, Sweden and the UK. BMC Public Health 2019;19(1):319.

McAllister A, Bodin T, Bronnum-Hansen H, Harber-Aschan L, Barr B, Bentley L, Liao Q, Koitzsch Jensen N, Andersen I, Chen W-H, Mustard CA, Burstrom B. What is the association between different chronic health conditions and probability of employment beyond age 60? A cross-sectional study among men and women in Canada, Denmark, Sweden and the UK. Submitted to European Journal of Public Health.

**Presentations:**

Barr B, Mustard CA, McAllister A, Jensen N. Effective Policy in Reform in Tackling the Disability Employment Gap. Nov 28-Dec1 2018; Ljubljana, Slovenia: European Public Health Conference.

**Funding:** Mustard C (Principal Investigator), Tompa E. Tackling health inequalities and extending working lives (THRIVE). Canadian Institutes of Health Research: \$268,500, 2 years (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 still in the early stages of development. It involved a special issue of a journal that will include various conceptual, qualitative and quantitative studies addressing the issue of the cost of excluding persons with disabilities from full participation in society. Amir Mofidi, who began his post-doctoral fellowship at the Institute for Work and Health in early 2019, will take over this project from Young Jung, as part of his postdoctoral research program. Another PhD candidate at Queen's University, Dan Samosh, will also be working on the initiative in 2019. The journal special issue will include contributions from academics from other countries.

**Researchers:** Emile Tompa (Principal Investigator), Amir Mofidi, Kathy Padkapayeva, Dan Samosh

**Collaborations and Partnerships:** We will 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:** NA

**Presentations:** NA

**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:** Ongoing

**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.
- To examine the qualitative and quantitative evidence about the use of financial incentives that are designed to encourage or motivate employers to hire and provide accommodation to workers disabilities.

**Status:** The first grant was completed in 2018 and a report created for the funder. The team were also successful in receiving an additional year of funding in order to focus on the quantitative and qualitative evidence with regard to the use of financial incentives.

**Researchers:** Emma Irvin (Principal Investigator), Heather Johnson, 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:**

Irvin E, Tompa E, Johnston H, Padkapayeva K, Mahood Q, Haan M, Samosh D, Gewurtz R. 2018. Financial incentives to promote employment of people with disabilities: when and how do they work best? Toronto: Institute for Work & Health.

**Presentations:** NA

**Funding:** Irvin E (Principal Investigator), 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, 1 year (2017-2018).  
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), \$49,941, 1 year (2018-2019).

## Tracking long-term outcomes of injured workers in Ontario to better target supports (2305)

**Project Status:** Ongoing

**Introduction:** Little is known about the specific factors contributing to injured workers' poor outcomes and the possible reasons for their increase. One explanation might be that key changes in labour-market contracting practices have made it more difficult for injured workers and people with disabilities to maintain paid employment. Another possibility is that changes in the legislative and policy context have eroded the support structures that facilitate labour-market re-entry and/or have reduced access to benefits. For example, in Ontario the current benefits system is based on loss-of-earnings capacity (Bill 99, LOE program introduced in 1998) with only a subset of individuals with permanent impairments receiving long-term disability benefits. Other changes introduced with Bill 99 include a reduction in wage-replacement rates from 90% to 85%, and an approach of self-reliance that encourages employers and workers to work together to facilitate return to work. Key policy domains have also changed during the LOE time period. For example, vocational rehabilitation services were farmed out to external providers during the early years of the program but were brought in-house with the introduction of the New Service Delivery Model in 2008-2009. There have also been changes in the determination of permanent impairments, around 2010, particularly with regards to the treatment of pre-existing conditions. Some researchers have also pointed to the eroding social safety net for injured workers and people with disabilities in Canada. This study aims to better understand the factors associated with good and poor labour-market and earnings outcomes of claimants, both over the short- and long-term.

**Objectives:**

- To identify the factors associated with labour-market and earnings outcomes over the short- and long term of Ontario workers' compensation claimants.
- To evaluate how labour-market and earning outcomes have changed with claimant cohorts.

**Status:** This project began in January 2018. It involves the linkage of a cohort of WSIB short- and long-term disability claimant with accidents that occurred between 2007-2012. A first Advisory Committee meeting was held to get feedback on the research questions and analysis plans. Ethics approval was received for the project. Data sharing agreements between the WSIB and IWH and between WSIB and Statistics Canada were completed. Over the spring and summer, the project team worked with the methodology group at IWH and a Data Request team at the WISB to retrieve administrative claims data for the 2007-2012 cohort. The sample frames and related data elements were prepared and submitted to Statistics Canada for linkage to the LAD. Updating of the claims data for the earlier cohort (1998-2006) was also initiated. Over the summer, the team construct variables and related codes for matching claimants identified in the Longitudinal Administrative Databank (LAD) with up to 10 uninjured controls. The matching was completed for both short- and long-term disability claimants, including evaluation of the robustness of the matches. We also prepared descriptive analyses of labour-market earnings recovery and benefits adequacy based on claimant samples and matched controls, stratifying descriptives by key variables such as age bracket at time of injury, sex, region of residence and permanent impairment bracket. Some preliminary regression modeling analyses with labour-market earnings recovery as an outcome was completed. Explanatory variables considered in these analyses included age at time of injury, sex, region of residence, nature of injury, part of body, degree of permanent impairment, occupation, and pre-injury earnings.

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

**Collaboration and Partnerships:** NA

**Potential Audiences and Significance:** 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:** NA

**Presentations:** NA

**Funding:** Tompa E, Mustard C, Saunders R. Tracking Long-term Outcomes of Injured Workers in Ontario to Better Target Supports. Workplace Safety Insurance Board, \$299, 970, 2 years (2018-2020).

## **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 2018/19, the Institute completed two projects that focused 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. These projects assist in informing ongoing Institute activities and future plans for research.

## 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 (Best Outcome Selection Study) and the methodological work done through the OMERACT (Outcome Measures in Rheumatology) initiative (cochair methodology: Beaton). We have progressed through the appraisal of critical appraisal tools. Work from this is feeding into international efforts for core outcome set development through OMERACT and other collaborations and directly influenced recent publications on their methods. 2018 was the year these methods were introduced at OMERACT for instrument selection and the approach is used in the most recent chapter on outcome measurement in Kelley's Rheumatology. We are currently working on knowledge translation of the methods for developing 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 (Pinsker). We offer training experiences in measurement sciences through workshops, training videos/webinars, and teaching at the University.

**Researchers:** Dorcas Beaton (Institute Coordinator), Claire Bombardier, Kim Cullen (Memorial University, Newfoundland and Labrador), Sheilah Hogg-Johnson, Emma Irvin, Peter Smith, Michael Swift, Dwayne Van Eerd, R Buchbinder (Monash University, Australia), Lisa Engel (University of Manitoba), F Guillemain (University of Nancy, France), Z Touma (University of Toronto), P Tugwell (University of Ottawa), Ellie Pinsker (PhD Candidate, University of Toronto).

**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. Our work is highly integrated with the work of 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, Boers M, Tugwell P, Maxwell L. Health Outcomes Assessment. Chapter 36 in Kelley's Rheumatology, 11<sup>th</sup> edition, Philadelphia: Saunders Elsevier, 2019, in press. (book chapter)

Beaton DE, Maxwell LJ, Shea BJ, Wells GA, Boers M, Grosskleg S, Bingham CO 3rd, Conaghan PG, D'Agostino MA, de Wit M, Gossec L, March LM, Simon LS, Singh JA, Strand V, Tugwell P. Instrument Selection Using the OMERACT Filter 2.1: The OMERACT Methodology. *Journal of Rheumatology* 2019.

Boers M, Beaton DE, Shea BJ, Maxwell LJ, Bartlett SJ, Bingham CO 3rd, Conaghan PG, D'Agostino MA, de Wit MP, Gossec L, March L, Simon LS, Singh JA, Strand V, Wells GA, Tugwell P. OMERACT Filter 2.1: Elaboration of the Conceptual Framework for Outcome Measurement in Health Intervention Studies. *Journal of Rheumatology* [Internet] 2019

Humphrey-Murto S, Crew R, Shea B, Bartlett SJ, March L, Tugwell P, Maxwell LJ, Beaton D, Grosskleg S, de Wit M. Consensus Building in OMERACT: Recommendations for Use of the Delphi for Core Outcome Set Development. *Journal of Rheumatology* 2019.

Maxwell LJ, Beaton DE, Shea BJ, Wells GA, Boers M, Grosskleg S, Bingham CO 3rd, Conaghan PG, D'Agostino MA, de Wit MP, Gossec L, March L, Simon LS, Singh JA, Strand V, Tugwell P. Core Domain Set Selection According to OMERACT Filter 2.1: The OMERACT Methodology. *Journal of Rheumatology* [Internet] 2019.

Engel L, Chui A, Beaton DE, Green RE, Dawson DR. Systematic review of measurement property evidence for 8 financial management instruments in populations with acquired cognitive impairment. *Archives of Physical Medicine and Rehabilitation* 2018;99(9):1848-1875.

Engel L, Beaton DE, Touma Z. Minimal clinically important difference: A review of outcome measure score interpretation. *Rheumatic Diseases Clinics of North America* 2018;44(2):177-188.

Holland R, Tillett W, Ogdie A, Leung YY, Gladman DD, Callis Duffin K, Coates LC, Mease PJ, Eder L, Strand V, Elmamoun M, Højgaard P, Chau J, de Wit M, Goel N, Lindsay CA, FitzGerald O, Shea B, Beaton D, Orbai AM. Content and face validity and feasibility of 5 candidate instruments for psoriatic arthritis randomized controlled trials: the PSA OMERACT core set workshop at the grappa 2017 annual meeting. *Journal of Rheumatology Supplement* 2018;94:17-25.

**Presentations:**

Beaton D. Thresholds of Meaning in Measures of Worker Productivity. May 23 2018; Terrigal, Australia: OMERACT.

Beaton D. Instrument Selection the OMERACT Way. April 23 2018; Terrigal, Australia: OMERACT, Plenary Presentation.

Cullen K, Beaton D, Van Eerd D, Irvin E, Bingham K, Engel L, Smith P, Hogg-Johnson S, Touma Z. Critical Appraisal within Systematic Reviews of Measurement Properties: A Review of Available Instruments. Oct 17 2018; Dublin, Ireland: ISOQOL 25th Annual Conference.

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

**Project Status:** Completed

**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 the systematic review. Findings were published in Occupational and Environmental Medicine.

**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:**

Jetha A, Shaw R, Sinden AR, Mahood Q, Gignac MA, McColl MA, et al. Work-focused interventions that promote the labour market transition of young adults with chronic disabling health conditions: a systematic review. Occupational and Environmental Medicine. 2019;76(3):189-98.

**Presentations:**

Jetha, A. Promoting labour market transitions for young adults with chronic disabling conditions: a systematic review. Nov 27, 2018; Toronto, Canada: IWH Speaker Series Presentations

**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 on iTunes). As we pass the 20<sup>th</sup> anniversary of the DASH, and realize the vastness of the literature about the DASH we are focusing on making a way for the public to access this body of literature in a useable manner.

### **Objectives:**

- To continue work with the DASH and review of measurement properties.
- To develop new understanding on the way the DASH has been used in the literature
- To continue to build collaborations with other groups supporting evidence-based decisions regarding the applicability of the DASH to various situations.

**Status:** The DASH Outcome Measure continues to be one of the most frequently used outcome instruments to capture upper limb functioning. We continue to support its appropriate use and answer questions about its performance and interpretability. There are over 1500 articles that have used or tested the DASH. This year we began undertaking blocks of reviews to create a systematic review of all the literature on the DASH Outcome Measure's measurement properties (see Usas et al below). Our goal is to create an accessible repository so that DASH users can access it to answer their queries.

**Researchers:** Dorcas Beaton (Institute Coordinator), Claire Bombardier, Kim Cullen, Sheila 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:** NA

### **Presentations:**

Beaton D, (Keynote Speaker) Kennedy C. DASH BASH: Celebrating 20 Years of the DASH Outcome Measure. April 23 2018; Ottawa, ON: Canadian Society of Hand Therapists Conference.

Usas C, Yiu S, Beaton D. Systematic Review of the DASH Measurement Properties for Joint-Specific Disorders. June 2018 : Canadian Association Of Occupational Therapists Conference.

## 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.

The second of the two foundation programs are Systematic Reviews. The Institute has extensive expertise in conducting systematic reviews in workplace health and safety, as well as in back and neck pain. In 1996, we began housing Cochrane Back and Neck, one of over 50 international systematic review groups in Cochrane. In 2005, we created our Systematic Review Program to tackle questions relevant to stakeholders in occupational health, safety and disability prevention. Since then, we have published findings from numerous reviews and on knowledge synthesis methodology, and offered annual workshops on how to conduct a systematic review.

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**

Workplace Safety & Insurance Board data routine statistics (0845/0307) ..... 66

Methodological developments in systematic reviews (0951) ..... 67

System-based return-to-work disability management/support interventions: A systematic review (3205) ..... 68

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 (3220) ..... 70

Cannabis and the opioid crisis: Scoping the literature to understand the relationship between cannabis and opioid use and related benefits and harms (3265) ..... 72

## **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 2018-2019, 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

**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 2018/19, 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 the Winter term of 2019 the group successfully ran a course at the University of Toronto Rehabilitation Sciences Institute for PhD and MSc students.. Members of the group updated one Cochrane review, on alcohol and drug screening of occupational drivers for preventing injury. 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 writing up stage and a database of all prognosis reviews and filters created. The team also conducted two rapid reviews for WorkplaceNL to review the evidence on presumptive coverage for PTSD; and effective workplace strategies to positively impact employees' mental health.

**Researchers:** Emma Irvin (Institute Coordinator), Dwayne Van Eerd (Institute Coordinator), 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 (EMGO, Amsterdam),

**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:

Irvin E, Van Eerd D, Harbin S, Mahood Q, Tiong M. Mental Health in the Workplace Final Report to Workplace NL. Toronto, ON: Institute for Work & Health. 2018.

Irvin E, Van Eerd D, Harbin S, Mahood Q, Tiong M. Presumptive Coverage for Work-Related Post-Traumatic Stress Disorder. Final Report to Workplace NL. Toronto, ON: Institute for Work & Health. 2018.

**Presentations:** NA

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

**Project Status:** Completed

**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 were important information gaps that remained 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 sought 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 created a practical resource 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 resource 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 user meetings; screened the titles, abstracts, and full papers for relevance. We appraised the quality of relevant studies, and extracted data of interest from medium- and high-quality studies. We then synthesized the evidence from these medium- and high-quality studies using our best evidence synthesis algorithm. The evidence synthesis was then utilized to develop a practical resource for OHS practitioners on the best DM strategies to support RTW and recovery for injured or ill workers.

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

**Collaboration and Partnerships:** Our knowledge users, specifically stakeholders at the National Institute of Disability Management and Research (NIDMAR), the Centre for Research on Work Disability Policy (CRWDP), the BC Federation of Labour, the BC Trucking Association, WorkSafeBC, and Ontario Shores Centre for Mental Health.

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

**Publications:** NA

### **Presentations:**

Cullen K, Irvin E, Collie A, Clay F, Gensby U, Jennings P, Hogg-Johnson S, Kristman V, Laberge M, McKenzie D, Newnam S, Palagyi A, Ruseckaite R, Sheppard D, Shourie S, Steenstra I, Van Eerd D, Amick B. Workplace and System-Based Interventions on Return-to-Work and Recovery for Musculoskeletal and Mental Health Conditions: A Systematic Review. April 29-May 4 2018; Dublin, Ireland: 32nd International Congress on Occupational Health.

Cullen K, Irvin E, Collie A, Clay F, Gensby U, Jennings P, Hogg-Johnson S, Kristman V, Laberge M, Le Pouésard M, McKenzie D, Newnam S, Palagyi A, Ruseckaite R, Sheppard D, Shourie S, Steenstra I, Van Eerd D, Amick BC. Workplace and System-Based Interventions on Return-to-Work and Recovery for Musculoskeletal and Mental Health Conditions: A Systematic Review. Oct 14-17 2018; Vancouver, BC: International Forum on Disability Management.

Irvin E, Cullen K, Collie A, Clay F, Gensby U, Jennings P, Hogg-Johnson S, Kristman V, Laberge M, McKenzie D, Newnam S, Palagyi A, Ruseckaite R, Sheppard D, Shourie S, Steenstra I, Van Eerd D, Amick B. Workplace and System-Based Interventions on Return-to-Work and Recovery for Musculoskeletal and Mental Health Conditions: A Systematic Review. Oct 21-23 2018; Vancouver: Canadian Association for Research on Work and Health Conference.

**Funding:** Cullen K (PI), Irvin E (Co-PI), Amick III BC, 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 (2017-2018).



## **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 (3220)**

**Project Status:** Completed

**Introduction:** Canada is currently in the grips of an opioid crisis. In 2017, a record-breaking 3,996 people in Canada died of apparent opioid-related deaths, according to Health Canada. Despite the implementation of several important and evidence-based harm reduction measures—including updated opioid-prescribing guidelines, expanded naloxone distribution programs, and the opening of supervised consumption and overdose prevention sites—the crisis shows no signs of abating. To turn the tide on an epidemic that has had profound and devastating consequences for so many Canadians, public health authorities in Canada urgently need to identify innovative and effective solutions to implement alongside existing measures.

### **Objectives:**

- To conduct a systematic review of the effectiveness of strategies, programs, policies, practices, and interventions that have not yet been widely implemented in Canada to prevent and reduce opioid-related harms and that address one or more pillars of the Canadian Drugs and Substances Strategy (prevention, treatment, harm reduction, and enforcement)
- To identify whether there is evidence to support the effectiveness of these strategies for subgroups at highest risk of opioid-related harms and likely to benefit most from the implementation of these strategies (e.g., youth, pregnant women, Indigenous peoples, correctional populations, individuals who use opioids chronically, individuals who use substances)

**Status:** The team hired a research coordinator, held a stakeholder/knowledge user meeting to gain feedback on the search strategy and inclusion criteria, ran the search, and completed relevance screening. The team appraised the quality of relevant studies and extracted data of interest from medium- and high-quality studies. We then synthesized the evidence from these medium- and high-quality studies using the IWH best evidence synthesis algorithm. We identified 51 eligible high- and medium-quality studies from the past five years. A number of prevention strategies demonstrated promise in addressing the crisis, including clinical practice strategies, educational programs, and regulations. There were an insufficient number of strategies addressing goals of treatment, harm reduction, and enforcement. We met with stakeholders/knowledge users again to discuss this evidence and its implications, as well as how to best present it. A final report was prepared for CIHR and results were presented at a CIHR workshop in Ottawa in January 2019. The review is currently being updated in preparation for manuscript publication in 2019.

**Researchers:** Nancy Carnide (Co-Principal Investigator), Andrea Furlan (Co-Principal Investigator), Emma Irvin, Heather Johnston, Morgane Le Pouésard, Sara Macdonald, Quenby Mahood, Maggie Tiong, Dwayne Van Eerd, M-L Santos, A Hamad (University Health Network), Z Sinkins (McMaster University).

**Collaborations and Partnerships:** Canadian Centre on Substance Use and Addiction, Health Canada, Canadian Agency for Drugs and Technology in Health, Canadian Medical Association, Centre for Addiction and Mental Health, Justice Canada, Ministry of Health and Long-term Care, Ontario Pharmacists Association, People in Pain Network, Public Safety Canada, Thunderbird Partnership Foundation and the Canadian Public Health Association

**Potential Audiences and Significance:** This review is of relevance to a number of stakeholder groups involved in addressing the opioid crisis, including policymakers, healthcare professionals, public health officials, first responders, law enforcement, regulators, patients, people with lived experience, the community, and researchers.

### **Publications:**

Carnide N, Le Pouésard M, Irvin E, Van Eerd D, Johnston H, Mahood Q, Tiong M, Sinkins Z, Macdonald S, Santos ML, Furlan AD. 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. Final report for CIHR. Toronto, ON: Institute for Work & Health; 2018.

**Presentations:**

Carnide N, Furlan AD. 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. January 22, 2019. Ottawa, ON. CIHR Opioid Crisis Knowledge Synthesis End-of-Grant Workshop.

**Funding:** 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, Canadian Institutes of Health Research Knowledge Synthesis Grant, \$109, 537 (2018).

## **Cannabis and the opioid crisis: Scoping the literature to understand the relationship between cannabis and opioid use and related benefits and harms (3265)**

**Project Status:** Completed

**Introduction:** Canada is facing an unprecedented public health crisis - the opioid crisis. Health Canada reports that, in 2017, a record-breaking 3,996 people in Canada died of apparent opioid-related deaths, and another 1,036 died of opioid-related deaths in the first three months of 2018 alone. Because innovative solutions are urgently needed to stem the opioid crisis, attention is increasingly turning to the potential use of cannabis. Some argue that cannabis may prevent or reduce opioid use through improved pain control, ultimately leading to a reduction in opioid harms. Others are more cautious and point to potential adverse effects of cannabis use, such as leading to greater use of opioids. With the legalization of medical and, now, non-medical cannabis, there is a pressing need to better understand the state of the evidence on the relationship between cannabis use and opioids to help inform policy, clinical practice, behaviour and future research priorities.

**Objectives:**

- To conduct a scoping review to develop a broad understanding of the relationship between cannabis and opioid use and related outcomes
- To identify whether there is evidence that certain factors influence the relationship between cannabis and opioid outcomes, such as sex gender, age, race, ethnicity, pre-existing mental health disorders, and cannabis-related features (e.g., route of administration, dose, strain)
- To map the key concepts and themes to emerge from the literature, identify gaps in knowledge, and propose key areas for future research using the Canadian Drugs and Substances Strategy (CDSS) as a framework

**Status:** The team hired a research coordinator, held a stakeholder/knowledge user meeting to gain feedback on the search strategy and inclusion criteria, and ran the search. The team completed relevance screening and extracted data of interest from eligible studies. We identified 89 relevant studies: 40 addressing prevention/harm reduction, 31 addressing prevention, and 18 addressing treatment. We found the nature of the relationship is not clear, and more research is needed that cuts across all pillars, namely research using more robust study designs and that go beyond dichotomous exposure measures. We met with stakeholders/knowledge users to discuss this evidence and its implications, as well as how to best present it. A final report was prepared for CIHR and results were presented at a CIHR workshop in Ottawa in January 2019. The review is currently being updated in preparation for manuscript publication in 2019.

**Researchers:** Nancy Carnide (Co-Principal Investigator), Andrea Furlan (Co-Principal Investigator), Siobhan Cardoso, Emma Irvin, Heather Johnston, Morgane Le Pouésard, Sara Macdonald, Quenby Mahood, Maggie Tiong, Dwayne Van Eerd, C Orchard (University of Toronto), S Popal, N Mittal (Toronto Rehab, University Health Network), Z Sinkins (McMaster University).

**Collaborations and Partnerships:** Canadian Centre on Substance Use and Addiction, Health Canada, Canadian Agency for Drugs and Technology in Health, Canadian Medical Association, Centre for Addiction and Mental Health, Justice Canada, Ministry of Health and Long-term Care, Ontario Pharmacists Association, People in Pain Network, Public Safety Canada, Thunderbird Partnership Foundation and the Canadian Public Health Association

**Potential Audiences and Significance:** This review is of relevance to a number of stakeholder groups involved in addressing the opioid crisis, including policymakers, healthcare professionals, public health officials, patients, people with lived experience, and persons who use substances, the community, and researchers.

**Publications:**

Carnide N, Le Pouésard M, Irvin E, Van Eerd D, Johnston H, Mahood Q, Tiong M, Sinkins Z, Orchard C, Popal S, Mittal N, Cardoso S, Furlan AD. Cannabis and the opioid crisis: scoping the literature to understand the relationship between cannabis and opioid use and related benefits and harms. Final report for CIHR. Toronto, ON: Institute for Work & Health; 2018

**Presentations:**

Carnide N, Furlan AD. Cannabis and the Opioid Crisis: Scoping the Literature to Understand the Relationship between Cannabis and Opioid-Related Benefits and Harms. January 22, 2019. Ottawa, ON. CIHR Opioid Crisis Knowledge Synthesis End-of-Grant Workshop.

**Funding:** 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. Canadian Institutes of Health Research Knowledge Synthesis Grant, \$59,645 (2018).

## 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

Issue briefings (0611) .....	76
Educationally Influential Networks (0617) .....	77
Tracking KTE and Evaluation (0629) .....	78
Disability Managers and Occupational Health and Safety (OHS) Professionals Networks (0638) .....	79
Prevention Partners Networks (0640) .....	80
Outreach (0650) .....	81
Workshops (0643) .....	82
Tool Development and Dissemination (0636) .....	83
Corporate Communications (0690) .....	84

## 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:** One Issue Briefing was published in 2018 and posted on the Institute's website. The issue briefing describes the results of a 2017 study to estimate occupational health and safety expenditures among employers from 17 economic sectors in Ontario, Canada.

**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:**

Institute for Work & Health. What do employers spend to protect the health and safety of workers? [Issue Briefing]. Toronto: Institute for Work & Health; 2018. Available from: [https://www.iwh.on.ca/sites/iwh/files/iwh/reports/iwh\\_issue\\_briefing\\_employer\\_ohs\\_spending\\_2018.pdf](https://www.iwh.on.ca/sites/iwh/files/iwh/reports/iwh_issue_briefing_employer_ohs_spending_2018.pdf).

## **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 2018, we once again brought all EI networks together in a day-long meeting 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 the third annual meeting with all EI networks in 2018. We began sending EIs regular single-item IWH news briefs called “IWH news for sharing” for them to forward to their own networks on research findings in 2018 and will continue to do so in 2019. In 2018 we began planning the renewal of the EI networks.

**Researchers:** Monica Bienefeld (Project Lead), 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 2018/19. These case studies, available at [www.iwh.on.ca/impact-case-studies](http://www.iwh.on.ca/impact-case-studies), talk about:

- how an IWH study estimating the lifetime costs of newly diagnosed cases of mesothelioma and lung cancer due to work-related asbestos exposures in a single year garnered much media and public interest, and was cited by Canadian government in its analysis of the impact of its regulation banning asbestos;
- the incorporation of IWH expertise and tools into the framework of SAFE Work Manitoba's safety culture initiative that aims to make workplace injury prevention a genuine priority among all segments of the population across the province;
- the integration into a WSIB occupational medicine assessment service of two return-to-work supports (enhanced coordination and communication) outlined in IWH's evidence-based Seven Principles guide, contributing to a significant improvement in the duration of wage replacement benefits among injured workers with problematic musculoskeletal disorders;
- the contribution of IWH's expertise to the design of a safety climate and OHS assessment tool for Ontario's mining sector developed by Workplace Safety North and endorsed by the Ontario Mining Association, now in demand well beyond the province and the sector; and
- how the findings of an IWH systematic review on the association between osteoarthritis and work are being used by WorkSafeBC's medical advisors to add more consistency in claims adjudication.

Communications Reports were compiled quarterly for the Board of Directors, reporting on website visits and downloads, subscriber numbers, social media interactions and media mentions—with number of website visits and subscribers being among the KTE indicators being tracked for the Five-Year Strategic Plan.

**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 48 and 51 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 year for each network. In 2018, a combined meeting was held to facilitate cross-disciplinary conversations and highlight ways the two professions are linked. The day began with the disability managers and a presentation on work accommodation for young adults with disabilities. Research presentations to all participants included managing depression in the workplace for stay at work and return to work, and understanding cannabis consumption and knowledge, perceptions, and attitudes among Canadian workers. An additional webinar meeting was held with the OHS professionals network in the summer of 2018 to showcase the work of a visiting OHS culture researcher from Denmark. 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, 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 Ministry of Labour (MOL), the Workplace Safety and Insurance Board (WSIB), the Centres for Research Expertise (CRE-MSD and CREOD), the Occupational Cancer Research Centre (OCRC) and the health and safety associations: Infrastructure Health and Safety Association (IHSA), Public Services Health and Safety Association (PSHSA), Workplace Safety North (WSN), Workplace Safety and Prevention Services (WSPS) and Occupational Health Clinics for Ontario Workers (OHCOW). 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 in March, June, September and December 2018 and in March 2019, chaired by the Director of KTE at IWH. There were presentations from OHCOW on the StressAssess tool, WSPS on its OHS research portal, and IWH on the development of the IRS CAAT safety climate tool with WSN, There were also discussions about measuring and evaluating KTE activities in Ontario's prevention system, the evolving nature of KTE within the prevention system, and the purpose, goals and future activities of PKEG. Joining PKEG for the first time in 2018 were representatives of the Centre for Research in Occupational Safety and Health (CROSH), based at Laurentian University.

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

**Collaborations and Partnerships:** IHSA, PSHSA, WSN, WSPS, OHCOW, Ministry of Labour, WSIB, OCRC, CRE-MSD, CRE-OD, and CROSH.

**Potential Audiences and Significance:** Health and safety associations (HSAs), Ministry of Labour, (MOL), WSIB and Centres for Research Expertise (CREs).

## 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 2018 Partners in Prevention conference, we signed up 164 new subscribers. We produced our annual version of the handout called “5 things we think you should know”—outlining five IWH research findings of interest to workplace parties. Two IWH scientists presented research in oral sessions at the conference and three research teams prepared paper and electronic research summaries with the KTE team to display at the conference library and research information centre. 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, the Canadian Society of Safety Engineers conference and the Schedule 2 Employers conference. IWH hosted and presented research at the Research & Policy Forum on Immigration, Work & Health with over 60 participants. The Labour Forum met at IWH in the Spring of 2018 and the Employer Forum members met in the first quarter of 2019. The annual Alf Nachev memorial lecture took place in November. The 2018 lecture was given by Dr. Paul Demers, director of the Occupational Cancer Research Centre, who talked about moving the agenda forward on preventing occupational diseases. The lecture was the best-attended yet, with 142 attendees, and it continues to be an important networking event for policy-makers, academics, workplace parties and OHS professionals in Ontario’s prevention system.

**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.

## **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 2018.

**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 on May 14-16, 2018.

**Researchers:** Emma Irvin (Project Lead), Andrea Furlan, Quenby Mahood, Lyudmila Mansurova, Dwayne Van Eerd, M Van Tulder (EMGO Amsterdam)

**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.

## 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, repackaging and market current tools within IWH toolkit as needed.
- To disseminate and document the uptake of IWH tools and guides.
- To administer and coordinate all procedures related to translations of the DASH, *QuickDASH* and maintain related database.
- To monitor and maintain database of requests for commercial and non-commercial use of DASH.

**Status:**

1) DASH Outcome Measure: DASH and QuickDASH commercial and non-commercial database requests were maintained and all downloads were tracked. There were 246 user profiles, and it was determined that 10 of these fit into the conditions for commercial use. Eight of these applicants took out new licences, an increase from 2017. We continued to process applications to include the DASH into EMRs, and we are now up to 18. There were 75,768 individual visitors, 217,853 pageviews, and 60,273 downloads from the website. Four new licenses for translations of the DASH were issued in 2018 and there were three new translation requests approved. There were 62 iPad apps sold in 2018, an increase of 10 from 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. Over 80 individuals downloaded the learning management software version, with over 400 learners completing the modules. Work continued to launch a French-language version of this online learning tool in 2018, which was launched in March 2019.

In 2018/19, we posted two new resources: *Evidence-informed guide to supporting people with depression in the workplace* and *Essential Skills and OHS Training*, a process guide for addressing essential skills gaps within an existing OHS training program. The guide on managing depression was especially popular, with over 1,700 total downloads in the first year after it was posted in March 2018, making it the most downloaded product during this period. A one-page resource summarizing the results of the systematic review on system-level return-to-work interventions was produced and sent with the report to the funder.

**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.

## 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, videos 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-alerts, 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:** In 2018/19, information on IWH's research findings, evidence-based products and events reached key stakeholders through the Institute's website, newsletters, e-alerts, social media and videos/slidecasts.

Corporate communications at the beginning of 2018 was devoted for the most part to the finalization of a reorganized and redesigned IWH website, a project taken on by an internal IWH team. The new website was launched on March 1, 2018, and continuous improvements were made to the website throughout the year. The new website is better organized, includes more content (e.g. project pages) and is more appealing and inviting in its design. An accessibility audit of the new website was conducted in 2018/19; the website was shown to be largely accessible, and identified shortcomings are being addressed.

The instability brought on by a sudden and unexplained drop in the number of website visits in the last three months of 2017 and, especially, in the first three months of 2018 ended around mid-2018. The number of monthly visitors began solidly climbing back up and following its usual seasonal trend in May 2018. Unique page views in the quarter ending March 31, 2019 stood at 282,740, up 11 per cent from the quarter ending December 31, 2017, and up 124 per cent from the quarter ending March 31, 2018. Unique page views without WRMB stood at 79,880, up 60 per cent from the quarter ending December 31, 2017, and up 117 per cent from the quarter ending March 31, 2018.

From the beginning of 2018 until the end of March 2019, five issues of At Work (quarterly newsletter) and 15 issues of IWH News (monthly e-newsletter) were written, produced, posted and disseminated. At Work page views, as per the website trend described above, also climbed back up over the year, with 12,730 unique page views in the quarter ending March 2019, up 80 per cent from the same quarter the previous year. At Work page views are still short of the all-time high number of over 20,000 views at the end of 2016, beginning of 2017. Subscriptions to At Work and IWH News continue to climb steadily, rising to 6,370 and 6,080, respectively, by the end of March 2019, up from 5,730 and 5,400, respectively, at the end of 2017. In all, the total number of subscribers to any IWH product or event notification (excluding DASH) rose to 6,845 by the end of March 2019, up from 6,258 at the end of 2017.

With respect to media relations, two releases were issued by IWH in 2018/19, one on IWH research (violence in the education sector) and one on an IWH event (Nachemson lecture). However, IWH worked with the *Journal of Occupational and Environmental Hygiene* on a release related to an IWH research on the hidden cost of work-related skin cancers, the journal *BMJ Open Diabetes and Research Care* issued a release on IWH research on the risk of diabetes among women who work long hours, and the Ontario Ministry of Labour issued a release on

IWH's working-at-heights research. We also wrote 11 articles for external stakeholder publications, including The Conversation Canada. In the end, media mentions were at an all-time high in 2018/19, with 450 total mentions during the 12-month period April 1, 2018 to March 31, 2019, up from 410 in 2017.

Social media outreach continued to grow in 2018/19. The number of Twitter followers stood at 3,492 as of March 31, 2019, up from 3,000 at the end of 2017. The number of LinkedIn subscribers grew to 2,579 as of March 31, 2019, up from 2,088 at the end of 2017.

In 2018/19, IWH created one video short on the seemingly conflicting evidence on sitting versus standing. It became the most popular IWH video to date, with nearly 5,000 views by the end of March 2019. IWH also produced 13 IWH Speaker Series slidecasts and one Nachemson lecture slidecast from the beginning of 2018 to March 31, 2019.

The annual report for 2017, released in 2018, focused on IWH research that is tackling important societal issues that are also affecting workplace health and safety: cannabis/opioids, violence, vulnerability, dangerous work and mental illness/chronic conditions.

Internally, 2018 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 2018, Communications Manager Cindy Moser and Communications Associate Uyen Vu continued to attend meetings of a Ministry of Labour-led network called the Health and Safety Partners Communication Forum. This network, which was disbanded at the end of 2018, allowed 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.



## 2018/19 Accomplishments

<b>Publications and Awards</b> .....	<b>87</b>
Journal articles: Published .....	87
Journal articles: Forthcoming .....	89
Journal articles: Submitted .....	89
Books/Chapters: Published .....	89
2018/19 Funding and Awards .....	90
Research Project Funding – Awarded in 2018/19.....	90
Non-IWH Research Project Funding – Awarded in 2018/19.....	91
Research Project Funding – Submitted in 2018/19.....	92
Non-IWH Research Project Funding – Submitted in 2018/19.....	92
Research Personnel Funding & Other Awards .....	92
<b>Collaborators and Staff</b> .....	<b>93</b>
2018/19 Participating Organizations .....	93
2018/19 Institute for Work & Health Staff .....	97
2018/19 Adjunct Scientists .....	100

## Publications and Awards

The following publications are in addition to the publications that were produced as part of our funded projects listed in this report. The following publications are part of non-Institute funded research projects.

### Journal articles: Published

- Becher, H., Dollard, M. F., Smith, P., & Li, J. (2018). Predicting Circulatory Diseases from Psychosocial Safety Climate: A Prospective Cohort Study from Australia. *International Journal of Environmental Research and Public Health*, 15(3), E415. doi:10.3390/ijerph15030415
- Besen, E., Jetha, A., & Gaines, B. (2018). 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*, 60(1), 48-54. doi:10.1097/jom.0000000000001159
- Biswas, A., Smith, P. M., & Gignac, M. A. M. (2018). Access to Showers and Change Rooms at Work Associated With Active Commuting Among Older Workers: Findings From a National Population Survey. *Journal of Applied Gerontology*, [Epub ahead of print]. doi:10.1177/0733464818755313
- Biswas, A., Smith, P. M., & Gignac, M. A. M. (2018). Naturally occurring workplace facilities to increase the leisure time physical activity of workers: A propensity-score weighted population study. *Preventive Medicine Reports*, 10, 263-270. doi:10.1016/j.pmedr.2018.03.013
- Carlin, L., Zhao, J., Dubin, R., Taenzer, P., Sidrak, H., & Furlan, A. (2018). Project ECHO Telementoring Intervention for Managing Chronic Pain in Primary Care: Insights from a Qualitative Study. *Pain Medicine*, 19(6), 1140-1146. doi:10.1093/pm/pnx233
- Cocker, F., Sim, M. R., Kelsall, H., & Smith, P. (2018). The Association Between Time Taken to Report, Lodge, and Start Wage Replacement and Return-to-Work Outcomes. *Journal of Occupational and Environmental Medicine*, 60(7), 622-630. doi:10.1097/jom.0000000000001294
- Cote, P., Boyle, E., Shearer, H. M., Stupar, M., Jacobs, C., Cassidy, J. D., . . . Frank, J. W. (2019). Is a government-regulated rehabilitation guideline more effective than general practitioner education or preferred-provider rehabilitation in promoting recovery from acute whiplash-associated disorders? A pragmatic randomised controlled trial. *BMJ Open*, 9(1), e021283. doi:10.1136/bmjopen-2017-021283
- Davis, A. M., Ibrahim, S., Hogg-Johnson, S., Beaton, D. E., Chesworth, B. M., Gandhi, R., . . . Waddell, J. P. (2018). Presurgery osteoarthritis severity over 10 years in 2 Ontario prospective total knee replacement cohorts: a cohort study. *CMAJ Open*, 6(3), E269-e275. doi:10.9778/cmajo.20170164
- Fagerlind Stahl, A. C., Stahl, C., & Smith, P. (2018). Longitudinal association between psychological demands and burnout for employees experiencing a high versus a low degree of job resources. *BMC Public Health*, 18(1), 915. doi:10.1186/s12889-018-5778-x
- Giummarra, M. J., Black, O., Smith, P., Collie, A., Hassani-Mahmooei, B., Arnold, C. A., . . . Gabbe, B. J. (2018). A population-based study of treated mental health and persistent pain conditions after transport injury. *Injury*, 49(10), 1787-1795. doi:10.1016/j.injury.2018.08.008
- Gray, S. E., Sheehan, L. R., Lane, T. J., Jetha, A., & Collie, A. (2019). Concerns About Claiming, Postclaim Support, and Return to Work Planning: The Workplace's Impact on Return to Work. *Journal of Occupational and Environmental Medicine*, 61(4), e139-e145. doi:10.1097/jom.0000000000001549
- Jetha, A., LaMontagne, A. D., Lilley, R., Hogg-Johnson, S., Sim, M., & Smith, P. (2018). Workplace Social System and Sustained Return-to-Work: A Study of Supervisor and Co-worker Supportiveness and Injury Reaction. *Journal of Occupational Rehabilitation*, 28(3), 486-494. doi:10.1007/s10926-017-9724-z

- Lane, T. J., Lilley, R., Hogg-Johnson, S., LaMontagne, A. D., Sim, M. R., & Smith, P. M. (2018). A Prospective Cohort Study of the Impact of Return-to-Work Coordinators in Getting Injured Workers Back on the Job. *Journal of Occupational Rehabilitation*, 28(2), 298-306. doi:10.1007/s10926-017-9719-9
- Macpherson, R. A., Koehoorn, M., Fan, J., Quirke, W., Amick, B. C., 3rd, Kraut, A., . . . McLeod, C. B. (2018). Do Differences in Work Disability Duration Between Men and Women Vary by Province in Canada? *Journal of Occupational Rehabilitation*, [Epub ahead of print]. doi:10.1007/s10926-018-9819-1
- McInnes, J. A., MacFarlane, E. M., Sim, M. R., & Smith, P. (2018). The impact of sustained hot weather on risk of acute work-related injury in Melbourne, Australia. *International Journal of Biometeorology*, 62(2), 153-163. doi:10.1007/s00484-017-1435-9
- McIntosh, G., Steenstra, I., Hogg-Johnson, S., Carter, T., & Hall, H. (2018). Lack of Prognostic Model Validation in Low Back Pain Prediction Studies: A Systematic Review. *The Clinical Journal of Pain*, 34(8), 748-754. doi:10.1097/ajp.0000000000000591
- Riano-Casallas, M. I., & Tompa, E. (2018). Cost-benefit analysis of investment in occupational health and safety in Colombian companies. *American Journal of Industrial Medicine*, 61(11), 893-900. doi:10.1002/ajim.22911
- Rotondi, N. K., Beaton, D. E., Sujic, R., Sale, J. E. M., Ansari, H., Elliot-Gibson, V., . . . Slater, M. (2018). Identifying and Addressing Barriers to Osteoporosis Treatment Associated with Improved Outcomes: An Observational Cohort Study. *The Journal of Rheumatology*, 45(11), 1594-1601. doi:10.3899/jrheum.170915
- Sámano-Ríos, Martha L., Ijaz, Sharea, Ruotsalainen, Jani, Breslin, F. Curtis, Gummesson, Karl, & Verbeek, Jos. (2019). Occupational safety and health interventions to protect young workers from hazardous work – A scoping review. *Safety Science*, 113, 389-403. doi:https://doi.org/10.1016/j.ssci.2018.11.024
- Scott, K. A., Fisher, G. G., Baron, A. E., Tompa, E., Stallones, L., & DiGuseppi, C. (2018). The Associations Between Falls, Fall Injuries, and Labor Market Outcomes Among U.S. Workers 65 Years and Older. *Journal of Occupational and Environmental Medicine*, 60(10), 943-953. doi:10.1097/jom.0000000000001379
- Scott, K. A., Liao, Q., Fisher, G. G., Stallones, L., DiGuseppi, C., & Tompa, E. (2018). Early labor force exit subsequent to permanently impairing occupational injury or illness among workers 50-64 years of age. *American Journal of Industrial Medicine*, 61(4), 317-325. doi:10.1002/ajim.22817
- Stapelfeldt, C. M., Momsen, A. H., Lund, T., Gronborg, T. K., Hogg-Johnson, S., Jensen, C., . . . Labriola, M. (2018). Cross-Cultural Adaptation, Reliability and Validity of the Danish Version of the Readiness for Return to Work Instrument. *Journal of Occupational Rehabilitation*, [Epub ahead of print]. doi:10.1007/s10926-018-9790-x
- Tait, C. A., L'Abbe, M. R., Smith, P. M., & Rosella, L. C. (2018). The association between food insecurity and incident type 2 diabetes in Canada: A population-based cohort study. *PloS One*, 13(5), e0195962. doi:10.1371/journal.pone.0195962
- Tomaszczyk, J., Sharma, B., Chan, A. A., Colella, B., Mok, J., Beaton, D., . . . Green, R. (2018). Measuring cognitive assessment and intervention burden in patients with acquired brain injured: Development of the "How Much is Too Much" questionnaire. *Journal of Rehabilitation Medicine*, 50(6), 519-526. doi:10.2340/16501977-2344
- Van Eerd, Dwayne. (2019). Knowledge transfer and exchange in health and safety: a rapid review. *Policy and Practice in Health and Safety*, [epub ahead of print]. doi:10.1080/14773996.2018.1508116

van Genderen, S., Plasqui, G., van der Heijde, D., van Gaalen, F., Heuft, L., Luime, J., . . . Boonen, A. (2018). Social Role Participation and Satisfaction With Life: A Study Among Patients With Ankylosing Spondylitis and Population Controls. *Arthritis Care & Research*, 70(4), 600-607. doi:10.1002/acr.23304

### **Journal articles: Forthcoming**

Fan JK, Mustard CA, Smith P. Psychosocial work conditions and mental health: examining differences across mental illness and well-being outcomes. Accepted: *Annals of Work Exposures and Health*

Lahey PM, Kirsh B, MacDermid JC, **Tompa E**, Gewurtz R. (2018) Active labour market policies for people with disabilities in receipt of public income benefits: a scoping review. In press: *WORK: A Journal of Prevention, Assessment & Rehabilitation*

### **Journal articles: Submitted**

Jetha A, Bowring J, Ibrahim S, Johnson S, Davies A, Gignac MAM. (2018). Unmet workplace support needs and lost productivity of workers with systemic sclerosis: A path analysis study. Submitted to: *Arthritis Care and Research*.

Jetha A, Theis KA, Murphy L, Boring MA, Guglielmo D, Depressive symptoms and the arthritis employment interface. A population-level study. Submitted to: *Arthritis Care and Research*. Kokorelias, K.M., Gignac, M.A.M., Naglie, G., Cameron, J.I. (2019) Towards a Universal Model of Family Centered Care: A Scoping Review. *BMC Health Services*

Lahey PM, **Tompa E**, Kirsh B, MacDermid JC, Gewurtz R. From Welfare to Work: A quantitative study of work exits for ODSP recipients who have mental illness. Submitted to *Canadian Review of Social Policy*. November 2018

Orchard C, Carnide N, Mustard C, Smith P. Prevalence of serious mental illness and mental health service use after a workplace injury: A longitudinal study of workers' compensation claimants in Victoria, Australia. Submitted to: *Canadian Journal of Psychiatry*.

Orchard C, Carnide N, Smith P. How does perceived fairness in the RTW claims process affect mental health following a workplace musculoskeletal injury? A longitudinal study of Victorian workers' compensation claimants. Submitted to: *Journal of Occupational Rehabilitation*.

Van Eerd D, Smith P and Vu U. Implications of an aging workforce for work injury, recovery, returning to work and remaining at work. Submitted to *OOHNA Journal*.

### **Books/Chapters: Published**

Beaton, Dorcas (2018). Interpretation of perceived health data. In Francis Guillemin, Alain Leplège, Serge Briançon, Elisabeth Spitz, & Joël Coste (Eds.), *Perceived health and adaptation in chronic disease* (1st ed., pp. 149-154). New York: Routledge.

Furlan, A., & Duso, M. (2018). Cervical pain, lumbar pain, and sciatalgia. In Stefano Masiero & Ugo Carraro (Eds.), *Rehabilitation medicine for elderly patients (practical issues in geriatrics)* (1 st ed., pp. 237-248): Springer.

## 2018/19 Funding and Awards

### Research Project Funding – Awarded in 2018/19

Biswas A, Mustard C, Prince Ware S, Smith P. How much movement do workers need to be healthy? Understanding work-related and non-work contributions to the movement patterns of Canadian workers and their cardiometabolic consequences. CIHR Project Grant, \$120,000, 1 year.

Biswas A, Smith P, Gignac M, Van Eerd D. Developing recommendations for an integrated workplace health protection and health promotion approach. AlbertaOHS Futures, \$49,363, 1 year.

Biswas A, Smith P, Irvin E, Koehoorn M. Do work exposures differ for men and women? Do similar exposures result in different work-related health outcomes for men and women? WorkSafeBC Specific Priorities/ Systematic Reviews, \$76,091, 1 year.

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 Healthy and Productive Workplace: Stage 2, \$1,424,864, 4 years.

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 to they work best? Ontario Human Capital Research and Innovation Fund, \$49,941, 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? Ontario Human Capital Research and Innovation Fund (Year 2), \$49,135, 1 year.

Jetha A (principal applicant), Bonnacio S, Bultmann U, Gignac M.A.M., Norman C, Smith P, Tompa E, Tucker L. Future-Proofing young Canadians with disabilities for the changing labour market. New Frontiers in Research Fund, \$247,361, 2 years.

Jetha A, Greengrove K, Backman C, Kosny A, Gignac M. Getting the message right: Strengthening return-to-work communication in British Columbia's health care sector. WorkSafeBC Innovation at Work, \$49,838, 1 year.

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.

Jetha A, Van Eerd D, Gignac M. Accommodation roadmap for young adults living with chronic episodic and invisible health conditions. CRWDP seed grant, \$10,000, 1 year.

Mustard C, Tompa E. Estimating the financial benefits of OHS prevention expenditures: a study of Ontario employers. Workplace Safety Insurance Board, \$292,000, 1.8 years.

Mustard CA, Smith PM, Tompa E. Ontario Injured Workers Outcome Study. Grants Program, Ontario Workplace Safety & Insurance Board, \$590, 298, 3 years.

Saunders R, Mustard C, O'Grady J. What is the extent and nature of claim suppression in B.C.?. WorkSafeBC Specific Priorities/ Systematic Reviews, \$148, 450, 1 year.

Smith P, Yanar B, Premji S. The role of employers and settlement agencies in safe employment integration. Immigration, Refugees and Citizenship Canada (Service Delivery Improvement competition), \$202, 630, 2 years.

Smith P, Carnide N, Frone M, Furlan A, Meister S, Porath A. Taking 9 to 5? Examining the impact of cannabis legalization on workplace cannabis use and perceptions among Canadian workers. CIHR Project Grant, \$554,624, 4 years

Smith P, Carnide N, Furlan A, Mustard C, Rajaram N, Smith M, Fang L. Cannabis and Workplace Fatalities: Establishing a Baseline in Ontario. CIHR Catalyst Grant: Cannabis Research in Urgent Priority Areas, \$124, 524, 1 year.

Smith P, Irvin E, Gignac M, Mahood Q, Bienefeld M. Best practices for return-to-work after psychological injury. WorkSafeBC, \$61, 261, 6 months.

Smith P, Irvin E, Gignac M, Mahood Q, Bienefeld M. Instruments for assessing permanent psychological impairment. WorkSafeBC, \$61, 261, 6 months.

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

Van Eerd D, D'Elia T, Boscart V. Developing a participatory ergonomics video tool for long term care. CRE-MSD seed grant, \$9,880, 7 months.

Van Eerd D, Irvin E, Cardoso S, Mahood Q. Musculoskeletal injury MSI prevention: a practical implementation guide for Newfoundland and Labrador (NL). Workplace NL- Research Initiatives Program, \$84, 161, 1 year.

### **Non-IWH Research Project Funding – Awarded in 2018/19**

Collie A, Smith P, Iles R, McLeod C and Lund T. The Impact of Policy, Demography and Geography on Work Disability. Australian Research Council Discovery Grant, \$479,606, 3 years.

Koehoorn M, McLeod CB, Schultz IZ, Smith P, Tompa E. A gender investigation of employment and earnings among seriously injured workers in British Columbia. WorkSafeBC 2018 Specific Priorities Grant Competition, \$223, 624, 2 years.

LaBerge M, Jetha A, Breslin C, Moll S. Outils et méthode pour planifier l'attribution de Technologies de l'Information et des Communications (TIC) en soutien à l'insertion professionnelle des adolescents présentant des troubles d'apprentissage. CRWDP seed grant, \$20, 055, 1 year.

Schemitsche E, Athwal G, Beaton D, Bhandari M, Davis A, Guy P, Hall J, Henry P, Hoch J, Isaranvatchai W, Lawendy P, Hoch J, Lebovic G, McKee M, Nauth A, Nowak L, Petrisor B, Ristevski B, Sanders D, Slobogean G, Wasserstein D. The DECIPHER Study: DEterminants of Function and Clinically Important outcomes in Proximal Humerus Fractures in the Elder Population: A National CohoRt. CIHR Project Grant, \$1,145,000, 5 years.

Touma, Z. (PI), Engel, L., Nalder, E., Goverover, Y., Gignac, M.A.M. Improving the assessment and care management of everyday living limitations in adults with lupus related cognitive impairments: a multi-methods examination of activities of daily living. Lupus Canada, \$18,000, 1 year.

### **Research Project Funding – Submitted in 2018/19**

Jetha A, Johnson L, Gignac MAM, Smith P, Van Eerd D. How will the future of work impact disability management? A comprehensive environmental scan. WCB Manitoba Research and Workplace Innovation Program (Notice of Intent)

P Smith, J Mandzia, M Gilbert-Ouimet, M Kapral. Future activity and social participation outcomes among working-aged stroke survivors: a novel longitudinal linkage study. CIHR Spring 2019, \$300,000, 2 years.

Smith P, Carnide N, Mustard C, Pompeii L. The incidence and reporting of workplace violence and their association with quality of care in a representative sample of acute care hospitals. CIHR Spring 2019, \$565,000, 2 years.

Smith P, Mustard C. Understanding the impacts of the introduction of Bill 127 on work-related mental stress in Ontario. Workplace Safety Insurance Board, \$242, 440, 1.6 years.

Van Eerd D, Irvin E, Gross P, Biswas A, Miller L. Musculoskeletal disorder prevention: Developing an implementation guide for Alberta workplaces. Alberta OHS Futures, \$99, 720, 1 year.

Van Eerd D, Yanar B, Irvin E, Tompa E, Jetha A, Mororse T. Return to Work in Policing: Synthesizing current practices and implementation guidance. Workplace Safety Insurance Board, \$216, 500, 2 years.

Yanar B, Van Eerd D. Welcoming Workplaces: Supporting Employers to Create and Maintain Living Wage Employment for Newcomers. Metcalf Foundation Opportunities Fund, \$238, 996, 2 years (Notice of Intent)

### **Non-IWH Research Project Funding – Submitted in 2018/19**

Furlan A, Deshpande A, Campos J, Carnide N, Flannery J, Gignac M, Murphy L, Cooper L, Sumpton J. A prospective study of the analgesic, psychological, cognitive and functional effects of oral administration of cannabidiol (CBD) oil for patients with fibromyalgia. CIHR Catalyst Grant: Cannabis Research in Urgent Priority Areas, \$125,000, 1 year.

Hayden JA, Ogilvie R, Macedo L, Curran J, Stewart S, Synnot A, Tricco A, Thomas J, Boulos L, Chou R, Elliott J, Ferreira M, Ferreira P, Furlan A, Harbin S, Irvin E, Lasserson T, Qaseem A, Turner T. Evaluation of a novel 'network systematic review' model for efficient evidence synthesis. CIHR Spring 2019, \$442, 500, 3 years.

Jones, A. (PI), Yamamoto, S. (Co-PI), Yacyshyn, E. (Co-PI), Bulut, O., Dong, H., Gignac, M.A.M., Mathew, H., Parmar, D., Roussou, E. Evaluation of Immigrants with Arthritis. An International Collaborative Network Initiative. CIHR, Catalyst Grant: Analysis of CLSA Data, \$70,000, 1 year.

Laberge M (co-PI), Moll S (co-PI), Jetha A, Tondoux, A, Dumouchel L, Martel-Octeau N, Lamoureux D, Tompa E. Outils et méthode pour planifier l'attribution de Technologies de l'Information et des Communications (TIC) en soutien à l'insertion professionnelle des adolescent.es présentant des troubles d'apprentissage. Société Inclusive, \$80,000, 1 year.

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

*Up to March 31, 2019*

Gilbert-Ouimet M. CIHR Fellowship Award, \$40,000 plus \$5000 allowance

Smith P CIHR Sex and Gender Chair Award, \$75,000

## Collaborators and Staff

### 2018/19 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

*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.

*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.

## 2018/19 Institute for Work & Health Staff

\* denotes staff no longer at the IWH

### Research

Amick, Benjamin; PhD, Senior Scientist

Beaton, Dorcas; PhD, Senior Scientist

Begum, Momtaz, MSc, Research Assistant

Biswas, Aviroop, PhD, Associate Scientist

Bowring, Julie; MA, Research Coordinator

Breslin, F. Curtis; PhD, Scientist

Canga, Albana; BA, Administrative Assistant

Carnide, Nancy; PhD, Associate Scientist

Chen, Cynthia; MSc, Research Associate, Analyst

D'Elia, Teresa; MA, Project Coordinator

Dollack, Jocelyn; MHSc, Research Assistant/Administrative Assistant

Furlan, Andrea; MD, PhD, Scientist

Gignac, Monique; PhD, Associate Scientific Director and Senior Scientist

Habrin, Shireen; RN, Library & Information Technician Diploma, Project Coordinator

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

Khan, Fareena; BA, National Project Manager, WC2020

Landsman, Victoria; PhD, Scientist

Latour-Villamil, Desiree; MA, Research Assistant

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

McLeod, Chris; PhD, Associate Scientist

Mofidi, Amir, PhD Visiting Student

Nadalin, Victoria; MA, Research Analyst

Nasir, Kay; BA, Research Assistant  
Orchard, Christa, BSc, MPH Summer practicum student  
Padkapayeva, Kathy; BA, Research/Administrative Assistant  
Portt, Andrea. MSc, Summer practicum student  
Raktoe, Shanti; BSc, Administrative Assistant  
Robson, Lynda; PhD, Scientist  
Severin, Colette; MSc, Manager, Research Operations  
Smith, Peter; PhD, Associate Scientific Director and Senior Scientist  
Swift, Michael; MSc, Research Associate, Data Manager/Programmer  
Tiong, Maggie; BA, Manager, Library Services  
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  
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; CPA, CMA, Manager, Financial Services

## **2018/19 Institute for Work & Health Research Trainees**

Bogaert, Laura; PhD Student (maternity leave)

Fan, Jonathan; PhD Student

Dobson, Kathleen; PhD Student

Gilbert-Ouimet, Mahée; PhD, Post-doc

Pickard, Angela; PhD Student (maternity leave)

Woticky, Gemma; PhD student

## 2018/19 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. 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. Kim Cullen is an assistant professor in the School of Human Kinetics and Recreation at Memorial University in St. John's, Newfoundland and Labrador. She was previously an associate scientist and knowledge exchange associate at the Institute for Work & Health. Cullen holds a PhD in biophysics at the University of Guelph and an MSc in clinical rehabilitation science from McMaster University. She is also a registered kinesiologist in Ontario with extensive clinical expertise in the delivery of disability management services to injured workers. Her work has focused on work disability prevention with a particular interest in return-to-work support for both musculoskeletal disorders and mental health conditions. Her expertise includes the crossroads between work organization and health (both physical and mental), the promotion of evidence-based decision-making in occupational health and safety, and the use of advanced methods to measure and evaluate change as indicators of recovery in work and health research.

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. 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.

Christian Ståhl is an associate professor in work and rehabilitation at Linköping University in Sweden, where he leads a research group focusing on welfare systems and working life. He is also one of the research leaders at the HELIX Competence Centre, also at Linköping University—a partnership between the university and 20-plus public, private and non-profit organizations. The partnership conducts interactive, multidisciplinary research into sustainable development in organizations, seeking to combine efficiency and innovation with good working conditions in terms of learning, health and gender equality. Ståhl's research interests involve policy development in social security systems and work disability, the work environment, equality and justice. He has extensive international networks within the research fields of work and health, and social insurance. He has participated in several international research projects, and published internationally in scholarly journals and books. Ståhl is an alumni of the Work Disability Prevention CIHR Strategic Training Program at the University of Toronto, where he also served as a mentor after graduation. He has since organized similar international courses in work disability prevention. Ståhl has a master's in sociology and a PhD in work and rehabilitation, both from Linköping University.

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.

## **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**

Associate Professor: Department of Occupational Sciences and Occupational Therapy, Faculty of Medicine, University of Toronto (July 2008-present)

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 (September 2000-present)

Co-Chair: Worker Productivity Measurement Initiative, OMERACT (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 (2001-present)

Senior Scientist: Measurement Stream of Research, Institute of Work & Health (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: 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)  
Affiliate Scientist, Division of Health Care & Outcomes Research, Krembil Research Institute (formerly the Toronto Western Research Institute), The University Health Network, Toronto, Ontario (July 2014-present)  
Associate Scientific Director, Institute for Work and Health, Toronto, Ontario (August 2013-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) (July 1995- present)  
Steering Committee: Research Strategy Workshop, The Arthritis Society, May 28, 2018 (January-May 2018)  
Full Member, Graduate Department of Public Health Sciences, University of Toronto (July 2007 – present)  
Affiliate Scientist: Division of Health Care & Outcomes Research, University Health Network  
Decanal Promotions Committee: Dalla Lana School of Public Health (DLSPH), University of Toronto (2015 - present)  
Member: Advisory Council, Community Health Solutions, Simon Fraser University (2013 – present)  
Member: Ontario Episodic Disabilities Forum (OEDF), 2011 to present,  
Member: The Arthritis Society (TAS) (2011 – 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- 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

### **IRVIN, Emma**

Adjunct Lecturer: Rehabilitation Sciences Institute, University of Toronto  
Member: Canadian Association for Research on Work and Health  
Member: PREMUS Scientific Committee

### **JETHA, Arif**

Assistant Professor (status only): Dalla Lana School of Public Health University of Toronto (August 2016-present)  
Faculty Mentor, Collaborative Program in Public Health Policy, Dalla Lana School of Public Health, University of Toronto (2017-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  
Collaborator, Centre for Research on Work Disability Policy (July 2015 – present)  
Executive Board Member, Canadian Association for Research on Work and Health (CARWH) (September 2016 – present)  
Board Member, Dalla Lana School of Public Health Alumni Association (January 2017- present)  
Member: Centre for Disability Participation Project, McMaster University  
Member: Rehabilitation Institute, UHN (February 2016- present)  
Member: Association of Rheumatology Health Professionals (ARHP) (2013- present)

Member: American Public Health Association (APHA) (2013-present)

### **MUSTARD, Cameron**

Member, OCRC Steering Committee (April 2018 - present)

Member: Dean's Advisory Board, Dalla Lana School of Public Health, University of Toronto (April 2015 - March 2018)

Member: Advisory Committee, Lancaster House Health and Safety Conference (2008 – present)

Member: Advisory Board International Journal of Social Security and Workers Compensation (2008 – present)

Member: Board of Advisors, RAND Center for Health and Safety in the Workplace (2008 – present)

Member: Board of Directors, Ontario Neurotrauma Foundation (2008 – present)

Member: Ontario Health Quality Council Performance Measurement Advisory Board (2007 – present)

Member: Steering Committee: Toronto Region Research Data Centre (2005 – present)

Member: Editorial Advisory Board, Longwoods Review (2003 – present)

Affiliate: Centre for Health Services and Policy Research, University of British Columbia (2008 – present)

Member: Dean's Advisory Board, Dalla Lana School of Public Health, University of Toronto (April 2015 - March 2018)

Member: Leadership Table on Workplace Violence Prevention in Health Care, January 2016 to December 2016.

Member: Epidemiology Faculty Advisory Committee, Dalla Lana School of Public Health, University of Toronto (2016- present)

Member: Steering Committee, International Forum on Disability Management (IFDM) 2018 (August 2016 - August 2018)

Member: Health Reports Editorial Board (February 2017 - February 2020)

### **ROBSON, Lynda**

Member: Canadian Association for Research on Work and Health

Member: Canadian Evaluation Society

### **SMITH, Peter**

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

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

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

Technical Committee Member, Canadian Standards Association Initiative on Work Disability Prevention (2014-present)

Advisory Committee, EU-OSHA project entitled "Estimating the costs of work-related injuries, illnesses and death at the European Level" (2015-present)

Member: Canadian Standards Association Committee for the development of standards for work disability prevention management systems (2016-present)

Member: Canadian Standards Association Committee for the development of standards for work disability prevention management systems (April 2016-present)

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)



Recruitment Committee Member: Ontario Graduate Scholarship Review Committee, Dalla Lana School of Public Health, University of Toronto (2018)  
Recruitment Committee Member: MPH Admission Committee, Dalla Lana School of Public Health, University of Toronto (2018)  
Member: National Stakeholder Advisory Panel. Labour Market Information Council (LMIC) (May 2018 –present)  
Adjunct Faculty Panel Member: Area Lead Faculty of Research, Curriculum Committee, Pacific Coast University for Workplace Health Sciences (2018-present)  
Chair: Canadian Standards Association Committee for the development of standards for work disability prevention management systems (January 2019-present)  
Grant referee: Health Research Council of New Zealand (2018)  
Grant referee: WCB Manitoba (2018)

**VAN EERD, Dwayne**

Adjunct Lecturer: Rehabilitation Sciences Institute, University of Toronto  
Researcher: Centre for Research Expertise for Musculoskeletal Disorders, University of Waterloo  
Member: Knowledge Translation Trainee Collaborative supported by KT Canada.

## Teaching, Educational and Service Activities

### **AMICK, Benjamin**

#### Service Activities

Editorial Board: Journal of Occupational Rehabilitation (2010 –present)

### **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, WorkSafe 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: 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

### **CARNIDE, Nancy**

#### Service Activities

Reviewer: Canadian Journal of Pain.

Reviewer: Injury Prevention.

Reviewer: Occupational and Environmental Medicine (2018)

### **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 (Winter).

## **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

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) (September 2014 – present)

Student Supervisor: Gemma Woticky, PhD student, Dalla Lana School of Public Health. Thesis title: TBA. (Primary Supervisor) (September 2018-present)

### Thesis Committees:

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

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

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

MSc. Committee Member for Jennifer Lee, Institute for Health Police,

Management & Evaluation (IHPME), University of Toronto. Supervisor: Sindhu Johnson. Thesis title: TBA.

### Service Activities:

American Psychological Association (APA) (1987-present)

Canadian Association on Gerontology (CAG) (1987- present)

Gerontological Society of America (GSA) (1991-present)

Association of Rheumatology Health Professionals (ARHP) (2006 - present)

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) (February 2011 – present)

External Referee: Arthritis Research UK/MRC Centre for Musculoskeletal Health and Work, United Kingdom (August 2018)

Reviewer: Journal of the American Medical Association, Work Arthritis Care & Research, Social Science and Medicine, Journal of Occupational Rehabilitation, European Health Psychology, Journal of Rheumatology, Canadian Journal of Aging (English & French), OMERACT 10, Canadian Journal of Behavioural Science, Journal of Psychosomatic Research, Bulletin of the World Health Organization, Disability and Rehabilitation, Canadian

Journal of Nursing Research, International Journal of Clinical Rheumatology, 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

#### Service Activities

Reviewer: 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

### **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 (Winter)

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

#### Service Activities

Peer reviewer: CIHR Knowledge Synthesis grant

Abstract reviewer: 2018 CADTH Symposium

Reviewer: Journal of Rheumatology, Journal of Occupational Rehabilitation, Journal of Occupational and Environmental Medicine, Arthritis Care and Research, Canadian Medical Association Journal Open, Canadian Medical Association Journal, 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

Grant Review Board: Arthritis Society Operating Grant Program (2018 – present)

Academic Quality Review Board: British Columbia Degree Quality Assessment Board, Province of British Columbia (2018)

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

### **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)

Reviewer: Journal of Evidence-Based Medicine, Environmental International

### **MUSTARD, Cameron**

#### Teaching/Educational Role

Professor: Public Health Sciences, University of Toronto, University of Toronto Dalla Lana School of Public Health (July 2002 –present)

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 – present

Primary Supervisor: Laura Bogaert, PhD candidate, Dalla Lana School of Public Health, University of Toronto.

### **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 (March 2017)

#### 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: Journal of Primary Prevention, Safety Science Safety Science (2017)

Reviewer: Campbell Collaboration

### **SAUNDERS, Ron**

#### Teaching/Educational Role

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

#### *Thesis Supervision:*

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

Primary Supervisor: 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: 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: 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: 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: 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 (January 2017)

#### **TOMPA, Emile**

##### Teaching/Educational Role

Lecturer: Module on Economic Evaluation of Public Health Initiatives (4 sessions), Tools and Approaches for Public Health Policy Analysis and Evaluation (CHL 5308H), Dalla Lana School of Public Health (Winter 2018).

Course Coordinator and Instructor: Current Topics: Health and Safety IRE1655H), Centre for Industrial Relations and Human Resources, University of Toronto (September-December 2018)

Post-doctoral Mentor: Amirabbas Mofidi, funded by IWH, (2019-2021)

Student Mentor: Amirabbas Mofidi, Ph.D. candidate, Department of Occupational Health and Safety, Tarbiat Modares University, Tehran, Iran (February 2017-January 2019)

Thesis Committee Member: Dan Samosh, Ph.D. candidate, Smith School of Business, Queen's University (September 2017 – present)

Thesis Committee Member: Sabrina Hossain, M.A. candidate, School of Rehabilitation Sciences, McMaster University (January 2017 – present).

Committee Member: Young Jung, Ph.D. candidate, Health Policy, McMaster University (May 2016-present)

Student Mentor: Martha Isabel Riano Casallas, Ph.D. candidate, Faculty of Economic Sciences, National University of Columbia (Spring 2016)

Thesis Committee Member: Alexis Buettgen, Ph.D. candidate, Critical Disabilities Studies, York University (December 2015 - present)

Thesis Committee Member: Christina Hackett, Ph.D. candidate, Health Policy, McMaster University (September 2015- present)

Thesis Committee Member: Saeed Rana, Ph.D. candidate, Department of Economics, McMaster University, (January 2015 - present)

Thesis Committee Member: Pam Lahey, Ph.D. candidate, School of Rehabilitation, McMaster University (2014 - present)

#### Service Activities:

Associate Editor: Occupational Health, BMC Public Health, 2017-present

Editorial Board Member: Scandinavian Journal of Work Environment and Health, 2017-present

Editorial Board Member: Journal of Occupational Rehabilitation, 2008-present

Reviewer: Canadian Public Policy (2018)

Reviewer: BMC Public Health (2018- 2019)

CIHR Doctoral Research Awards (2019)

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

##### Teaching/Educational Role

Instructor: IWH Systematic Reviews Workshop

Instructor: REH 3600H Synthesis Toolkit, University of Toronto

#### Service Activities

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