

Institute for Work & Health Accomplishments Report 2019/20



**Institute
for Work &
Health**

Research Excellence
Advancing Employee
Health



2019/20 Accomplishments Report

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2019/20 ACCOMPLISHMENTS REPORT

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Introduction

The Institute for Work & Health promotes, protects and improves the safety and health of working people by conducting actionable research that is valued by employers, workers and policy-makers. The Institute is also committed to provide knowledge transfer and exchange services to improve access to and application of research evidence among agencies in the Ontario prevention system, workplace parties, occupational health and safety professionals, clinicians, and policy makers to support improved outcomes in the prevention of work-related injury and illness and the prevention of work disability.

Our transdisciplinary research is focused in two key areas: preventing work related injuries and illnesses before they occur (primary prevention); and preventing and managing work disability should injuries or illness occur (work disability prevention and management). Prevention of work-related injury and illness, evidence-based health care and return to work practices to manage disability are critical elements in an effective health and safety system. The Institute has core competencies in the areas of work-related musculoskeletal disorders, labour market experiences and health, and disability compensation systems.

The goal of our Knowledge Transfer and Exchange Program, which includes Communications, is to build 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 2019/20 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 Foundation Programs which support two main research portfolios: Data and Information Services and Systematic Reviews.

Knowledge Transfer & Exchange and Communications at the Institute

The overall strategic direction of Knowledge Transfer & Exchange (KTE) and Communications Program 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 and Communications accomplishments in 2019/20 are presented in a separate 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 2019/20 publications, grants and awards. The final pages of the report also list all IWH staff in 2019/20, 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 projects that are examining the impact of cannabis use in the Canadian workplace and continue to work on OHS preventative strategies in the workplace. These projects should be of value to the prevention system partners and to individual employers interested in better understanding cannabis use and workplaces interested in improving their safety record. This portfolio of work has led to the development of tools for practical application in workplace parties and the compensation system.

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Vulnerable workers

Protecting vulnerable workers from the risks of work-related injury and illness is a central priority of the Ontario prevention system. New workers, some of whom are in temporary employment arrangements and many of whom are young workers, are most at risk of injury during the first month on a job. Immigrant workers, who make up an increasing segment of the Canadian labour force, may also be more vulnerable to workplace injury or illness. The proportion of workers aged 50+ is increasing and there are growing incentives for older workers to continue employment beyond the age of 65. Finally, not all workers enter the workforce with optimum health. Many have pre-existing physical and mental health conditions or develop health problems that may make them vulnerable to workplace injury or illness. Work continued in 2019-20 on expanding applications of the Institute's measure of 'OHS vulnerability', most recently using the tool within an Alberta context. Over the course of the year, the Institute explored the complex and important role of employers and settlement agencies in safely integrating immigrants and refugees into Canadian employment.

Measuring occupational health and safety vulnerability in Alberta (1380)

Project Status: Completed

Introduction: For the past six years, researchers at IWH have worked on better defining and measuring OHS vulnerability – moving past demographic and industrial characteristics to conceptualize OHS vulnerability as a dynamic process. As part of previous work, information on OHS vulnerability has been captured among workers in the provinces of Ontario and British Columbia. To date we have successfully recruited 1,026 Alberta workers who have completed our survey.

Objectives:

- Conduct a survey of OHS vulnerability among workers in Alberta using the OHS vulnerability measure developed at the Institute for Work & Health in Toronto.
- Capture important workplace and occupational information, as well as the prevalence of injuries and the reporting of these injuries to workers' compensation.

Status: This project has now ended.

Researchers: Peter Smith, Victoria Nadalin

Collaboration and Partnerships: OHS Futures Alberta

Potential Audiences and Significance: Multiple stakeholders, predominantly from the provinces of Alberta, Ontario and British Columbia will have interest in the research findings of this project. Researchers in the area of the primary prevention of workplace injury, and the surveillance of occupational health and safety risk factors will also be interested in study findings.

Publications:

Nadalin V and Smith PM. Examining the impact of occupational health and safety vulnerability on injury claim reporting in three Canadian provinces. *American Journal of Industrial Medicine*. 2020; [Epub ahead of print].

Nadalin V, Mustard CA, Smith P. The impact of employment standards and occupational health and safety vulnerability on the risk of workplace injury. Submitted for publication: *Safety Science*. (Submitted)

Presentations: None to date

Funding: Smith P, Saunders R, Tompa E, Breslin C. Measuring Occupational Health and Safety Vulnerability in Alberta. OHS Futures Research, \$98,500 (2018-2019).

The role of employers and settlement agencies in safe employment integration (1385)

Project Status: Ongoing

Introduction: Employers play an important role in the safe and sustained work integration of immigrants and refugees in Canada. They are responsible for training new workers and putting measures in place to protect their health and safety. Employers hire recent immigrants through multiple avenues. Some employers work with settlement organizations who are looking to find placements for recent immigrants. Despite the central role that employers play in both hiring and subsequently providing safe work environments for recent immigrants, we know very little about their expectations, experiences and challenges in relation to hiring recent immigrants. We also have little information on specific challenges employers and settlement organisations face when working together. This study will address this research gap by extending current research on the safe work integration of newcomers to examine the strategies used by employers and settlement agencies to help recent immigrants and refugees integrate into employment in Canada.

Objectives:

- Understand employers' and settlement providers' experiences and practices in helping immigrants integrate into employment in Canada.
- Identify resource and training needs of settlement providers and employers as well as gaps in service delivery to inform innovative solutions for promoting safe employment for newcomers.

Status: All recruitment and data collection activities were completed. By the end of this reporting period, qualitative data analysis will also be completed. Due to COVID 19, our Employer Research and Knowledge Exchange Forum that was scheduled for March 30, 2020 at City Hall was cancelled.

Researchers: Peter Smith (Co-Principal Investigator), Basak Yanar (Co-Principal Investigator), Kay Nasir, Amani Massoud, Sibghat Usmani, S Premji (McMaster University)

Collaboration and Partnerships: We partnered with six large settlement and employment agencies and community organisations: Skills for Change, Access Alliance, KEYs Employment Centre, Arab Community Centre Toronto, the Brampton Multicultural Centre and the Canadian/Arab Institute.

Potential Audiences and Significance: The findings from this project will be of interest to multiple stakeholder communities, including employers, service providers, newcomer clients, as well as stakeholders across the employment/immigration field.

Publications: None to date

Presentations:

Yanar B. The role of settlement agencies in safe work integration of recent immigrants and refugees. International Metropolis Conference. Ottawa, ON. June 26, 2019.

Yanar B. Safe Work Integration of Newcomers Forum: Service Provider and Employer Perspectives. Toronto, ON. March 30, 2020.

Funding: 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), \$205,363 (2018-2020).

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 2019/20, 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.

Occupational health and safety performance in unionized construction (1257)

Project Status: Ongoing

Introduction: The Ontario Construction Secretariat (OCS) is comprised of twenty-five organized building trade unions (workers) and the signatory contractors (employers) of Industrial, Commercial and Institutional (ICI) construction, along with representatives from the provincial government. Together, they form a tripartite organization intended to enhance the well-being of organized ICI construction in Ontario. Over the period 2012-2013, the Institute for Work & Health collaborated with OCS to compare the incidence of work-related injury and illness between unionized and non-unionized contractors in the sector over the period 2006-2012. This original study found that unionized contractors had lower lost-time claim rates and higher no lost-time claim rates, concluding that unionized contractors may encourage occupational injury reporting and reduce risks through training and hazard identification and control practices. This project will replicate the methods of the previous study, updating the time period to 2012-2018.

Objectives:

- Replicate the methods of a previous IWH study (Project 1255) to determine if differences in OHS performance between unionized and non-unionized contractors observed in 2006-2012 are present in the 2012-2018.

Status: The data from WSIB and OCS (2012-2018), have been acquired and the matching of WSIB and OCS records is underway. New methods of matching records have been developed.

Researchers: Lynda Robson (Co-Principal Investigator), Cameron Mustard (Co-Principal investigator), Victoria Landsman, Desiree Latour-Villamil (Institute Coordinator), Hyunmi Lee

Collaboration and Partnerships Partners in this project include the construction sector, various union organizations, and policymakers.

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

Publications: None to date

Presentations: None to date

Funding: Robson L, Mustard C. Occupational health and safety performance in unionized construction. Ontario Construction Secretariat, \$150,000 (2019- 2021).

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

Project Status: Completed

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. 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: All data collection activities were completed in 2019. Project feedback has been provided to control sites and is being prepared for the intervention sites. All data has been entered, transcribed and primary analysis has been completed. A CRE-MSD grant was awarded to accompany a set of online participatory approach resources for use in the long term care sector, a key project deliverable. All four study sites participated in video and resource development. The video was completed and available on the IWH youtube channel (<https://www.youtube.com/watch?v=LLn2wck8ZF0&t=7s>). The final report has been delivered and reviewed by the funder (MOLTSD). End-of-grant KTE is ongoing. A manuscript describing the implementation results has been submitted to a peer-reviewed journal for publication.

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:

Van Eerd D, D'Elia T, Ferron EM, Robson L, Amick B. Implementation of participatory organizational change in Long Term Care to improve safety. (Submitted)

Presentations:

Van Eerd D, D'Elia T, Ferron EM, Amick B. A sustainable participatory approach to reducing musculoskeletal injuries and slips, trips, and falls. Together We Care 2019, Toronto, Canada.

Van Eerd D, D'Elia T, Ferron EM, Amick B. A sustainable participatory approach to reducing musculoskeletal hazards in long term care facilities. PREMUS 2019, Bologna, Italy.

Van Eerd D. Implementing a participatory approach to reducing musculoskeletal hazards in long term care facilities. IWH Speaker Series 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).

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

Project Status: Ongoing

Introduction: The recommendations of the Expert Advisory Panel on Occupational Safety & Health (2010) emphasized the development of mandatory fall protection training for workers working at heights (WAH). In response to this recommendation, the Prevention Office, of the then, Ontario Ministry of Labour, implemented regulations defining training program standards and 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 use specified methods of fall protection. A training provider approved by the Prevention Office 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 administrative data describing characteristics of working at heights learners (e.g., geographic region) and trends over time in the incidence of falls from heights.
- To interview MOLTSO inspectors about the enforcement of and observed effects of the WAH standard.
- To survey construction employers on compliance with and the effectiveness of the WAH standard.
- To conduct a learner follow up study 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 members of selected trades about compliance with and effects of the WAH standard.
- To survey training providers about changes in the nature of the fall prevention training provided.

Status: The research team prepared one manuscript, which has been accepted for peer-reviewed publication, and started preparation of a second one, based on data collected in 2017-2018. Several presentations were made. In fall 2019, new survey data were collected from learners trained two years previously to investigate the maintenance of WAH knowledge gain and self-reported practice improvement. Data analysis has commenced. The quasi-experimental pre-post analysis of WSIB workers' compensation claims data was updated by adding records from 2018.

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.

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 LS, Lee H, Amick III BC, Landsman V, Smith PM, Mustard CA. Preventing fall-from-height injuries in construction: effectiveness of a regulatory training standard. (Submitted)

Evaluating Ontario's WAH Training Standard. GVCA (Grand Valley Construction Association) Journal. 2019; (May/Jun), pp. 12-13.

Presentations:

Robson LS, Mustard C. Evaluation of the implementation and effectiveness of the Ontario working at heights training standard. IWH Prevention Knowledge Exchange Group, Toronto, ON, September 13, 2019.

Robson LS, Mustard C. Evaluation of the implementation and effectiveness of the Ontario working at heights training standard. Ontario Construction Users Council, Toronto, ON, June 7, 2019.

Robson LS, Mustard C. Evaluation of the implementation and effectiveness of the Ontario working at heights

training standard. Provincial Labour-Management Health & Safety Committee (Utilities) Meeting, Mississauga, ON, June 6, 2019. (invited)

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, April 3, 2019. (invited)

Funding: Robson L, Amick B, Smith PM, Mustard CA. Evaluation of the implementation and evaluation of the Ontario working at heights training standard. Ontario Ministry of Labour, \$595,140 (2017-2019).

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

Project Status: Completed

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 completed all primary analyses and conducted a usability test of the benchmarking dashboard. We finalized the beta version of the dashboard and all supporting documentation. In collaboration with CSAM, we disseminated information to firms on how to access the dashboard and promote its use through their networks. We held our final meeting with the Project Advisory Committee to present the study results and obtain feedback for the final report write-up. We submitted the final report to the funder.

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

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

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

Publications: None to date

Presentations: None to date

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

Working conditions and health

Over the years, Institute researchers have gained expertise in analyzing large and complex data sets. These include population-based information, such as the Survey of Income & Labour Dynamics (SLID), National Population Health Survey (NPHS), the Canadian Community Health Survey (CCHS) and other Statistics Canada holdings. Through our special research agreements with the WSIB, IWH researchers have also developed an understanding and become adept in analyzing workers' compensation administrative data from Ontario and other provinces. Our work on analyzing population-level data and compensation claims focuses on gaining a better understanding of working conditions and employment relationships, and risk factors for injury and disability in the labour market. In 2019/20, we continued to examine the impact of legalization of cannabis on the occupational health and safety and productivity of workers through several projects that measure cannabis use in Canadian workplaces. As in previous recent years, we continued to explore approaches to integrating sex and gender into work and health research.

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), Cynthia Chen, Cameron Mustard, Kathy Padkapayeva

Collaborations and Partnerships: Stakeholders at the Ontario Ministry of Labour, Training and Skills Development 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 MOLTSD and the WSIB, and worker's compensation boards in other provinces.

Publications: Not applicable

Presentations: Not applicable

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

Project Status: Completed

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 program ended in the last quarter of 2019. 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:

Smith PM, Cawley C, Williams A, and Mustard C. Male/female differences in the impact of caring for elderly relatives on labor market attachment and hours of work: 1997-2015. *The Journals of Gerontology. Series B.* 2019; [Epub ahead of print].

Quinn MM, Seixas NS, and Smith PM. The power of a photograph to capture many truths in occupational health. *Annals of Work Exposures and Health.* 2019; 63(2):131-132.

Shafi R, Smith PM, and Colantonio A. Assault predicts time away from work after claims for work-related mild traumatic brain injury. *Occupational & Environmental Medicine.* 2019; 76(7):471-478.

Cawley C, Wong I, Mustard CA, Smith P. Examining gender differences in the effects of shift work and dependent children on sleep duration. Submitted for publication: *Canadian Journal of Public Health.* (submitted)

Dobson K, Gilbert-Ouimet M, Mustard CA, Smith P. BMI trajectories among the Canadian workforce and their association with psychosocial and physical work environment trajectories over 16 years. Submitted for publication: *Journal of Occupational and Environmental Medicine.* (Submitted)

Gilbert-Ouimet M, Glazier R, Brisson C, Mustard CA, Smith P. Psychosocial work factors and diabetes: what is known and what is left to know? Submitted for publication: Occupational and Environmental Medicine. (Submitted)

Presentations:

Smith P Approaches to integrating gender and sex into quantitative studies: examples from work and health. Women's Heart and Brain Health Research Network, Montreal, October 23, 2019

Funding: Smith PM. Examining gender/sex differences in the relationships between work stress and disease, work injury and the consequences of work injury. Canadian Institutes of Health Research Chair, \$400,000 (2015-2020).

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 then Ontario Minister of Labour to improve the reliability and validity of data on the health of Ontario workers. 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. 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 and workers' compensation claims 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 project obtained extracts of WSIB claims 2004-2017 (N=3,700,000) and extracts of Emergency Department records 2004-2017 (N=1,900,000) The record linkage phase was completed in Q1/2019. The overall linkage rate was 64%, with minor variations by geography and age. Temporal trends in the incidence of work-related injury/illness are broadly parallel in the two data sources. The record linkage rate deteriorated in the three-year period following the GFC (2009-2011), declining from 69% to 59% and the deterioration in the record linkage rate appeared consistent across injury severity strata (superficial, open wound, fracture). With the exception of the temporal deterioration in the linkage rate, the linkage rate was invariant by age, sex, geography, nature of injury, injury severity and injury event. Analysis is in progress to identify potential explanations that may explain the 40% of ED visits that are not linked to a compensation claim.

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, Training and Skills Development and the Ontario Workplace Safety & Insurance Board will be primary users of the knowledge arising from this project.

Publications: None to date

Presentations: None to date

Funding: Mustard C, Biswas A, Smith P. Improving information on worker health protection in Ontario. Ministry of Labour Research Opportunities Program, \$199,152 (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 have collected pan-Canadian data on workplace cannabis consumption and related perceptions from a special survey of workers before legalization.

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: Two publications were prepared using the pre-legalization baseline data and have been submitted for publication in peer-reviewed journals. Additional data analyses are ongoing.

Researchers: Nancy Carnide (Co-Principal Investigator), Peter Smith (Co-Principal Investigator), Andrea Furlan, M Frone (University at Buffalo), S Meister, A Porath (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, Training and Skills Development, 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: None to date

Presentations:

Carnide N, Smith P, Furlan AD, Breslin C, Frone M. Toking 9 to 5? Clearing the haze on cannabis consumption and perceptions in the Canadian workplace. Canadian Public Health Association's Cannabis and Public Health Forum. Ottawa, Canada. April 30 – May 1, 2019.

Carnide N. Toking 9 to 5? Clearing the haze on cannabis consumption and perceptions in the Canadian workplace. Federal Labour Program Occupational Health and Safety Advisory Committee Meeting. Webinar. Ottawa, Canada. May 9, 2019

Carnide N. Toking 9 to 5? Clearing the haze on cannabis consumption in the Canadian workplace. Cannabis Knowledge Exchange Workshop: Population Health Intervention Research on Legalization of Cannabis Catalyst Grants. Ottawa, Canada. June 11, 2019.

Carnide N. Cannabis Use and the Workplace. Occupational and Environmental Health Seminar, University of Toronto. Toronto, Canada. November 8, 2019.

Carnide N, Smith P, Furlan AD, Breslin C, Frone M. Clearing the haze on how Canadian workers use and perceive cannabis at work. Canadian Centre on Substance Use and Addiction's Issues of Substance Conference. Ottawa, ON. November 25-27, 2019.

Funding: Smith P, Carnide N, Furlan A, Slade K, Meister S, Porath A. Taking 9 to 5? Clearing the haze on cannabis consumption in the Canadian workplace, Canadian Institutes of Health Research Catalyst Grant, \$100,000 (2018-2019).

Toking 9 to 5? Examining the impact of cannabis legalization on workplace cannabis use and perceptions among Canadian workers (1376)

Project Status: Ongoing

Introduction: On October 17, 2018, cannabis use for non-medical purposes was legalized in Canada. There is the potential for cannabis use to spill over to the workplace, which could have occupational health and safety consequences. Before legalization, we conducted a survey of 2,014 workers across Canada from a wide range of industries and occupations to better understand pre-legalization workplace use patterns and perceptions. Through this study, we are continuing to collect information from this group over time after legalization and have expanded the sample to ~4,000 workers. The goal is to determine whether legalization is associated with changes in workplace use and related perceptions and norms.

Objectives:

- Evaluate the impact of cannabis legalization in Canada on cross-sectional and longitudinal patterns of workplace cannabis consumption, perceptions of risk and impact, workplace cannabis norms, and perceived availability in the workplace.
- Examine whether trends in these constructs differ according to age, sex, labour market gender roles, occupational groups, and geographic location.
- Examine the reciprocal relationship between potentially modifiable factors and workplace cannabis use over time.

Status: The baseline survey was revised in consultation with our stakeholder advisory committee and online and telephone surveys were administered between July and September 2019. A total of 4,101 completed this first post-legalization survey, including 1,099 workers who also participated in the baseline pre-legalization survey. Data cleaning and descriptive analyses have been completed with this new set of data and the first publication is being prepared.

Researchers: Nancy Carnide (Co-Principal Investigator), Peter Smith (Co-Principal Investigator), Andrea Furlan, Hyunmi Lee, M Frone (University at Buffalo), S Meister, A Porath (Canadian Centre on Substance Use and Addiction)

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, Training and Skills Development, Ontario Building Trades, Unifor, Workplace Safety North, Workplace Safety & Prevention Services, WorkSafeBC, Nova Scotia Trucking Safety Association, and Federally Regulated Employers – Transportation and Communications (FETCO).

Potential Audiences and Significance: Key audiences include employers, occupational health and safety associations and professionals, and policy makers.

Publications: None to date

Presentations:

Carnide N. IWH open speaker series presentation. "Cannabis Use Patterns and Perceptions Among Canadian Workers: Changes from Pre- to Post-Legalization". March 3, 2020.

Carnide N. Ontario General Contractors Association Leadership Conference. "Cannabis Use Patterns and Perceptions Among Canadian Workers: Changes from Pre- to Post-Legalization". March 6, 2020.

Carnide N. Cannabis in the Workplace: Use and Norms Among Canadian Employees. Work Wellness and Disability Prevention Institute. Webinar Series. March 26, 2020.

Funding: Smith P, Carnide N, Frone M, Furlan A, Meister S, Porath A. Toking 9 to 5? Examining the impact of cannabis legalization on workplace cannabis use and perceptions among Canadian workers. Canadian Institute for Health Research-Project Grant, \$554,624 (2019-2023).

Estimating the financial benefits of OHS prevention expenditures: a study of Ontario employers (1390)

Project Status: Ongoing

Introduction: An IWH project team recently completed a cross-sectional survey of a broadly representative sample of 370 employers in the province of Ontario to obtain estimates of firm-level occupational health and safety (OHS) prevention expenditures. Across all participating firms, the average OHS prevention expenditure per worker per years was estimated to be approximately \$1,400. We do not have information currently in Ontario that describes employers' assessment of the financial benefits of these OHS prevention expenditures. To estimate employers' assessments of the financial benefits of OHS prevention expenditures, we will conduct a cross-sectional survey and facilitate consensus decisions in a sample of 80-100 employers in the province of Ontario. In each participating firm, we will recruit three senior officials to participate in the project's data collection activities: the senior official responsible for health and safety, a senior director of human resource policies and a senior director of the firm's financial management. The research team will convene a consensus meeting of the three senior officials in the firm to review the firm-level prevention expenditure estimates and facilitate a discussion to obtain the firm's consensus estimate of the 'tangible' and 'intangible' benefits of prevention. The final phase of the project workplan will calculate a 'return on investment' (ROI) estimate for each participating firm (estimated financial benefits / prevention expenditures).

Objectives:

- Recruit 80-100 Ontario employers to participate in a consensus-based deliberation to obtain the employer's estimate of the tangible and intangible financial benefits of OHS prevention expenditures.
- Calculate an average estimated 'return on investment' for Ontario employers' expenditures on OHS prevention.

Status: Pilot testing of data collection methods was completed in Q1 2019/20. Employer recruitment commenced in Q2 2019/20 and will continue through spring 2021.

Researchers: Cameron Mustard (Principal Investigator), Emile Tompa, Basak Yanar

Collaboration and Partnerships: We will seek the assistance of Ontario's Health and Safety Associations in the recruitment of employers to participate in this study.

Potential Audiences and Significance: We anticipate interest on the part of the Ontario Workplace Safety & Insurance Board, the Ontario Ministry of Labour, Training and Skills Development and the Ontario Health and Safety Associations in the findings from this project.

Publications: None to date

Presentations: None to date

Funding: Mustard C, Tompa E. Estimating the financial benefits of OHS prevention expenditures: a study of Ontario employers. WSIB Grants Program, \$292,000 (2018-2020).

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 (1395)

Project Status: Ongoing

Introduction: An increasingly sedentary society has necessitated efforts to promote physical activity, and the workplace provides an ideal setting for activity promotion as >15 million Canadians spend half their days at work. However, activity at work might not confer the same health benefits as outside work. Many people might not find it possible to follow activity recommendations at work because of demanding work schedules, an inability to make work-related decisions, and unsupportive workplace environments. Furthermore, the activity patterns of men and women can be influenced by biological and social factors even when working in similar jobs. A better understanding of real-world workers' movement patterns can inform health recommendations that workers can feasibly undertake at work. Previous Canadian studies examining workers' activity patterns have generally relied on self-reported data that are subject to recall and social desirability biases; limiting accuracy and reliability. Accelerometers have created opportunities to improve surveillance and analytic research on activity and health in free-living individuals, although their use has been mostly limited to small studies. To our knowledge, no studies have objectively measured the movement patterns of a representative sample of Canadian workers. This study would provide an opportunity to examine movement behaviours both during work and non-work among a large sample of workers and gain insight into variations in cardiometabolic risk.

Objectives:

- Describe the movement patterns of Canadian workers at work and outside of work, explore differences in patterns between older and younger workers, between men and women, and identify which patterns are associated with optimal cardiometabolic health profiles.

Status: Currently completing first stage of the analysis to describe the movement patterns of workers at work and outside work.

Researchers: Aviroop Biswas (Principal Investigator), Cameron Mustard, Peter Smith, S Prince Ware (Public Health Agency of Canada)

Collaboration and Partnerships: None

Potential Audiences and Significance: This project fills an unexplored gap in our understanding of how movements are accumulated by Canadians in free-living conditions at their jobs and how they influence overall movements, and in turn cardiometabolic health. Findings will inform movement patterns that are both feasible and beneficial for workers and inform public health recommendations on whether certain movement patterns at work offer protective cardiometabolic benefits.

Publications: None to date

Presentations: None to date

Funding: Mustard C, Biswas A, 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. Canadian Institute for Health Research Project Grant, \$91,800 (2019-2020).

Cannabis and workplace fatalities: establishing a baseline in Ontario (1400)

Project Status: Ongoing

Introduction: On October 17, 2018, cannabis use for non-medical purposes was legalized in Canada. Cannabis-related workplace injuries have been identified as an important public safety metric for surveillance. Yet, there is no existing population-based data source that can readily be used to estimate the current extent of cannabis involvement in workplace injuries in Canada, nor monitor trends in involvement over time. Coroner records, which provide detailed information on the causes and circumstances of death (including toxicology), may represent an important existing source of data for measuring and identifying trends in cannabis use among fatally injured workers. Using coroner data housed at the Office of the Chief Coroner from Ontario, this study aims to assess the feasibility of using coroner data as a data source for surveillance of cannabis-related workplace fatalities.

Objectives:

- Measure the proportion of workplace fatalities that undergo toxicology testing, assess the nature and quality of data available on toxicology testing, examine the worker-, workplace-, injury- and incident-related factors associated with being tested, and describe trends over time.
- Among cases with toxicology data, estimate the nature and extent of cannabis involvement in workplace fatalities, explore variation by worker-, workplace-, injury-, and incident-related factors, and describe trends over time, comparing fatalities involving cannabis with those involving other substances and no substances.

Status: We obtained ethics approval and secured a data sharing agreement with the Office of the Chief Coroner of Ontario. In consultation with our stakeholder advisory committee and upon initial review of coroner records, we identified the key data elements to be extracted from the records. A database was developed for data abstraction. Data extraction of 90 records from 2014 to 2018 has been completed to date. Further data extraction to continue over the upcoming year.

Researchers: Nancy Carnide (Co-Principal Investigator), Peter Smith (Co-Principal Investigator), Momtaz Begum, Andrea Furlan, Cameron Mustard, Kay Nasir, L Fang (Health Canada), N Rajaram (Ontario Ministry of Labour, Training and Skills Development), M Smith (Employment and Social Development Canada, Labour Program)

Collaboration and Partnerships: Partners include Public Services Health & Safety Association, Infrastructure Health and Safety Association, Workplace Safety North, Workplace Safety & Prevention Services.

Potential Audiences and Significance: Key audiences include employers, occupational health and safety associations and professionals, and policy makers. This project will provide an assessment of the feasibility of using coroner data to measure and monitor cannabis-related workplace fatalities and initial pre-legalization information on cannabis involvement in workplace fatalities in Ontario. Where determined to be feasible, this study will establish a standardized process to support ongoing surveillance following legalization and act as a pilot to inform a larger scale study to expand data collection.

Publications: None to date

Presentations: None to date

Funding: Smith P, Carnide N, Furlan A, Mustard C, Rajaram N, Smith M, Fang L. Cannabis and Workplace Fatalities: Establishing a Baseline in Ontario. Canadian Institute for Health Research Catalyst Grant: Cannabis Research in Urgent Priority Areas, \$124,524 (2019-2020).

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 the project team was tying up this project and preparing a report for the Ministry of Labour, Training and Skills Development. The team held a workshop in the fall of 2019 to present findings and discuss recommendations going forward with a group of construction stakeholders. Analysis for the economic evaluation of best practices for silica dust and UV exposure prevention were completed and two manuscripts prepared.

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

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

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

Publications:

Mofidi A, Tompa E, Mortazavi SB, Esfahanipour A, and Demers PA. A probabilistic approach for economic evaluation of occupational health and safety interventions: a case study of silica exposure reduction interventions in the construction sector. *BMC Public Health*. 2020; 20(1):210.

Tompa E, Mofidi A, Jung Y, Song C, Jardine K, Arrandale V, Tenkate T, Davies H, Demers P. 2019. O3C. 2 A 30-year impact analysis of best practices for silica dust exposure reduction in construction: costs, benefits and hrql. *Occupational and Environmental Medicine*, 76 (Suppl 1): A25-A26. <http://dx.doi.org/10.1136/OEM-2019-EPI.68>

Song C, Jardine K, Arrandale V, Jung Y, Mofidi A, Tompa E, Tenkate T, Davies H, Demers PA. O7C. 5 Assessing the impact of intervention on future lung cancer burden among construction workers. *Occupational and Environmental Medicine*, 76 (Suppl 1): A65-A66. 2019. <http://dx.doi.org/10.1136/OEM-2019-EPI.176>

Presentations:

Tompa E. The Future Economic Burden of Cancer in Construction. Workshop on the Future Burden of Occupational Cancer in Construction. Mississauga, Ontario. November 21, 2019. Full report link: <http://www.occupationalcancer.ca/wp-content/uploads/2020/03/Future-Burden-of-Cancer-in-Construction-Workshop-Report.pdf>

Tompa E. Guest Lecture: The Business Case for Occupational Health and Safety in the Workplace. Universidad de Colombia a Bogota. October 29, 2019.

Tompa E. A 30-year Impact Analysis of Best Practices for Silica Dust Exposure Reduction in Construction: Costs, Benefits and HRQL. EPICOH 2019, Wellington NZ, April 29-May 1, 2019.

Tompa E. The Business Case for Occupational Health and Safety in the Workplace: Deep Dives into Several Case Studies. Ontario Ministry of Labour Talk, Toronto, March 13, 2019.

Mofidi A. Economic Burden of Occupational Non-Melanoma Skin Cancer and Impact Analysis of Preventive Strategies. IWH speaker series, February 11, 2020.

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

Prevention and Management of Work Disability

The Institute has been committed to the study of return to work issues for over twenty 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 2019/20, 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. In addition, we continued to explore and expand our research on compensation and the cost of work disability and financial incentives that promote the inclusion of people with disabilities within the workforce.

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Clinical treatment

Injured workers, health care providers, payers, such as the WSIB and the public, are increasingly asking for system-wide processes to improve the quality of care provided and to measure the success of care delivery. High quality care implies practices that are consistent with the best evidence of efficacy and effectiveness (from randomized trials or observational studies) as well as systematic assessment of actual health outcomes. The Institute has made major contributions towards evidence-based practice (EBP) for the most burdensome musculoskeletal conditions: low back pain, neck pain, upper extremity conditions and chronic back pain. In addition, much of the current work of our researchers in EBP is related to the Institute's role as an international Cochrane site.

Cochrane Back and Neck group: systematic reviews of the scientific literature on spinal disorders (0440)

Project Status: Completed

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 2019, the CBN was not accepting new title proposals but were working to complete existing reviews. The trials register was maintained until the CBN's information specialist took on the role of IWH librarian at the end of February 2019. QuickDecks, summary slides of our published reviews (KT tool), were updated and published on the CBN website and shared through CBN and IWH social media channels as reviews were published. Due to a lack of funding, the IWH worked throughout 2019/20 to transition the CBN group to the Cochrane Musculoskeletal Group housed in Melbourne, Australia. As of April 1, 2020, the CBN group will no longer be housed at the IWH.

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

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:

Boulos L, Ogilvie R, Hayden JA. A methodologic investigation of search methods in systematic reviews of prognostic factor studies. Submitted to Journal of the Medical Library Association (Submitted)

Hayden JA, Wilson MN, Stewart S, Cartwright J, Smith AO, Riley RD, vanTulder MW, and the Chronic Low Back Pain (LBP) IPD Meta-Analysis Group: Bendix T, Cecchi F, Costa LOP, Dufour N, Ferreira ML, Foster NE, Gudavalli MR, Hartvigsen J, Helmhout P, Kool J, Koumantakis G, Kovacs F, Kuukkanen T, Long A, Macedo L, Machado LA, Maher CG, Mehling W, Morone G, Petersen T, Rasmussen-Barr E, Ryan CG, Sjögren T, Smeets R, Staal JB, Unsgaard-Tøndel M, Wajswelner H, Yeung EW. Exercise treatment effect modifiers in persistent low back pain: An individual participant data meta-analysis of 3514 participants from 27 randomized controlled trials. British Journal of Sports Medicine. 2019 pii: bjsports-2019-101205. doi: 10.1136/bjsports-2019-101205.

Hayden JA, Wilson MN, Riley RD, Iles R, Pincus T, Ogilvie R. Individual recovery expectations and prognosis of outcomes in non-specific low back pain: prognostic factor review. *Cochrane Database of Systematic Reviews* 2019. Issue 11. Art. No.: CD011284. DOI: 10.1002/14651858.CD011284.pub2 .

Hayden JA. The impact of predatory publishing on the conduct and results of systematic reviews. *Journal of Clinical Epidemiology*. 2020 S0895-4356(19)30975-8. doi: 10.1016/j.jclinepi.2020.01.013.

Lee MS, Nielsen A, Kim T-H, Ha I-H, Harbin S, Wieland LS. Acupuncture for chronic neck pain. *Cochrane Database of Systematic Reviews* 2019, Issue 11 . Art. No.: CD013477. DOI: 10.1002/14651858.CD013477 (Protocol)

Irvin E, Greiner BA, Furlan AD, Montano C, Amick III BC, Van Eerd D, Mahood Q. Alcohol and drug screening of occupational drivers for preventing injury. *Cochrane Database of Systematic Reviews* (Submitted)

Mu J, Furlan AD, Lam WY, Hsu MY, Ning Z, Lao L. Acupuncture for chronic nonspecific low back pain. *Cochrane Database of Systematic Reviews* (Submitted)

Wood L, Ogilvie R, Hayden JA. Specifying the treatment targets of exercise interventions: do we? Submitted to *British Journal of Sports Medicine* (Submitted)

Presentations:

Hayden JA, Wilson MN, Stewart S, Cartwright J, Smith AO, Riley RD, vanTulder MW, and the Chronic Low Back Pain (LBP) IPD Meta-Analysis Group: Bendix T, Cecchi F, Costa LOP, Dufour N, Ferreira ML, Foster NE, Gudavalli MR, Hartvigsen J, Helmhout P, Kool J, Koumantakis G, Kovacs F, Kuukkanen T, Long A, Macedo L, Machado LA, Maher CG, Mehling W, Morone G, Petersen T, Rasmussen-Barr E, Ryan CG, Sjögren T, Smeets R, Staal JB, Unsgaard-Tøndel M, Wajswelner H, Yeung EW. Exercise treatment effect modifiers in persistent low back pain: An individual participant data meta-analysis of 27 randomized controlled trials. XVIth International Forum for Back and Neck Pain Research in Primary Care, Québec City, Canada, July 3-6, 2019.

Hayden JA, Wilson MN, Riley RD, Iles R, Pincus T, Ogilvie R. Individual recovery expectations and prognosis of outcomes in non-specific low back pain: A Cochrane review including meta-analysis. XVIth International Forum for Back and Neck Pain Research in Primary Care, Québec City, Canada, July 3-6, 2019.

Workshops:

Ferreira ML, Hayden JA, Ferreira PH, Bagg M, McAuley J. Network meta-analysis: what is it, and how can we use it to evaluate the evidence on spinal pain? Workshop at the XVIth International Forum for Back and Neck Pain Research in Primary Care, Québec City, Canada, July 4, 2019.

Furlan AF. Cochrane Back and Neck group pre-conference workshop. XVIth International Forum for Back and Neck Pain Research in primary care, Quebec City, Canada July 3-6, 2019,

Koes BW, Chiarotto A, Underwood M, Patel S, Hayden JA, van Tulder MW. Back to the future: building a trail bank for low back pain. XVIth International Forum for Back and Neck Pain Research in Primary Care, Québec City, Canada, July 5, 2019.

Wood L, Foster N, Hayden JA, Bronfort G. Agreeing treatment targets for future trails of exercise for back pain. XVIth International Forum for Back and Neck Pain Research in Primary Care, Québec City, Canada, July 5, 2019.

Funding: Cochrane Collaboration, \$100,000 (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 continued progress in work that examines barriers and facilitators that older workers as well as workers with disabilities face with regards to communication processes around workplace accommodations. In 2019/20, the Institute continued work on 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.

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.

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 to employers, disability managers, human resource professionals, occupational health professionals, insurers, and consumer/patient organizations.

Publications:

Gignac MAM, Kristman V, Smith PM, Beaton DE, Badley EM, Ibrahim S, Mustard CA (in press). Keeping the boomers in the labour market: A comparison of workplace accommodations, health and job outcomes among healthy older workers and those with arthritis and diabetes. *Work, Aging and Retirement*. (Accepted/forthcoming)

Gignac, M. A. M., Smith, P. M., Ibrahim, S., Kristman, V., Beaton, D. E., Mustard, C. A. (2019). Retirement expectations of older workers with arthritis and diabetes compared to workers with no chronic diseases. *Canadian Journal on Aging*, 38(3), 296-314.

Presentations:

Gignac, M.A.M., Smith, P., Ibrahim, S., Kristman, V., Beaton, D., Mustard, C. Retirement expectations of older workers with arthritis and diabetes compared to workers with no chronic diseases. Podium presentation at the Work Disability Prevention and Integration Conference 2019. June 4-7, Odense, Denmark.

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, \$176,466.00 (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.

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. Over the course of the year the analysis and manuscript preparation continued. There are currently three publications that have been submitted and are under peer review.

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

Collaboration and Partnerships: Canadian 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:

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

Presentations:

Jetha A, Shaw R, Sinden A, Mahood Q, Gignac MAM, McColl MA, Martin Ginnis KA. Work-focused interventions that promote the labor market transition of young adults with chronic disabling health conditions: A systematic review. *Work Disability Prevention and Integration Conference*. Odense, Denmark. June 4-7, 2019.

Funding: Martin Ginnis, 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. Enhancing community participation in Canadians with physical disabilities: Development, implementation and evaluation of a partnered strategy. *Social Sciences and Humanities Research Council*, \$2,643,997 (2014-2020).

Gignac, M.A.M. (Co-PI) & Jetha, A. (Co-PI). 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 (2018-2019).

Accommodating and Communicating about Episodic Disabilities (ACED) (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:

- Consolidate and enhance evidence from our Phase 1 initiative.
- Enhance existing resources and develop a new evidence-informed toolkit to better address the needs of workers with episodic disabilities and the needs of organizations to assist communication decision-making; job analysis and accommodation planning; monitoring accommodation needs over time; and to improve skills training for supervisors and HR/disability managers.
- Pilot test and implement new tools and resources in diverse workplaces; conduct cost analyses and begin developing the business case for the tools, resources and training.
- Enhance the breadth of partnerships and build capacity and infrastructure to widely disseminate the toolkit and demonstrate its broader health, employment and economic impacts.
- Develop new capacity among the next generation of researchers to engage in action-oriented research to improve the employment participation of Canadians with chronic, episodic conditions.

Status: Phase 1 (2270: “Sustainable work participation: work disability prevention and improvement of employment outcomes among those with chronic, episodic health conditions”) research is complete. A manuscript based on the key informant research has been submitted; a second manuscript based on the environmental scan of existing workplace resources is being drafted.

Phase 2 (2271: “ACED: Accommodating and Communicating about Episodic Disabilities”) activities in 2019-2020 include: development a job demands and accommodation planning tool (JDAPT); on-going pilot study of JDAPT with workers and workplace stakeholders; development of accommodations and strategies database; and review of communication literature and existing resources in preparation for development of communication tools.

With our partners, we have also been involved in a revision of the “Supporting Employee Success” tool Canada Life’s Workplace Strategies for Mental Health; the development of accommodation and disclosure resources by the Arthritis Society; and have collaborated with the Canadian Mental Health Association (CMHA) on a satisfaction survey for clients of their “Not Myself Today” program.

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, Sabrina Tonima, Dwayne Van Eerd, Gemma Woticky; 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, Mindful Employer Canada, the Multiple Sclerosis Society of Canada, the Ontario Ministry of Labour, Training and Skills Development, Realize Canada (formerly Canadian Working Group on HIV and Rehabilitation), Workplace Strategies for Mental Health (formerly the Great-West Life for Mental Health in the Workplace) 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: None to date

Presentations:

Gignac, M. A. M. Panel discussion: From evidence to policy change. Invited speaker/panel presenter at the annual End MS Conference. Calgary, Alberta. December 8-12, 2019.

Gignac, M.A.M. Challenges in accommodating mental health conditions: What workplace parties are saying. Presentation to be given at the Mental Health for All conference. Toronto, Ontario. September 23-25, 2019.

Gignac, M. A. M. Arthritis at Work: The Science Behind Accommodations. Launch of Arthritis Society resources hosted by the TD Bank. Toronto, Ontario. June 2019.

Gignac, M.A.M., Bowring, J., Breslin, C., Jetha, A., Van Eerd, D., Irvin, E., Franche, R-L., Smith, P., Tompa, E., Beaton, D., Saunders, R. Challenges in accommodating mental and physical health conditions: What workplace parties are saying. Podium presentation at the Work Disability Prevention and Integration Conference 2019. Odense, Denmark. June 4-7, 2019.

Gignac, M.A.M. Challenges in accommodating mental and physical health conditions: What workplace parties are saying. Occupational and Environmental Health speaker series presentation, University of Toronto. Toronto, Ontario. April 5, 2019.

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): \$149,950, (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) (2018-2023).

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 (2020-2023)

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. Canada Life Assurance Company, formerly Great-West Life Assurance Company. Matching Funding for the Healthy and Productive Work: Partnership Grant. \$90,000 (2019-2022).

Gignac, M.A.M. (Co-PI) & Smith, P. (Co-PI) (2019). Evaluation of the Not Myself Today program. Canadian Mental Health Association. Partnership Funding for the ACED Healthy and Productive Work: Partnership Grant. \$25,000 (2019-2020).

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, and Mustard C. Work disability management communication bottlenecks within large and complex public service organizations: a sociotechnical systems study. *Journal of Occupational Rehabilitation*. 2019; 29(4):754-763.

Presentations: None to date

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

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

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, using a mixed methods approach.
- 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: Analyses of Phase 1 data (qualitative) is largely completed. Paper and presentation preparation will begin. An in-depth, structured questionnaire has been developed using the qualitative data and will further address study objectives. An application for ethics approval by the University of Toronto Research Ethics Board has been submitted. A sample of ~2500 workers in three age groups (18-34 years, 35-49 years, 50 years and over) will be recruited and administered the questionnaire. We have contacted a survey research company to implement the survey. Survey data collection is expected to take place in spring 2020. Dr. Faraz Shahidi, the Mustard Postdoctoral Fellow, joined the research team to provide additional expertise on work precarity

Researchers: Monique Gignac (Principal Investigator), Julie Bowring, Arif Jetha, Vicki Kristman, Faraz Vahid Shahidi, 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: None to date

Presentations: None to date

Funding: Gignac, M. A. M. (PI), Kristman, V., Kosny, A., Cameron, J. Conceal or reveal? Facilitators and barriers to older workers' communication of accommodation needs in the workplace and its relationship to work outcomes. Social Sciences and Humanities Research Council, \$232,331 (2016-2021).

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: 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. Time 2 data collection is in progress. Time 3 data collection will begin in the next few months.

Researchers: Arif Jetha (Principal Investigator), 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.

Publications: None to date

Presentations:

Jetha A, Tucker L, Bowring J, Backman C, Proulx L, Kristman V, Hazel E, Perlin L, Gignac M. It Starts at Work: The Relationship Between Workplace Supports and Presenteeism Among Young Adults with Rheumatic Disease [abstract]. *Arthritis & Rheumatology*. 2019; 71 (suppl 10).

Jetha A, Tucker L, Bowring J, Backman C, Proulx L, Kristman V, Gignac M. Casting a Wide Net: Comparing Strategies for Recruiting 18-35-year-olds with Rheumatic Disease as Study Participants [abstract]. *Arthritis & Rheumatology*. 2019; 71 (suppl 10).

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 (2017-2020).

Return-to-work communication in healthcare (2315)

Project Status: Completed

Introduction: Communication between work disability parties and an injured worker is an important aspect of organizational work disability prevention and management policies and procedures. Studies indicate that work disability parties who effectively deliver messages regarding RTW to an injured worker are more likely to encourage work reintegration. To date, there exists little guidance or applied tools that can assist work disability parties on what they should say to an injured worker and how they should deliver information regarding RTW.

Objectives:

- Identify how workplace parties responsible for disability management effectively communicate RTW messages to workers with an occupational injury.
- Examine how the delivery of RTW messages influence RTW perceptions by injured workers.
- Explore insights from work disability parties and workers who have experienced an occupational injury.
- Identify how insights can be integrated into the development of an evidence-based toolkit to guide RTW communication practices?

Status: The funding for this project has been completed. The research team are currently working on completing publications and the final report.

Researchers: Arif Jetha (Principal Investigator), Monique Gignac, Cameron Mustard, C Backman (UBC)

Collaboration and Partnerships: WorkSafeBC, BC Interior Health Authority, BC Northern Health Authority, Back in Motion, BC Nurses Union.

Potential Audiences and Significance: Disability managers, direct supervisors, WorkSafeBC disability managers.

Publications: None to date

Presentations:

Jetha A. Getting the message right. Strengthening return-to-work communication within British Columbia's healthcare sector. Occupational and Environmental Health Seminar Series, Occupational Cancer Research Centre. Toronto, ON. December 6, 2019.

Funding: Jetha A, Greengrove K, Backman C, Kosny A, Gignac MAM, Mustard C. Getting the message right: Strengthening return-to-work communication in British Columbia's health care sector. WorkSafeBC Innovation at Work, \$49,838 (2018-2019).

Return to work in policing: synthesizing current practices and implementation guidance (3390)

Project Status: Ongoing

Introduction: Return to work (RTW) after injury can be challenging for the individual returning, police services and workers compensation systems. This can be the case regardless of the type of injury (physical or psychological). There is a growing scientific literature examining the most effective RTW interventions for workplaces, including a number of recent systematic reviews. However, there is a knowledge gap regarding the practical aspects of RTW for first responders. In addition, scientific research is only one source of evidence. The original definition of evidence-based practice includes practitioner expertise plus worker experience along with the best available research evidence.

Objectives:

- Describe and synthesize current RTW programs/practices along with the best available research evidence.
- Conduct interviews and focus groups with Occupational Health and Safety (OHS) practitioners, managers/supervisors, and workers within the police force to gather detailed information about current RTW practices in Ontario.
- Describe the facilitators and barriers to implementing RTW programs/practices to create an evidence-based, practical guide to support the implementation of innovative, effective RTW programs in Ontario police services.

Status: Funding was received in January 2020. A coordinator was hired, and the ethics was submitted for approval at the University of Toronto's Research Ethics Board. Team meetings have been scheduled for the calendar year and all members have been engaged. We have conducted an initial stakeholder meeting with members of various Ontario police services and police associations. The stakeholders have endorsed the project and have made suggestions regarding our proposed recruitment strategy. They have offered their support in recruiting various sized police services and study participants. Once we have ethics approval, we will prepare an organizational ethics application to the two largest police services in the province. Recruitment efforts are being discussed and we will be ready once the ethics is approved. We have prepared a literature search strategy for the rapid review component of the study. The team has had input and we will run the searches to begin the review process in parallel with the recruitment and data collection activities.

Researchers: Dwayne Van Eerd (Principal Investigator), Siobhan Cardoso, Monique Gignac, Emma Irvin, Arif Jetha, Emile Tompa, Basak Yanar, T Morose (PSHSA)

Collaboration and Partnerships: Tanya Morose (Public Services Health & Safety Association).

Potential Audiences and Significance: The primary audience is police services in Ontario. Exploring and better understanding these differences are critical to how the WSIB can target their supports for injured worker outcomes and their experiences with the workers' compensation system.

Publications: None to date

Presentations: None to date

Funding: Van Eerd D, Irvin E, Yanar B, Tompa E, Jetha A, Gignac MAM, Morose T. Return to Work in Policing: Synthesizing current practices and implementation guidance. WSIB grants program, \$209,860 (2020-2022).

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.

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: Over the first half of 2019 members from all CRWDP clusters were involved in the engagement and consultation phase in the development of the pan-Canadian Strategy for Disability and Work. The main objective for this phase was to engage and consult a broad range of organizations and individuals, especially those not involved in previous engagement, to obtain their input on the current draft strategy. This phase was conducted through the two main vehicles: an online survey and one-on-one and group consultation sessions. A total of 442 survey respondents provided their input on the draft strategy, and a total of 18 group and 26 individual sessions were held across Canada, that were attended by approximately 370 people. In addition, a policy roundtable on Pan-Canadian Strategy was held on May 28th, 2019, that was attended by representatives from most provincial governments and the federal government. Policy Roundtable participants discussed the aspects of the strategy that are relevant for the government and provided advice on the agenda for the December 2019 conference. The feedback from the DWC National Conference in 2018, consultations and the 2019 Policy Roundtable has been reviewed and consolidated, and a revised draft of the strategy was discussed at the Disability & Work in Canada National Conference in Ottawa on 4-5 December 2019. The 2019 conference focused on identifying key initiatives that could quickly and effectively be implemented, thereby building momentum for the strategy.

Over 2019, CRWDP Student and New Researcher activities continued to develop, with six CRWDP Webinars held over this year. CRWDP former students join the new generation of researchers who move forward the research in workplace diversity and work disability policy.

In 2019 we continued to develop CRWDP website to provide resources to CRWDP partners and stakeholders, including quarterly e-alerts, reports from Seed Grants and other CRWDP projects, materials and presentation videos from yearly DWC conferences. Sabrina Imam who joined the National Office in 2019, conducted a major update to the CRWDP website to make it more accessible and navigable.

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:

Tompa E, Samosh D, Boucher N. Skills Gaps, Underemployment, and Equity of Labour-Market Opportunities for Persons with Disabilities in Canada. Report prepared for Public Policy Forum on behalf of the Future Skills Centre at Ryerson University, 26p. January 28, 2020. Available at: <https://ppforum.ca/wp-content/uploads/2020/01/SkillsGap-Disabilities-PPF-JAN2020-Feb6.pdf>

Presentations:

Tompa E, Farquhar A, Haan M, Hawkins K, Mantis S, Padkapayeva K, Saunders R, Winkler M. (Planning Committee). Policy Roundtable on Pan-Canadian Strategy for Disability and Work. Ottawa, Ontario. May 28, 2019. Executive Summary available at: [Policy Roundtable Executive Summary \(PDF\)](https://www.crwdp.ca/sites/default/files/19_08_22_policy_roundtable_report_revised_exec_summary.pdf)
https://www.crwdp.ca/sites/default/files/19_08_22_policy_roundtable_report_revised_exec_summary.pdf

Tompa E, Yazdani A. Development of a Work Disability Prevention Management System Standard for Employers, Poster Presentation. WDPI 2019, Odense, Denmark, June 4-7, 2019.

Tompa E, Haan M. Pan-Canadian strategy on disability and work. 30th Annual Schedule 2 Employers' Group Conference. Richmond Hill, ON, October 22, 2019

Tompa E. The New Workplace Disability Management System Standard (CSA Z1011). Presentation given to the IWH Network Forum on Work Disability Prevention. Toronto, Ontario. November 27, 2019.

Tompa E, Mofidi A, Jetha A, Lahey P, Buettgen A. Chair and Presenter. Estimation of the Societal Benefits of an Accessible and Inclusive Canada. Disability and Work in Canada: Strategy-in-Action Conference. Ottawa, Ontario, December 4-5, 2019.

Tompa E. Work Disability Prevention Management System Standard Development Project. Presentation given to the IWH Board of Directors. Toronto, Ontario. December 2, 2019.

Farquhar A, Haan M, Hawkins K, Mantis S, Padkapayeva K, Saunders R, Tompa E, Winkler M (Planning Committee, listed in alphabetical order by last name). Disability and Work in Canada National Conference 2019. Ottawa, Ontario. December 4-5, 2019. List of presentations available at: [Disability and Work in Canada Conference 2019](http://www.crwdp.ca/en/national-conference-2019-disability-and-work-canada) <http://www.crwdp.ca/en/national-conference-2019-disability-and-work-canada>.

Farquhar A, Haan M, Hawkins K, Mantis S, Padkapayeva K, Saunders R, Tompa E, Winkler M (Planning Committee, listed in alphabetical order by last name). Pan-Canadian Strategy for Disability and Work. 2019. Revised strategy prepared by the Disability and Work in Canada Steering Committee. 19p. Available at: [DWC Strategy: Moving Forward Together \(PDF\)](https://www.crwdp.ca/sites/default/files/dwc_strategy_-_moving_forward_together.pdf) https://www.crwdp.ca/sites/default/files/dwc_strategy_-_moving_forward_together.pdf

Farquhar A, Haan M, Hawkins K, Imam S, Lahey P, Mantis S, Padkapayeva K, Saunders R, Tompa E (listed in alphabetical order by last name).. Disability and Work in Canada Consultation Report. 2019. Report prepared by the Disability and Work in Canada Steering Committee. 37p. Available at: [DWC Consultation Report \(PDF\)](https://www.crwdp.ca/sites/default/files/dwc_consultation_report.pdf)
https://www.crwdp.ca/sites/default/files/dwc_consultation_report.pdf

Funding: Tompa E, MacEachen E. (Co-Directors), Baril-Gingras G, Bornstein S, Boucher N, Breslin C, Calvert J, Cooke G, Côté P, Coutu MF, Dawe D, de Boer C, Dewa C, Durand MJ, Facey M, Gewurtz R, Grignon M, Hanes R, Heymann J, Holness L, Jennissen T, Koehoorn M, Laberge M, Latimer E, McLeod C, Montreuil S, Neis B, Noël A, O'Campo P, Ostry A, Premji S, Provencher Y, Rioux M, Saunders R, Scott-Marshall H, Shaw L, Small S, White M, Zeytinoglu I (37 Co-Investigators), Bernier J, Finkler E, Franche RL, Helfand N, Ison T, King A, Lippel K, Loisel P, MacAhoic P, Mendelson M, Stapleton J, Torjman S (12 Collaborators). (Total of 49 co-investigators and collaborators and 45 partner organizations). Income Security and Labour-Market Engagement: Envisioning the Future of Disability Policy in Canada. Social Sciences and Humanities Research Council of Canada Partnership Grant. \$2,760,782 (2013-2019).

Assessment of the human and economic burden of workplace cancer (2205)

Project Status: Ongoing

Introduction: There is now an increasing awareness of how occupational exposures can give rise to cancer, despite long latency that has historically prevented attribution of the cancer to work. In particular, there is a growing interest in better understanding the extent of occupational cancers and their economic burden to society. Yet assessing the economic burden of occupational cancer has rarely been performed. This is likely due to the challenges associated with such a task. One of the challenges is methodological. There is little standardization of methods and some uncertainty related to conceptual issues. Data availability is another challenge. It is difficult to identify sources with the range of data needs. The objective of this study is to estimate the economic burden of occupational cancer in Canada. Morbidity and mortality burden will be estimated separately before aggregation. Both types of cases will include lifetime costs associated with medical expenses, market productivity losses, and losses in health related quality of life.

Objectives:

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

Status: In 2019, the project team has focused on completing analyses, presentations, and manuscript preparation. The two analyses of focus were one on “Occupational Exposure to Wood Dust and the Burden of Nasopharynx and Sinonasal Cancer in Canada” led by Mofidi and another on “Solving One Side of the Equation: The Economic Burden of Stomach Cancer Due to Occupational Exposure” led by Young Jung. These manuscripts will be submitted in the spring of 2020. A workshop was held in November 2019 for stakeholders in the construction sector that drew on some of the case costing from this project but was focused on the evaluation of best practices implementation from 2020-2050 in the Ontario construction sector (Project 2285).

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

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:

Occupational Cancer Research Centre. Burden of Occupational Cancer in Canada: Major Workplace Carcinogens and Prevention of Exposure, September 2019. Available at: http://www.occupationalcancer.ca/wp-content/uploads/2019/09/OCRC_National-Burden-Report_2019.pdf

Tompa E, Kalcevich C, McLeod C, Lebeau M, Song C, Kim J, Demers P. 2019. O3B. 6 The economic burden of work-related asbestos exposure. Occupational and Environmental Medicine, Apr 1;76 (Suppl 1): A25.
<http://dx.doi.org/10.1136/OEM-2019-EPI.66>

Presentations:

Tompa E. The Future Economic Burden of Cancer in Construction. Workshop on the Future Burden of Occupational Cancer in Construction. Mississauga, Ontario. November 21, 2019. Link:
<http://www.occupationalcancer.ca/wp-content/uploads/2020/03/Future-Burden-of-Cancer-in-Construction-Workshop-Report.pdf>

Tompa E. Guest Lecture: Economic burden of work-related injury and illness: Methods and applications; Universidad de Colombia a Bogota. October 28, 2019.

Tompa E. The Economic Burden of Work-Related Asbestos Exposure. EPICOH 2019, Wellington NZ, April 29-May 1, 2019

Funding: Demers P, Davies H, Kramer D, Tompa E. Assessment of the Human and Economic Burden of Workplace Cancer. Canadian Cancer Society Research Institute (CCSRI), \$1,000,000 over 4 years. Sub project: Tompa E, Hyatt D, McLeod C. Estimation of Economic Burden, \$256,635 (2013-2016).

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: In 2019, space for a special issue of the journal *Equality, Diversity and Inclusion* was secured for the fall of 2020. The centrepiece article will be a conceptual framework for the cost of exclusion of 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, has taken over this project from Young Jung, as part of his postdoctoral research program. Another PhD candidate from Queen's University, Dan Samosh, is also working on the initiative. The journal special issue will include contributions from academics from around the world.

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

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

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

Publications:

Tompa E, Samosh D, Santuzzi A. The Benefits of Inclusion: Disability and Work in the 21st Century, development and guest editorship of a special issue of the journal *Equality, Diversity and Inclusion*. (Forthcoming)

Presentations: None to date

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

Financial incentives to promote employment of people with disabilities: when and how do they work best? (2295/2296/2297)

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 merit 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. 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.
- To create guidelines for how financial incentives should or should not be used to increase employment opportunities for people with disabilities.

Status: Phase two of the grant was completed in the fall of 2019 and a report created for the funder. In addition to receiving funding for Year 3 of the Ontario grant, the team were also successful in receiving federal funding for 3 years in order to expand the scope of the project across Canada.

Researchers: Emma Irvin (Principal Investigator), Heather Johnson, Cindy Moser, Kathy Padkapayeva, Emile Tompa, M Haan (Canadian Council on Rehabilitation and Work), R Gewurtz (McMaster University)

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

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

Publications: None to date

Presentations: None to date

Funding: Irvin E (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 (OHCRI), \$49,016 (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 (OHCRI), \$49,941 (2018-2019).

Gewurtz R, Tompa E (Co-PIs), Irvin E, Moser C, Padkapayeva K, Haan M, MacDonald M, Saouab A. Financial incentives to promote employment of people with disabilities: when and how do they work best? SSHRC- Social Sciences and Humanities Partnership Development Grant, \$189,039 (2019-2021).

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 WSIB 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. 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. A presentation of these findings on earnings recovery and benefits adequacy was given to WSIB senior policymaker in March 2020. The project end data was extended to December 2020 to allow for completing of several analyses, include poverty, earnings trajectories and some independent analyses by a graduate student and a postdoctoral fellow.

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

Collaboration and Partnerships: Not applicable

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: None to date

Presentations:

Tompa E, Mustard C, Saunders R, Liao Q. Tracking long-term outcomes of injured workers in Ontario to better target supports. Presentation to WSIB Senior Policymakers. Toronto, Ontario, March 2020.

Tompa E, Mustard C, Liao Q. Earnings Recovery Following Permanent Impairment from a Work Injury. 2019 Work Disability Prevention and Integration (WDPI) Conference, Odense, Denmark, June 4-7, 2019.

Tompa E, Hogg-Johnson S, Amick B, Liao Q. Labour-market Earnings Recovery Following Permanent Work Disability: An Evaluation of Return-to-work Success under Three Regimes. 2019 Work Disability Prevention and Integration (WDPI) Conference, Odense, Denmark, June 4-7, 2019.

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 (2018-2020).

Ontario injured workers outcome study (2320)

Project Status: Ongoing

Introduction: The purpose of this study is to describe the long-term outcomes affecting people with work related injuries or illnesses after they are no longer engaged with the Ontario workers' compensation system. The study will compare health and labour market outcomes 18 months following a work-related injury or illness among three groups of claimants: those with relatively quick resolution of their claim, claimants with longer time to resolution, and claimants with prolonged claim activity. Second, we will compare health and labour market outcomes of the three groups of workers' compensation lost-time claimants to two similar cohorts of injured workers (a historic one from Ontario and a more contemporaneous one from another jurisdiction) and to a cohort of Ontario workers with similar occupational and demographic characteristics who have not recently experienced a work-related injury or illness. The aim of this study will be to identify factors associated with positive and negative labour market and health recovery outcomes and to determine if there are particular groups of workers who are at most risk for poor labour-market and health recovery outcomes.

Objectives:

- Develop an interviewer-administered questionnaire to collect information in the following domains: (1) Return to work and labour market status; (2) sources of income; (3) function, recovery and other health outcomes; (4) perceptions of the fairness of the claim and RTW process; (5) interactions between the claimant, their workplace and their healthcare providers; and (6) basic socio-demographic characteristics and pre-injury information on occupation, earnings, industry and workplace size.
- Recruit 1,200 lost-time claim beneficiaries to participate in an interviewer-administered survey. Followed by linking survey responses to WSIB administrative records.
- Conduct descriptive and regression analyses to identify the modifiable and non-modifiable factors within the OIWOS cohort that are associated with poor health and recovery outcomes at 18 months and that are associated with better or worse labour market outcomes at 18 months.

Status: As of January 2020, approximately 800 interviews have been completed, with a 65% participation rate. Primary data collection will be completed in May 2020. Preliminary data management procedures are in progress.

Researchers: Cameron Mustard (Principal Investigator), Nancy Carnide, Colette Severin, Peter Smith, Emile Tompa

Collaboration and Partnerships: IWH has a long history of successful collaboration with the WSIB in support of program and service delivery evaluation, reform and improvement. We have high expectations that this work will return important benefits to the design and administration of WSIB claimant services.

Potential Audiences and Significance: The findings from this project will be of interest to representatives of injured workers and administrators of work disability insurance programs in Canada.

Publications: None to date

Presentations: Progress report presentation, February 12, 2020. Ontario Workplace Safety & Insurance Board.

Funding: Mustard CA, Smith PM, Tompa E. Ontario Injured Workers Outcome Study. WSIB Grants Program, \$590,298 (2019-2021).

What is the extent and nature of claim suppression in British Columbia? (2325)

Project Status: Ongoing

Introduction: Claim suppression undermines confidence in the workers compensation system. For workers who lose out on benefits, claim suppression is plainly unfair. Claim suppression by a small minority of employers confers an unfair competitive advantage and penalizes the vast majority of employers that fulfill their legal responsibilities. Claim suppression also distorts experience rating by corroding the empirical basis for rate determination. It is therefore important to the integrity of a public compensation system that claim suppression be identified and curtailed. There are, however, no data on the incidence of claim suppression in British Columbia, nor are there data to guide enforcement measures. This project, a collaboration between the Institute for Work and Prism Economics, will aim to address this gap.

Objectives:

- To estimate the nature and approximate extent of claim suppression in the B.C. workers' compensation system.

Status: Study progress has included the design of the risk analytics template to collect and analyse claims from WorkSafeBC. WorkSafeBC personnel have entered the claims data into the template and IWH researchers have completed a preliminary analysis of the claims data. Further analysis and reporting on the claims data is underway. In addition, a worker survey was conducted. The analysis of these data are also underway. A secondary survey of employers was designed and finalized. The employers survey is currently being administered in British Columbia.

Researchers: Ron Saunders, John O'Grady (Prism Economics), Cameron Mustard

Collaboration and Partnerships: Prism Economics, Ipsos (survey administration)

Potential Audiences and Significance: The main potential user is WorkSafeBC, the results of the research may be useful in determining whether any policy changes may be warranted regarding claim suppression. The results would likely be of interest to stakeholders involved in workers' compensation issues in British Columbia, including employers, employer associations, unions, and injured workers groups. We will work with WorkSafeBC to identify knowledge users with whom results would be shared.

Publications: None to date

Presentations: None to date

Funding: 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 (2019-2020).

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 2019/20, the Institute began work on two new important research areas. The first is a project that will work on a paramedic standard that will provide guidance to systematically manage work disability prevention activities within Paramedic services. The second, is a project that explores and examines the future of work for young Canadian with disabilities using a strategic foresight methodology.

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 are currently conducting a systematic review of all the studies that have themselves reviewed the measurement properties of an instrument. We are completing the full article reviews adding over 250 such reviews to our repository. We have a detailed description of the methods used in each of these reviews documenting the tools used for appraisal, setting standards for achievement for a measurement property and how they synthesize their results. 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. 2019 saw key publications published, with 23 citations since their publication in August 2019. Kelley's Rheumatology chapter was completed and printed this year with considerable updates to the Outcome Measurement chapter (led by Beaton). 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, Sheilah Hogg-Johnson, Emma Irvin, Peter Smith, Michael Swift, Dwayne Van Eerd, K Bingham (University of Toronto), K Cullen (Memorial University, Newfoundland and Labrador), L Engel (University of Manitoba), E Pinsker (PhD Candidate, University of Toronto), Z Touma (University of Toronto), Core OMERACT methods team (P Tugwell and G Wells, University of Ottawa; M Boers, Netherlands) and OMERACT Secretariat staff (L Maxwell, B Shea, S Grossleg) in Ottawa.

Collaborations and Partnerships: Partners in this project include users of the instruments we support, clinicians, researchers, trainees, and students, as well as international 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, Maxwell LJ, Shea BJ, Wells GA, Boers M, Grossleg 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 Aug;46(8):1028-1035.

Maxwell LJ, Beaton DE, Shea BJ, Wells GA, Boers M, Grossleg 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. 2019 Aug;46(8):1014-1020.

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. 2019 Aug;46(8):1021-1027.

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Future-proofing young Canadians with disabilities for the changing labour market (2330)

Project Status: Ongoing

Introduction: In industrialized countries the future of work is characterized by rising automation and digitization of jobs, increased exposure to precarious work, growing employment in the gig and sharing economies, and ecological and sociopolitical changes. The future of work has the potential to create new challenges that disproportionality affects vulnerable labor market subgroups including young workers and people living with disabilities. We apply strategic foresight methodologies to systematically examine the future of work as it relates to young people with disabilities. Findings will inform the design of future-proofed policies and programs for young people with disabilities, that can be implemented in the present, to address the anticipated shocks and stresses of the future of work. Designing strategies that anticipate changes in work and labor market conditions represents an important direction in social and public health policy that can shape pathways to better health for the working population.

Objectives:

- Frame the work experiences of people with disabilities, and examine the personal, health and work context factors that are related to employment. As part of the first objective, we will also examine the policies and programs that support labor market activity for people with disabilities.
- Identify technological, sociopolitical, environmental and economic signals of change that characterize the future of work for the employment of people with disabilities.
- Develop scenarios regarding the future of work for people with disabilities that draw from a synthesis of signals of change and account for the personal, health and work context factors that influence employment participation.
- Rank the impact of existing policies, programs, strategies that support the employment of people with disabilities within the context of each alternative future scenario and develop medium- and long-term recommendations that are relevant to each scenario.

Status: We are mid-way through an expansive horizon scan of the various trends that characterize the future of work and their impact on vulnerable labour market subgroup. Trends included in our review include the impact of digital technologies, automation of work, artificial intelligence applications, globalization, climate change, among others. To date, we have completed 25 interviews with young people living with disabilities on their perceptions regarding the future of work. We are currently coding interviews. In addition, we have completed a methods paper that is under review in the journal *Technological Forecasting and Social Change* (impact factor = 3.815). We have submitted three grant applications that grow directly from preliminary findings from this research.

Researchers: Arif Jetha (Principal Investigator), Monique Gignac, Ali Shamaee, Peter Smith, Emile Tompa

Collaboration and Partnerships: Employment and Social Development Canada Government of Canada, Canadian Council for Rehabilitation and Work, Civic Innovation Office, City of Toronto, Nextbillion.org, The Knowledge Society, Education at Work Ontario.

Potential Audiences and Significance: Policy makers, people with disabilities, employers, social innovation groups, employment service providers. This work will inform future-proofing policies and programs that support young people with disabilities.

Publications:

Jetha A et al., (2020). Strategic foresight to examine the future of work for young people with disabilities: Research protocol. *Technological Forecasting and Social Change*. (Submitted)

Jetha A., (2020). The future of work will hit vulnerable people the hardest. *The Conversation*. Available at: <https://theconversation.com/the-future-of-work-will-hit-vulnerable-people-the-hardest-131963>

Presentations:

Jetha A. School-to-work transition of young people with disabilities: State of science. Disability and Work Conference. Ottawa, ON. December 4-5, 2019.

Funding: Jetha A, Banks C, Bonaccio S, Bultmann U, Gignac M, Norman C, Smith P, Tompa E, Tucker L. Future-Proofing young Canadians with disabilities for the changing labour market. Tri-agency Institutional Programs Secretariat: New Frontiers in Research Fund, \$270,424 (2019-2022).

Canadian work disability prevention standard for paramedics with PTSI (3400)

Project Status: Ongoing

Introduction: The prevention and management of workplace disability (focused on tertiary and secondary prevention) is a significant challenge for Paramedic services. It also has an impact beyond the workplace affecting individuals in paramedic families, and communities. This project involved the development, promotion, and dissemination of a nationally applicable Canadian Paramedic Work Disability Prevention Standard and related tools to help prevent and manage work disability associated with post-traumatic stress injury (PTSI) of Paramedics; help prevent psychological harm from workplace exposures; and build the capacity of Paramedic services to address the psychological health and wellbeing of Paramedics. This project was designed to address several recommendations from a House of Commons discussion on supporting public safety officers, in October 2016. The proposed Standard and related tools will provide an innovative approach to preventing and managing PTSI systematically, by addressing it in a strategic, coordinated, and broad organizational management framework. This contrasts with the ad-hoc, piecemeal approaches that are commonplace. The Standard will provide guidance to systematically manage work disability prevention activities within Paramedic services. It will include a framework for the management of work disability prevention and management, and for hiring and retaining workers with mental and physical disabilities. It will be designed to be integrated with other related frameworks such as CSA Z1003.1 Paramedic Psychological Health and Safety in the Workplace (focused on primary prevention) which is currently under development.

Objectives:

- Synthesize evidence on work disability management systems in the peer reviewed and grey literatures to help inform the development of a Canadian standard for paramedic on work disability prevention.
- Undertake a needs assessment of paramedic organization in the area of work disability management and prevention of PTSI and mental health.
- Develop, promote and disseminate a nationally applicable Canadian standard for paramedics on work disability prevention.
- Develop guidance and tools to facilitate uptake of the standard in paramedic organizations across Canada.

Status: Over the last year the research team completed three research modules. The three modules are a scoping review of peer-reviewed studies, an environmental scan of grey literature, and a needs assessment field study. These modules are inputs into the development of the paramedic standard. They have been used to inform the development of a seed document, which will serve as the foundation for the standard. The seed document was also completed during the year. A call for expressions of interest to sit on the Technical Committee (TC) that will develop the standard was released in December 2018. Since the close of the call, the standard development committee has met several times to select members for the TC. The committee has been formed, and the first meeting is scheduled for the spring of 2020. The standard is to be developed over a 12-month period over the 2020-2021 time period.

Researchers: Emile Tompa (Co-Principal Investigator), Amin Yazdani (Co-Principal Investigator, Conestoga College), Sabrina Imam, Emma Irvin, Dwayne Van Eerd, R Meyers, N Islic (CSA Group)

Collaboration and Partnerships: Conestoga College, CSA Group, Country of Renfrew Paramedic Services, Paramedic Chiefs of Canada, Paramedic Association of Canada.

Potential Audiences and Significance: Paramedics and paramedic organizations across Canada and other first responders such as police, firefighters and military personnel.

Publications:

Tompa E, Imam S, Padkapayeva K, Tiong M, Yazdani A, Irvin E. Scoping review of programs and practices for the prevention and management of post-traumatic stress injuries and other mental health conditions in paramedic service organizations. Report prepared for Defense Research and Development Canada (DRDC), March 2020. 51 pp.

Du B, Yung M, Gruber J, Tompa E, Yazdani A. Prevention & Management of PTSD in Paramedic Service Organizations: An Environmental Scan of Recommended Programs and Practices. Report prepared for Defence Research and Development Canada (DRDC), March 2020. 58 pp.

Du B, Yung M, Gruber J, Tompa E, Yazdani A. Work Disability Management of PTSD in Paramedic Service Organizations: A Needs Assessment. Report prepared for Defence Research and Development Canada (DRDC), March 2020. 48 pp.

Canadian Work Disability Management System Standard for the Prevention and Management of Post-Traumatic Stress Injury (PTSD) within Paramedic Service Organizations: A Seed Document. Report prepared for Defence Research and Development Canada (DRDC), 69 pp.

Presentations:

Tompa E. Work Disability Prevention Management System Standard Development Project. Presentation given to the IWH Board of Directors. Toronto, Ontario. December 2, 2019.

Tompa E. The New Workplace Disability Management System Standard (CSA Z1011). Presentation given to the IWH Network Forum on Work Disability Prevention. Toronto, Ontario. November 27, 2019.

Tompa E. Guest Lecture: 1) The Business Case for Occupational Health and Safety in the Workplace: Research Trends and Challenges; 2) Economic burden of work-related injury and illness: Methods and applications; 3) Work Disability Prevention Management System Standard Development Project. Universidad de Colombia a Bogota. October 25 – November 2, 2019.

Funding: Yazdani A, Meyers R, Tompa E. (Co-Leads). Canadian Work Disability Prevention Standard for Paramedics with PTSD. Defense Research and Development Canada, \$772,720 (2019-2023).

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 approach the 25th 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. We have decided to engage in a review of the DASH literature since its development. We embarked on a comprehensive review of the literature and identified over 4000 articles that spoke about the DASH. We will have over 300 articles that are specifically focusing on testing the DASH or using the DASH as a "gold standard" to test newer measures. Once amassed, we are working on creating useful reviews for several different disorders, as well as one large review and repository of the DASH Outcome Measure information. Our goal is to create an accessible repository so that DASH users can access it to answer their queries.

This year we also embarked on a review of the content validity of the DASH Outcome Measure. As times change, so too does the relevance of the content – changing lightbulbs is not done as regularly, and high thumb use on smart phones is likely not captured. This study will sample a variety of persons with different upper limb disorders, as well as clinicians and researchers, and ask them their opinion about the content of the DASH. The study protocol and survey are complete, and it will be fielded in the new year.

Researchers: Dorcas Beaton (Institute Coordinator), Claire Bombardier, Selahadin Ibrahim, Niki Sir, 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. We are using this review for student research 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: None

Presentations: None

Foundation Programs

There are two main areas within the Foundations Program whose scope of activities may crosscut 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.

The Systematic Review program provides an overview of the evidence from higher quality studies on a specific research question. It provides a source of methodological expertise and data management at the Institute. The Systematic Review program conducts the exploration, development and implementation of research methodologies with new approaches to accessing, collecting, analyzing, interpreting, storing and maintaining the security of our data.

The Institute's Foundation program provides continuity and training across the organization in maintaining issues of privacy, confidentiality and data security.

Foundation Programs

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Workplace Safety & Insurance Board data routine statistics (0845)

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 2019-2020, the team of analysts validated the data in the new WSIB data holdings at the Institute. The procedures to access the WSIB data holdings were discussed. In addition, the analysts discussed ad-hoc access of WSIB data requests and developed further knowledge of the new WSIB data holding

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.

Objectives:

- To teach systematic review methods
- To update Cochrane reviews and develop a database of prognosis reviews.
- To write papers on SR methodologies.

Status: In the Winter term of 2020 the group successfully ran a course at the University of Toronto Rehabilitation Sciences Institute for PhD and MSc students. A Cochrane protocol for a systematic review of studies developing and/or evaluating search strategies to identify prognosis studies was updated and accepted for publication. The team also conducted a scoping review on the cost of shift work for NIOSH. The team initiated a paper on the use of Artificial Intelligence in Systematic Reviews.

Researchers: Emma Irvin (Institute Coordinator), Dwayne Van Eerd (Institute Coordinator), Nancy Carnide, Andrea Furlan, Joanna Liu, J Hayden (Dalhousie University), J Jordan (Keele University), R Parker (Dalhousie University), M Van Tulder (EMGO, Amsterdam), I Wong (CDC/NIOSH)

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: Not applicable

Presentations: Not applicable

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: All project work has been completed.

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 A, Mahood Q, Gignac MAM, McColl MA, Martin Ginis MA. (2019) Work-focused interventions that support the labour market transition of young adults with chronic disabling health conditions: A systematic review. *Occupational & Environmental Medicine*, 76(3), 189-198.

Presentations:

Jetha A, Shaw R, Sinden A, Mahood Q, Gignac MAM, McColl MA, Martin Ginis KA. Work-focused interventions that promote the labor market transition of young adults with chronic disabling health conditions: A systematic review. *Work Disability Prevention and Integration Conference*. Odense, Denmark. June 4-7, 2019.

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. Sub project: Jetha A, Gignac A. Supporting the employment participation of Canada disabled young adults: scoping review, \$4,400 (2018-2019).

Do work exposures differ for men and women? Do similar exposures result in different work-related health outcomes for men and women? (3230)

Project Status: Ongoing

Introduction: Male and female differences in the area of work and health can manifest in two different ways: (1) there can be differences across gender/sex groups in the incidence and prevalence of work exposures or work-related health outcomes (e.g. men are exposed to greater noise exposures at work than women, women have higher rates of upper body repetitive movement injuries than men); or (2) the relationship between work exposures and outcomes can differ for men and women (e.g. the relationship between low job control and hypertension is stronger for men than for women; the relationship between shift work and work injury is stronger for women than for men). In turn, the policy responses to research in these two areas will differ. Where men or women have different levels of work exposures or health outcomes, prevention approaches should focus on reducing gender/sex inequalities. However, where the relationship between exposure and outcome differ the prevention approaches need to be gender- or sex- specific. As policy makers become increasingly interested in taking gender/sex differences into account in primary prevention approaches there is a need to summarise existing research evidence concerning inequalities in exposures and health outcomes that exist between men and women.

Objectives:

- Conduct a systematic review (using narrative and best-evidence syntheses methods) of existing evidence regarding sex and gender differences in exposures to workplace hazards and work-related health outcomes.
- Identify gaps, inconsistencies in areas related to working conditions and their health impacts where male and female differences exist to guide research and primary prevention activities.

Status: Currently completing the quality assessment phase of the systematic review and will begin data extraction in the first quarter of 2020.

Researchers: Aviroop Biswas (Principal Investigator), Emma Irvin, Peter Smith, M Koehoorn (University of British Columbia)

Collaboration and Partnerships: UNIFOR, BC Trucking Association.

Potential Audiences and Significance: Key audiences of this research include labour organizations and employer associations, governmental agencies, e.g. ministries of labour and workers' compensation and workplace parties as well as groups with interest in gender and sex issues. This project will provide knowledge-users with comprehensive information on the contexts in which gender/sex inequalities to work exposures and health outcomes arise; and where gender-specific approaches to the prevention of work injury and illness may (and may not) be required.

Publications: None to date

Presentations: None to date

Funding: 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? WorkSafe BC Specific Priorities/Systematic Reviews 2018, \$76,091 (2019-2020).

Developing recommendations for an integrated workplace health protection and health promotion approach (3270)

Project Status: Completed

Introduction: Workplace health promotion (WHP) programs that also emphasize correcting workplace hazards through occupational health and safety (OHS) activities have greater worker participation rates and reduced injury rates than those that focus on OHS or individual behaviour change alone, while coordinating OHS and WHP efforts rather than competition for resources provides good resource stewardship, benefiting the broader organization. In 2011, various international agencies endorsed an integrated approach (an example is the US National Institute for Occupational Safety and Health's Total Worker Health® approach). Yet there is little guidance for employers on how an integrated strategy can be implemented. Instead, available guidance considers OHS and WHP activities as separate entities. We propose that this can be done by better integration of OHS and WHP practices in ways that more proactively and comprehensively address worker health and safety activities.

Objectives:

- Conduct a scoping review of existing peer-reviewed and non-academic literature, documenting existing approaches to the integration of OHS and WHP policies and practices.
- Identify challenges, successes and outcomes of integrated approaches.
- Integrate feedback and insight from researchers and partners to identify key processes and guiding principles that need to be addressed by workplaces to integrate OHS and WHP activities.

Status: Over the course of 2019, the project completed the scoping review of existing peer-reviewed and grey literature. A workshop was held in Edmonton to share the key messages and gain practical stakeholder feedback and expertise on the subject. In addition, a group of stakeholders participated in an exercise to rank the literature and practical feedback from the workshop. The project findings were shared during an open Speaker Series presentation which was also broadcast online and is now available for download as a slidecast on the IWH website. The final report to the funder is in preparation along with a manuscript.

Researchers: Aviroop Biswas (Principal Investigator), Momtaz Begum, Monique Gignac, Peter Smith, Dwayne Van Eerd

Collaboration and Partnerships: Graham Lowe Group, Alberta Health Services, Energy Safety Canada, Alberta School Employee Benefit Plan, Hale Health, Stantec, University of Alberta, EWI Works, Northern Alberta Institute of Technology, Alberta Labour.

Potential Audiences and Significance: This research will provide implementable guidance that employers can use to enhance the safety and well-being of workers and sustain high levels of productivity through an integrated worker health approach. Findings will inform future project phases to develop assessment tools, recommend strategies for low performing workplaces to improve practices, and evaluate the impact of practices on worker health.

Publications: None to date

Presentations:

Biswas A (Panelist). Promoting wellness, managing attendance: What is the scope? What are the limits. Lancaster House Audio Conference. Lancaster House Audio Conference, Toronto, Canada. September 20, 2019.

Biswas A. Developing practical recommendations for integrating workplace safety and wellness initiatives. Open Plenary, Institute for Work & Health, Toronto, Canada. February 18, 2020.

Funding: Biswas A, Smith P, Gignac M, Van Eerd D. Developing recommendations for an integrated workplace health protection and health promotion approach. Alberta Labour OHS Futures 2018 Competition, \$49,363 (2018-2019).

Instruments for assessing permanent psychological impairment (3275)

Project Status: Ongoing

Introduction: Permanent impairment refers to a situation where a worker has been unable to fully recover from their work-related injury and is left with a permanent residual disability that will impact their future earnings and prospects of promotion. It is important when assessing the presence and level of impairment, that this assessment can be performed reliably and accurately. There are numerous scales that have been proposed to measure permanent impairment due to a psychological condition, but the evidence that these scales are good measures of permanent impairment has not been systematically assessed.

Objectives:

- To systematically search the research literature to assess the measurement properties of three scales used to assess psychological impairment. These are the Brief Psychiatric Rating Scale (BPRS); The Global Assessment of Functioning Scale (GAF); and the Psychiatric Impairment Rating Scale (PIRS).

Status: We have completed an initial search of papers examining the reliability of validity of the BPRS, GAD and PIRS in assessing psychological impairment. Given the limited research available in this area, we have expanded our review to include studies assessing the general measurement properties of each of the three instruments.

Researchers: Peter Smith (Co-Principal Investigator), Emma Irvin (Co-Principal Investigator), Monique Gignac, Joanna Liu, Morgane Le Pouésard, Maggie Tiong

Collaboration and Partnerships: WorkSafeBC.

Potential Audiences and Significance: Compensation boards and clinical assessors

Publications: None to date

Presentations: None to date

Funding: Smith P, Irvin E, Gignac M, Mahood Q, Bienefeld M. Instruments for assessing permanent psychological impairment. WorkSafeBC, \$61,261 (2019).

Best practices for return-to-work after psychological impairment (3280)

Project Status: Completed

Introduction: Mental health conditions exact large costs, which are both financial and non-financial. Research on other similar systems has demonstrated that while absences from work due to work-related mental health conditions are less common than absences for work-related physical conditions, when absences do occur, mental health conditions have greater health care costs and longer durations of wage replacement. While there is an increasingly large body of research examining return to work outcomes among workers who are absent from work due to mental health conditions, often these studies include both work-related and non-work-related conditions, and/or have a very broad or very narrow focus on the conditions examined. It is important that the available research be appraised in a way that is more specific to a workers' compensation setting.

Objectives:

- The objective of this project is to develop, using an integrated stakeholder driven approach, a systematic summary of research evidence relevant to improving return to work outcomes, among labour force participants with work-related psychological injuries.

Status: After screening a total of 3033 titles and abstracts for relevance, the team appraised the quality of 73 studies and extracted the data from 27 studies. The report was completed in the Winter of 2020 and submitted to the funder.

Researchers: Peter Smith (Co-Principal Investigator), Emma Irvin (Co-Principal Investigator), Joanna Liu, Morgane Le Pouésard, Maggie Tiong

Collaboration and Partnerships: WorkSafeBC.

Potential Audiences and Significance: Compensation boards and clinical assessors.

Publications: None to date

Presentations: None to date

Funding: Smith P, Irvin E, Gignac M, Mahood Q, Macdonald S. Best practices for return-to-work after psychological injury. WorkSafeBC, \$61,261 (2019).

Musculoskeletal injury prevention: a practical implementation guide for Newfoundland and Labrador (3385)

Project Status: Ongoing

Introduction: Musculoskeletal injuries (MSIs) are a substantial burden for workers, workplaces and workers compensation systems. MSIs account for 68% of all claims involving lost time from work in Newfoundland and Labrador (NL) from 2012 to 2016. MSIs are estimated to cost \$87 million in annual claim costs. While the burden of MSI is similar in other jurisdictions (in Canada and worldwide), the prevention solutions required may be more context specific. This project will conduct a comprehensive synthesis of current MSI prevention practices including important details about contextual factors that are particular to the province of NL (jurisdiction, sector, job tasks, etc.). In addition, an easy to use, evidence-based, practical guide to aid NL workplaces in implementing the best MSI prevention practices will be produced. The guide will include information about effective MSI prevention practices and how to implement them in the context of NL workplaces. Most importantly, the guide will be created with stakeholder consultations to ensure it has value and application for NL workplaces. The overall purpose of the proposed project is to reduce the burden of MSI in NL by improving MSI prevention practices.

Objectives:

- Collect and synthesize current MSI practices along with evidence from the scientific literature.
- Create a practical guide to support the implementation of effective and innovative MSI prevention programs in Newfoundland and Labrador.

Status: Survey and interview data collection has been completed. Data analysis is underway. The rapid review is ongoing with a review of reviews. This year the relevance and quality appraisal stages were completed, and we are currently doing data extraction. Preliminary messages from the survey/interview analysis along with the review findings will be prepared for a workshop scheduled for late April (likely to be online). Post workshop, we will complete the data analysis and synthesis and create a resource for NL on MSD practices.

Researchers: Dwayne Van Eerd (Co-Principal Investigator), Emma Irvin (Co-Principal Investigator), Siobhan Cardoso, Kay Nasir, Morgane Le Pouésard, A Butt (Memorial University)

Collaboration and Partnerships: Service Newfoundland.

Potential Audiences and Significance: Workplaces from all sectors who require strategies to prevent and accommodate MSIs in the workplace.

Publications: None to date

Presentations: None to date

Funding: Van Eerd D, Irvin E, Cardoso S, Mahood Q. Musculoskeletal injury MSI prevention: a practical implementation guide for Newfoundland and Labrador (NL). Workplace Newfoundland- Research Initiatives Program, \$84,161 (2019-2020).

Knowledge Transfer & Exchange (KTE) & Communications

At the Institute for Work & Health, knowledge transfer & exchange (KTE) is a process by which research information is made available and accessible through interactive engagement with stakeholders to influence awareness, practice, planning and policy-making. KTE at IWH is integrated into the research process. Stakeholders help us to identify research priorities, frame research questions and communicate findings in diverse ways, and through channels that are useful for policy and practice.

In conjunction with our KTE processes our corporate communications strategy ensures the Institute continues to be a trusted and reliable source of evidence-based information. Our communications ensure IWH projects, findings, resources and events are applicable and understood by a growing number of stakeholders in the workplace health, safety and disability prevention arenas.

KTE and communications activities also actively build capacity in our stakeholder audiences to understand and use research evidence.

The target audiences for the Institute's research include, policy-makers (provincial and federal labour ministries, workers' compensation agencies), health and safety associations, workplace parties (labour and employer groups, workers and employers), occupational health, safety and disability management professionals, and health practitioners.

Listed in this section are system- and organization-wide KTE and communications activities that are not project-specific. KTE and communications activities that are tied to specific projects are reported in the previous section.

The work of IWH's KTE and Communications Departments is focused on strategic goals of building and maintaining excellence in three areas:

1. Relationships: *Strengthening stakeholder networks and relationships to enhance the applicability and uptake of IWH research.* We create formal and informal networks of stakeholders and work with intermediary organizations (health and safety associations, professional organizations, employer associations and labour groups) to allow us to link with stakeholders over time with different research messages. We attend a variety of conferences and events to present IWH research findings and to raise awareness about IWH, developing new connections with a wide variety OHS professionals and other stakeholders.

2. Reach: *Expanding our audiences and supporting their access to and use of research evidence.* KTE explores creative and effective ways to expand evidence dissemination and facilitate knowledge exchange using new and current technologies and techniques. The website is the repository of most of the Institute's public information, including our quarterly flagship newsletter *At Work*, both of which are pointed to through our monthly e-bulletin *IWH News* and our social media channels, Twitter and LinkedIn. We also pursue coverage in trade and general media. As needed, we provide tailored workshops and briefings focused on understanding research evidence and its application.

3. Products: *Developing evidence-based information products including guides, tools and lay-friendly communications that support efforts to improve the safety and health of working people.* We work with our scientists and stakeholders to develop a wide range of products (tools, guides, policy briefings, newsletter articles, videos) to communicate and apply research findings.

Knowledge Transfer & Exchange and Communications

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Stakeholder Networks (0617, 0638, 0640)

Project Status: Ongoing

Introduction: The Institute has established several formal networks representing stakeholders from a wide range of audiences concerned with occupational health and safety (OHS) and disability prevention and management. These include five health practitioner networks whose members are nominated by peers as “educationally influential” in their fields: chiropractors, ergonomists, kinesiologists, occupational therapists and physiotherapists; a network of disability management professionals, and an occupational health and safety professionals network. Meetings are held annually with each group to facilitate knowledge exchange: IWH scientists share research findings and members share practice experience to inform our research and KTE activities. Members are encouraged to disseminate relevant findings to their own networks. They receive IWH newsletters (IWH News and At Work) as well as single-topic research alerts. Members are often approached to participate in research projects or for assistance with study participant recruitment. IWH also connects with employers and organized labour in informal networks.

As part of its stakeholder networks, IWH hosts a network of Ontario prevention partner organizations, the Prevention Knowledge Exchange Group (PKEG) to foster dialogue and strengthen knowledge exchange and collaboration in the prevention system. The network comprises the six Ontario health and safety associations (HSAs), four other Ontario research centres, the Prevention Office and the Policy and Operations divisions of the Ontario Ministry of Labour, Training Skills and Development (MOLTSD), and the Workplace Safety and Insurance Board (WSIB). IWH also participates in other Ontario prevention system forums such as the Ergonomist Integrated Planning Action Committee (EIPAC).

Objectives:

- Facilitate and support knowledge exchange among IWH researchers and network members to enhance existing research and future studies at IWH.
- Disseminate research findings and the uptake of research to the community of practitioners in work-related injury and illness prevention, RTW, and/or disability prevention roles.
- Increase participation in IWH research projects and IWH events.
- Collaborate with prevention partners to harmonize research activities and knowledge exchange opportunities for supporting the application of research evidence in Ontario workplaces.

Status: Over the course of the 2019/20 year, PKEG met each quarter (June, September, December and March). There were presentations by the Ministry of Labour, Training and Skills Development Prevention Office on its Research Management Framework and its OHS Data Strategy, by IWH on its evaluation of the implementation and effectiveness of the Ontario working-at-heights training standard, and by CROSH on its research on foot vibration. In April 2019, a joint meeting of the OHS Professionals and Disability Managers Networks was held to discuss research applicable to both professions. The Institute participated in the EIPAC planning of Global Ergonomics Month in October 2019 and continued to support committee efforts to promote the MSD Guideline. In November 2019, the Institute held a joint meeting of the EI and Disability Managers Networks called “IWH Networks Forum on Work Disability Prevention.” This half-day meeting focused on new and emerging disability prevention research, and provided a valuable opportunity for practitioners from different professions to interact and share experiences related to the research application. Network members received periodic IWH News For Sharing (a.k.a. single item e-alerts) as relevant research was published. Network members continued to assist on research projects (as participants, providing feedback and assisting with promotion and recruitment).

Team: Siobhan Cardoso, Monique Gignac, Sara Macdonald, Peter Smith, (Co-leaders), Kristina Buccat, Jan Dvorak, Cindy Moser, Uyen Vu,

Collaboration and Partnerships: Professional bodies (associations/regulatory colleges), Health & Safety Associations, Ontario Centres of Research Excellence.

IWH Hosted Events (0645, 0643)

Project Status: Ongoing

Introduction: The Institute hosts two key events over the course of each year. The first is the annual Alf Nachemson Memorial Lecture, established by the Institute in 2002 to honour Dr. Alf Nachemson's significant contribution to research evidence in clinical decision-making. The Nachemson lectureship is awarded annually to a prominent national or international individual who has made a significant contribution to work and health research, including the role of evidence in decision-making and evidence-based practice in the prevention of work-relevant injury, illness or disability. The lecture is delivered at a networking event to which the Institute's stakeholders are invited. The annual Nachemson lecture is a flagship event for the Institute, bringing together stakeholders and partners across the prevention system and beyond.

The second key event is the IWH Speaker Series, which is a series of research presentations hosted by the Institute. Held weekly during the fall and winter, about a dozen presentations each year are opened to external stakeholders. The IWH Speaker Series provides an opportunity to learn about the latest findings from work and health researchers from the Institute and, to some extent, other Canadian and international researchers. The presentations can be attended in person at IWH or via live stream. Presentations are audio-recorded and made available as slidecasts on the IWH website and YouTube channel.

Objectives:

- Increase the visibility of the Institute's research provincially, nationally and internationally.
- Identify and acknowledge individuals who have made significant contributions to work and health research.
- Provide an opportunity for networking among work and health researchers and users of their research, including workplace parties (e.g. workers, employers), policy-makers and practitioners.
- Provide access to emerging and novel evidence in work-health research from the Institute.

Status: Due to the Institute's role, as co-host, in the organization of the XXII World Congress on Safety and Health at Work, a decision was made to postpone the 2019 and 2020 Nachemson lectures. The IWH Speaker Series continued to be held in-person and as webinar broadcasts. Participation in IWH Speaker Series webinars increased steadily over the year. Over the course of 2019, KTE staff began testing new webinar platforms. In the fall of 2019, the Institute switched platforms allowing for larger audiences with improved sound quality, streaming and Q&A features for participants. Presentations continue to be made available as slidecasts on the IWH website and YouTube channel. COVID-19 resulted in a temporary postponement of some Speaker Series talks in March 2020.

Team: Siobhan Cardoso, Sara Macdonald, Cindy Moser (Project Leaders), Kristina Buccat, Jan Dvorak, Monique Gignac, Peter Smith, Uyen Vu

Collaboration and Partnerships: Not applicable

Outreach and Promotion (0650)

Project Status: Ongoing

Introduction: The Institute for Work & Health engages in ongoing activities to increase its visibility provincially, nationally and internationally, as well as to increase the potential uptake and application of its research evidence. Throughout the year, the Institute raises awareness and the profile of IWH research through activities such as participation in key events and conferences where targeted resources are made available to stakeholder groups.

Objectives:

- Seek new opportunities to reach stakeholders at non-academic conferences and events (e.g., professional association events).
- Present key research initiatives at non-academic, stakeholder events where appropriate.
- Work with intermediary organizations, e.g. professionals' groups and associations to reach their members/clients.
- Assist IWH researchers in linking with workplace parties and other stakeholders.
- Enhance knowledge exchange with leaders from employer and labour communities.
- Profile the Institute as a credible and reliable resource of evidence-based information and tools for improving the health of workers.

Status: As part of 2019 planning, the KTE team identified several new conference opportunities and ways to reach out to stakeholders. The aim was to continue to increase stakeholder awareness of the Institute's research, to encourage stakeholders to subscribe to IWH newsletters, and to generate stakeholder interest in participating in research. Communications and KTE completed a redesign of IWH's portable table-top display and designed a new IWH banner, both of which were used at 2019 conferences. The Institute exhibited at a number of conferences in the GTA area during the year: Partners in Prevention in April, the Ontario Occupational Health Nurses Association conference in June, the Occupational and Environmental Medical Association of Canada conference in September, and the conferences of the Schedule 2 Employers Group, Ontario Teacher's Insurance Plan and the Canadian Society of Professionals in Disability Management in October. IWH researchers also made practitioner-focused presentations at several of the conferences. About 190 new subscribers to IWH communication products were acquired through these conferences.

Team: Sara Macdonald (Project Leader), Kristina Buccat, Siobhan Cardoso, Monique Gignac, Cindy Moser, Peter Smith, Uyen Vu

Collaboration and Partnerships: Professional groups, employer associations, unions, health and safety associations.

Products: Newsletters, Plain-Language Summaries and Other Information Resources (0604, 0611, 0629, 0636, 0660, 0663, 0665, 0690)

Project Status: Ongoing

Introduction: The Institute for Work & Health's Communications Department produces a wide range of products that are designed to share IWH research findings, events and resources with stakeholders. These products include newsletters, plain-language summaries, infographics, videos, annual/corporate reports and articles written for stakeholder publications and other resources. Communications and KTE also work collaboratively with scientists to develop tools and guides, policy briefs, case studies and other resources, as appropriate. All products and resources are written in plain language, with messages tailored to targeted audiences.

Objectives:

- Develop lay-friendly, easy-to-access informational resources targeted to and valued by external stakeholders.
- Keep external stakeholders aware of the research and events coming out of the Institute.
- Ensure IWH information is of high quality, and is relevant to and easily understood by stakeholders.
- Encourage and support uptake and use of IWH research findings and resources.
- Increase the Institute's visibility as a credible, reliable and impartial source of research evidence.
- Facilitate recruitment of participants into research projects, as appropriate.

Status: In 2019/20 (April 1, 2019 to March 31, 2020), information on IWH's research findings, events and resources reached was communicated in a wide range of products, including the following:

- four issues of At Work, our quarterly newsletter, which included a total of 23 articles;
- 12 issues of IWH News, the monthly e-newsletters;
- three infographics (our annual "5 things we think you should know," our first subject-specific version called "5 things we think you should know about RTW," and "Cannabis use and the Canadian workplace (pre-legalization);
- nine Research Highlights (lay summaries of peer-reviewed journal articles);
- one Sharing Best Evidence (summaries of systematic reviews);
- two tools/guides (an update of "Prevention is the Best Medicine," now called "Safe Work Toolkit for Newcomers (Ontario)," and a new resource called "Supporting return to work among employees with musculoskeletal or mental health conditions");
- one project-specific branded logo, website and e-newsletter (for Accommodating and Communicating about Episodic Disabilities)
- one impact case study;
- one video short ("Supervisors' response to work injury matters/) and one whiteboard video ("Participatory approach to health and safety in long-term care");
- six slidecasts of IWH Speaker Series presentations;
- three media releases (one for Centre for Research on Work Disability Policy);
- nine articles for external publications;
- 2018/29 Annual Report, themed "What research can do"; and
- almost weekly issues of the internal staff newsletter thistweek@iwh.

Team: Cindy Moser, Uyen Vu (Project Leaders), Kristina Buccat, Siobhan Cardoso, Sara Macdonald, Monique Gignac, Peter Smith

Collaboration and Partnerships: IWH scientists, researchers and other staff.

Audiences: Policy-makers (provincial and federal labour ministries, workers' compensation agencies), health and safety associations, workplace parties (labour and employers), occupational health, safety and disability management professionals, and health practitioners.

Reach and Dissemination: Website, Media, Social Media, e-Alerts and Subscriber Acquisition (0630, 0650, 0655, 0660, 0682, 0690)

Project Status: Ongoing

Introduction: The Institute for Work & Health's research findings, news, events and resources only become useful, valued and effective when they reach their intended audiences. The Institute's Communications Department, working closely with the KTE Department, ensures the Institute reaches a growing number of people within its stakeholder audiences through various dissemination activities, including websites, e-alerts, social media channels, media relations activities and stakeholder conferences. Through these channels and other subscriber-growth activities, the Institute also seeks to extend its reach to ensure more and more stakeholders are receiving and taking up IWH research.

Objectives:

- Keep external stakeholders aware of the research, news and events coming out of the Institute.
- Encourage, support and increase uptake and use of IWH research findings and resources.
- Build awareness of the Institute for Work & Health brand as a reliable source of information.
- Promote events, including the IWH Speaker Series.
- Extend the reach/audience for IWH research.
- Support the building and maintenance of strong and active stakeholder relationships.
- Monitor and manage reach, dissemination and impact metrics.
- Keep website contents, features, design and security up to date.

Status:

- **Subscribers:** 7,139 total to all products/notifications at end of March 2020 (up from 6,845 at end of March 2019); 6,388 to IWH News and 6,615 to At Work (up from 6,080 and 6,370, respectively,); 1,669 IWH Speaker Series notification subscribers (up from 1,485); 995 new subscribers acquired during the 2019/20 year; 865 lost subscribers—699 due to bounced emails (i.e. job change or retirement); 166 removed by request
- **Website:** 708,856 unique users during year ending March 2020, of which 3,509 were returning users; 914,149 unique web page views, 246,390 unique web page views without What Researchers Mean By; 50,931 total views of At Work pages, 161,082 total views of publications and resources, 17,049 total views of event pages; 23,612 total downloads during year
- **E-alert referrals:** 11,000 referrals to website through IWH News articles; 4,824 through At Work e-alerts; 1,903 through IWH Speaker Series e-alerts
- **Media:** 159 media mentions within year ending March 2020
- **Social media:** *Twitter*—3,845 followers at end of March 2020 (up 352 from previous year ending March 2019); 450 tweets, 588 mentions, 1,054 retweets and 1,907 link clicks during year ending March 2020; *LinkedIn*—3,068 followers by year ending March 2020 (up 494 from previous year ending March 2019); 57 updates, 171 shares, 1,735 link clicks during year ending March 2020
- **Videos:** 10,607 views during year ending March 2020

Team: Jan Dvorak, Cindy Moser, Uyen Vu (Project Leaders), Kristina Buccat, Siobhan Cardoso, Sara Macdonald, Lyudmila Mansurova,

Collaboration and Partnerships: IWH scientists, researchers and other staff.

Audiences: Policy-makers (provincial and federal labour ministries, workers' compensation agencies), health and safety associations, workplace parties (labour and employers), occupational health, safety and disability management professionals, and health practitioners.

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Publications and Funding

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 and forthcoming

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Books/Chapters: Published

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Research Project Funding – Awarded in 2019/20

Gewurtz R, Tompa E, Irvin E, Moser C, Padkapayeva K, Haan M, MacDonald M, Saouab A. Financial incentives to promote employment of people with disabilities: when and how do they work best? SSHRC- Social Sciences and Humanities Partnership Development Grant, \$189,039, 3 years.

Irvin E, Gewurtz R, Tompa E, Haan M, Padkapayeva K, Johnston H, Samosh D. Financial Incentives to Promote Employment of People with Disabilities: When and How Do They Work Best? Phase 3. OHCRIF, \$49,462, 1 year.

Gignac MAM, Smith P. Evaluation of the Not Myself Today Program. Canadian Mental Health Association. Partnership Funding for the ACED Healthy and Productive Work: Partnership Grant. \$25,000, 1 year.

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

Mustard CA. Design of a Questionnaire and Proposed Methodological Approach to Measure Safety Climate in the Canadian Federal Jurisdiction Road Transport Sector. Labour Program, ESDC, \$37,516, 4 months.

Robson L, Mustard C. Occupational health and safety performance in unionized construction. Ontario Construction Secretariat, \$150,000, 2 years.

Smith P, Yanar B, Premji S, Van Eerd D. Creating safe workplaces for newcomers. Immigration, Refugees and Citizenship Canada's (IRCC) Grants and Contributions Programs, \$303,899, 2 years.

Van Eerd D (PI), Irvin E (Co-PI), Yanar B, Tompa E, Jetha A, Gignac MAM, Morose T. Return to Work in Policing: Synthesizing current practices and implementation guidance. Workplace Safety Insurance Board, \$209,860, 2 years.

Yazdani A, Meyers R, Tompa E. (Co-Leads). Canadian Work Disability Prevention Standard for Paramedics with PTSI. Defense Research and Development Canada, \$772,720, 4 years.

Non-IWH Research Project Funding – Awarded in 2019/20

Cameron JI, Kokorelias KM, Gignac MAM, Naglie G, Rittenberg N. Understanding care transitions in Alzheimer's Disease. Women's College Research Institute- Women's Xchange. \$15,000, 1 year.

Hammond D, Ashat V, Boudreau C, Carnide N, Driezen P, Goodman S, Greaves L, Hobin E, Wadsworth E. Cannabis policy evaluation in Ontario. Canadian Institutes of Health Research Partnerships for Cannabis Policy Evaluation, \$149,942, 2 years.

Kristman V, Pepin R, Gilbeau A. Bullying and lateral violence in the workplace: experiences from Nookiiwin Tribal Council community members. Lakehead University- Indigenous Research Capacity Development (IRCD) Program, \$15,000.

Kristman V, Pepin R. Tradeswomen: potential concerns of bullying, violence and harassment in BC and Alberta. WorkSafeBC - Innovation at Work 2019, \$50,000, 1 year.

Prince Ware SA, Roberts SC, Reed JL, Biswas A, Colley RC, Thompson W. Daily physical activity by occupational classification in Canadian adults using the Canadian Health Measures Survey. Public Health Agency of Canada Internal Proposal, \$150,000, 1 year.

Z Touma, R Green, D Beaton, L Ruttan, C Tartaglia, K Bingham, J Wither, A Goldenberg. Modeling Cognitive Impairment in Patients with Systemic Lupus Erythematosus: Clinical Phenotyping, Predictive Trajectory and Associated Risk Factors. Canadian Institute for Health Research, \$100,00, 1 year.

Research Project Funding – Submitted in 2019/20

Biswas A, Booth G, Mustard C, Smith P. The interplay of work, personal and environmental correlates of obesity in Canada. Canadian Institutes of Health Research: Spring Project Grant 2020, \$140,000, 1 year.

Biswas A, Gignac M, Jetha A, Smith P, Yanar B. Untangling the complexity of chronic disease prevention in low socioeconomic status workers. CIHR Catalyst Grant: Understanding Disease Prevention and Risk Factor Modification, \$89,020, 1 year.

Carnide N, Demers P, DeBono N, Furlan AD. Opioid-related harms among Ontario workers: Leveraging the Occupational Disease Surveillance System as a surveillance tool for working populations. Public Health Agency of Canada Enhanced Surveillance for Chronic Disease Program, \$522,796, 3 years.

Carnide N, Smith P, Furlan A, Meister S, Mustard C, Premji S. Understanding cannabis use and associated long-term recovery and return-to-work outcomes among Ontario workers following a work-related injury or illness. Canadian Institutes of Health Research: Spring Project Grant 2020, \$635,000, 4 years.

Furlan A, Adisesh A, Smith P, Carnide N, Irvin E. Project ECHO Occupational and Environmental Health (OEH): development, implementation and evaluation. WSIB 2020 grants competition, \$399,476, 2 years.

Jetha A (PI), Gignac M, Hamdani S, Kristman V, Smith P. Transitioning to the future of work: An intersectional study of vulnerable youth and young adults. Social Sciences and Humanities Research Council- Insight Development Grants. \$74,171, 2 years.

Jetha A, Gignac MAM, Tucker L. Not your average transition. Investigating the multifaceted experiences of entering adulthood with a rheumatic disease. Arthritis Society: Stars Career Development Award, \$371,313, 3 years.

Jetha A, Van Eerd D, Martin Ginis K, Gignac M, Tompa E. Future-focused job accommodation practices for the school-to-work transition. Accessibility Standards Canada Grants and Contributions Program, \$489,441, 3 years.

Jetha A, Beane M, Goldfarb A, Mustard C, Pinto A, Smith M, Smith P. Developing a transdisciplinary research agenda for the work-health interface in the artificial intelligence era. Canadian Institutes for Health Research Planning Grant, \$24,930, 1 year.

Kristman VL, (PI), Casey R, Tupker J, Mininel V, Jetha A, Smith P, Gignac MAM et al. Improving workplace factors to advance labour force participation, work productivity and the prevention of work disability in 'at-risk' Northwestern Ontario populations. Social Sciences and Humanities Research Council, Insight Partnership Grant Stage 1, \$20,000, 5 months.

Smith P. Measuring and integrating dimensions of gender into quantitative health research: a four-year program of research. Canadian Institutes of Health Research – Chair: Canadian Institutes of Health Research Sex and Gender Science Chair, \$700,000, 4 years.

Smith P, Mustard CA. Understanding access to workers compensation among Ontarians with work-related chronic mental illness. WSIB 2020 grants competition, \$263,250, 1.5 years.

Tompa E, Irvin E, Samosh D, Mofidi A, Padkapayeva K, Farquhar A, Gewurtz R, Coppin P, Buettgen A, Jetha A, Rodrigues S, Sultan-Taieb H, Boucher N, LeBerge M, Coutu MF (Co-Investigators); McMaster University (Lead

Organization), Canadian Council on Rehabilitation and Work (CCRW); Canadian Autism Spectrum Disorder Alliance (CASDA); Canadian Association for Community Living (CACL); Canadian National Institute for the Blind (CNIB); the Centre for Independent Living in Toronto (CILT), UNIFOR, UFCW Canada, CSA Group and CANTOR Access (Partner Organizations). Research to Advance Best Practices in Accessibility Planning in Organizations Across Canada. Accessibility Standards Canada Grants and Contributions Program, \$1,471,618, 3 years.

Tompa E, Gewurtz R, Samosh D, Padkapayeva K, Moser C, Moll S, Fleisig R, et al. Co-designing solutions for sustainable employment for persons with disabilities in poverty. Employment and Social Development Canada, Financial Security for Persons with Disabilities Stream, \$444, 406, 3 years.

Tompa E, Mofidi A, Demers P. The stakeholder and societal costs of work injuries and diseases in Ontario: Measurement and benchmarking. WSIB 2020 grants competition – Stage 1, \$136, 998, 1 year.

Non-IWH Research Project Funding – Submitted in 2019/20

Bornstein S, Van Eerd D, Irvin E, Cullen K, Hynd B, Lopex Gomez M. The Use of Research-Based Evidence by OHS Policy and Decision Makers. WorkSafeBC - Innovation at Work 2020, \$49, 815, 1 year.

Collie A, Sim M, Smith P, Gray S, Muir C and Xia T. Determining the impacts of the 2019/20 Australian bushfires on the mental health of fire and emergency service workers. National Health and Medical Research Council. Medical Research Future Fund - 2020 Bushfire Impact Research Grant Opportunity, \$574,895, 3 years.

Furlan A, Chou R, Cooper L, Smith M, Bevan S, Corbin T, Schoene M, Buchbinder R, Harbin S, Irvin E, Macdonald S, Maher C, Pardo Pardo J, Rampersaud R, Van Eerd D, Welch V, Chedore B, Desnomie T, Nasser M. Engaging stakeholders in setting research priorities for clinical trials and systematic reviews of primary/secondary prevention, treatment and rehabilitation interventions for chronic low back pain. Canadian Institutes of Health Research - Catalyst Grant: Patient-Oriented Research, \$100,000, 1 year.

Furlan A, Deshpande A, Campos J, Carnide N, Flannery J, Gignac MAM, 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. Heart & Stroke Foundation, Grant-in-Aid 2019/2020, \$188,785, 2 years.

Hayden JA, Ogilvie R, Asbridge M, Stewart S, Stiell I, Furlan A, Stewart S, Stanojevic S, Merdad R, Ellis J, Thomson J, Parkash R, Campbell S, Grant DA, Purcell A. Predicting prolonged opioid use in patients with back pain who present to the emergency department. Canadian Institutes of Health Research, Project Grant Spring 2020 Competition, \$1,135,000, 5 years.

Hayden JA, Riley RD, Macedo L, Furlan A, Stewart S, Ogilvie R, Wood L, Taylor H, Boulos L, Chou R, Qaseem A, Lasserson T, Fortier I. What works for whom? Individual participant data network meta-analysis of exercise for persistent low back pain. Canadian Institutes of Health Research, Project Grant Spring 2020 Competition, \$595,000, 3 years.

Kristman VL, O'Loughlin R, Ritchie M. Associations of workplace violence, harassment, racism and bullying: potential impacts on Indigenous workers. WorkSafeBC - Innovation at Work 2020, \$50,000, 1 year.

Kristman VL, Polson K, W Shaw. The association between interpersonal skills of insurance case managers and time loss claim duration: a retrospective analysis. WCB Manitoba Research and Workplace Innovation Program, \$189, 563, 2 years.

Kristman VL, Corbière M, Shaw WS, Harlos K, Cernigoj M, Macdonald S. Workplace factors associated with Ontario WSIB compensation outcomes: An Ecologic study. Workplace Safety Insurance Board, \$177, 600, 2 years.

Kumbhare D, Furlan AD, Alavinia SM, Amri M, Flannery JF, Tremblay L. Impact of Adding A Novel Quantitative Ultrasound Muscle Imaging Machine Learning Technique to Standard Evaluation for Musculoskeletal Pain, A Prospective Randomized Clinical Trial with Proof of Principle Canadian Institutes of Health Research, Project Grant Fall 2019 Competition, \$105,000, 1 year.

Kumbhare D, Furlan AD, Alavinia SM, Amri M, Flannery JF, Tremblay L, Effects of proprioceptive skill enhancing training and ultrasound-guided injections on accuracy of myofascial trigger points injection: a randomized controlled trial of pain physicians. Canadian Institutes of Health Research, Project Grant Fall 2019 Competition, \$140,000, 1 year.

Peruccio AV (PI), Badley EM, Gignac MAM, Canizares M, Power JD (2019). Understanding the role of instrumental supports in changes in social participation in osteoarthritis: A population-based study. Canadian Institutes of Health Research Catalyst Grant: Analysis of the Canadian Longitudinal Study in Aging (CLSA), \$70,000, 1 year.

Toh SM, Yanar B, Zhao X. Resource Recovery through Communication between Newcomer Working Couples. OHCRIF, \$90,450, 1 year.

Trudel X, Gilbert-Ouimet M, Mâsse B, Smith P, et al. Effectiveness and economic evaluation of an organizational level intervention in reducing psychosocial stressors at work and improving cardiometabolic and mental health: a stepped wedge randomized cluster trial. Canadian Institutes of Health Research Project Grant - Fall 2019, \$1,195,000, 5 years.

Research Personnel Funding & Other Awards

Gilbert-Ouimet M. Canadian Institutes of Health Research Fellowship Award, \$16,667 (ended in Sept 2019)

Vahid Shahidi F. Canadian Institutes of Health Research Fellowship Awards, \$23,333 (plus \$5,000 Research Allowance).

Collaborators and Staff

2019/20 Participating Organizations

Ontario Ministry of Labour, Training and Skills Development (MOLTSD): The MOLTSD'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 MOLTSD-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 MOLTSD-funded sector-based OHS associations in the province, delivers consulting services, training programs and information resources to the healthcare, 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 MOLTSD-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.

Centre for Research in Occupational Safety and Health (CROSH): based at Laurentian University, uses a field-to-lab-to-field research approach to engage with workplace partners to solve occupational health and safety problems facing northern industries. Research programs are organized around the broad areas of human factors and ergonomics, occupational health and wellness, and occupational physiology and the environment.

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.

2019/20 Collaborating research organizations

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

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

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

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

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

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

Work Wellness and Disability Prevention Institute (WWDPI): Formerly known as the Canadian Institute for the Relief of Pain and Disability (CIRPD), WWDPI is a global centre of excellence with a mandate to create and

sustain work wellness, prevent disability, and eliminate impairment-related job loss and worklessness for those with, or at risk of, chronic and episodic health-related challenges. It aims to do this through credible, science-informed and practical tools and educational resources that reduce the gap between what is known from high-quality research and what is done in practice.

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

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

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

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

2019/20 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.

2019/20 Institute for Work & Health Staff

* denotes staff no longer at the IWH

Research

Beaton, Dorcas; PhD, Senior Scientist

Begum, Momtaz, MSc, Research Associate

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

Dollack, Jocelyn; MHSc, Research Assistant/Administrative Assistant

Furlan, Andrea; MD, PhD, Scientist

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

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

Heath, Charmaine; Dip. Business Administration, Administrative Assistant

Iman, Sabrina; MSc, Research Associate

Irvin, Emma; BA, Director, Research Operations

Jetha, Arif, PhD, Scientist

Johnston, Heather, PhD student, Research Associate

Khan, Fareena; BA, National Project Manager, WC2020

Kristman, Vicki; PhD, Associate Scientist

Landsman, Victoria; PhD, Scientist

Latour-Villamil, Desiree; MA, Research Assistant

Le Pouesard, 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

Maselli, Paolo; Network Administrator/Systems Analyst

McLeod, Chris; PhD, Associate Scientist

Mofidi, Amir, PhD, Post-Doctoral

Nadalin, Victoria; MA, Research Analyst

Nasir, Kay; BA, Research Associate

Orchard, Crista, BSc, PhD Student

Padkapayeva, Kathy; BA, Research/Administrative Assistant

Portt, Andrea. MSc, Summer practicum student

Raktoe, Shanti; BSc, Administrative Assistant
Robson, Lynda; PhD, Scientist
Samosh, Dan; PhD, Post-Doctoral Fellowship
Severin, Colette; MSc, Manager, Research Operations
Schneider, Hannah, BA, Communication Assistant, WC2020
Shamaee, Ali; MSc, Project Coordinator: Strategic Foresight Specialist
Shahidi Vahid, Faraz, PhD, Mustard Post-Doctoral Fellow
Smith, Peter; PhD, Associate Scientific Co-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, Scientist
Yanar, Basak; PhD, Associate Scientist
Yao, Grant; BComm, Network Administrator/Systems Analyst

Knowledge Transfer & Exchange

Buccat, Kristina; Dip. Radio and Television Production, Administrative Assistant
Cardoso, Siobhan; MEd, KTE Associate/ Manager, Research Operations/Research Associate
Dvorak, Jan; BA, Web & Design Coordinator
Macdonald, Sara; QEHS Management Diploma, Manager, KTE
Moser, Cindy; BA, Director, Communications
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

2019/20 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
Woticky, Gemma; PhD student

2019/20 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. Sheilah Hogg-Johnson is a professor at the Canadian Memorial Chiropractic College and an associate professor at the Dalla Lana School of Public Health at the University of Toronto. She recently retired from her position as a senior scientist and biostatistician at the Institute for Work & Health (IWH). As a senior scientist at the Institute, Hogg-Johnson applied her statistical expertise to "big data" to help decision-makers in Ontario's workers' compensation and occupational health and safety (OHS) systems evaluate and improve a wide range of programs. One of the longest tenured scientists at the IWH, Hogg-Johnson also led for many years the Institute's data management and analysis team—the statistical backbone to other Institute for Work & Health researchers, helping them design, carry out and interpret their workplace health studies. Hogg-Johnson holds a PhD in biostatistics from the University of Toronto and a Master of Mathematics from the University of Waterloo. She is a specialist in statistical methodology and prognostic modelling.

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.

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, Training and Skills Development. 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.

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

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)

BISWAS, Aviroop

Assistant professor, Status-only, Dalla Lana School of Public Health, UofT (May 2019-present)

Member: Research Ethics Board (REB), University of Toronto Health Sciences

CARNIDE, Nancy

Member: Canadian Standards Association (CSA) Group Technical Committee (management of substance-related impairment in the workplace) (October 2019 – present)

Member: Canadian Mental Health Association Not Myself Today Advisory Committee (October 2019 – present)

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

IRVIN, Emma

Associate Graduate Faculty Member: Rehabilitation Sciences Institute, University of Toronto
Member: Canadian Association for Research on Work and Health

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)
Member: Grant Review Board, 2019 WorkSafeBC Research Training Award Panel
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 and advocacy group lead, 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

President, National Organizing Committee, XXII World Congress on Safety & Health at Work (October 2017 - October 2020)
Chair, International Organizing Committee, XXII World Congress on Safety & Health at Work (October 2017 - October 2020)
Member: PSHSA Education Advisory Council Meeting (March 2020)
Member: PSHSA Government/Municipal Advisory Council Meeting (March 2020)
Member: PSHSA Health Care Advisory Council Meeting (March 2020)
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: Health Reports Editorial Board (February 2017 - February 2020)
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)

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
Member: Medical Cannabis Advisory Group, Canadian Mental Health Association

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)
Grant referee: Health Research Council of New Zealand (2018)
Grant referee: WCB Manitoba (2018)
Chair: Canadian Standards Association Committee for the development of a standard on Work Disability Prevention Management Systems (January 2019)
Organizing Committee: National Consultations on a Draft Pan-Canadian Strategy for Disability and Work (2018-2019)

VAN EERD, Dwayne

Associate Graduate Faculty Membership: 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

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.

Reviewer: 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)

BISWAS, Aviroop

Teaching/Educational Role

Alumni mentor: University of Toronto, Alumni Mentorship Program (2018-present)

Guest Lecturer: KIN 2000 a/b: Physical Activity and Health at Western University, London, Ontario (September 2019)

Tutorial Lead: CHL5401: Epidemiologic Methods I. Dalla Lana School of Public Health (October 2019)

Service Activities

Reviewer: Occupational and Environmental Medicine

Reviewer: PLOS ONE

Reviewer: Journal of Science & Medicine in Sport

Reviewer: Annals of Internal Medicine

Reviewer: Grant Review Board (WCB Manitoba's Research and Workplace Innovation Program)

Oral presentation and Poster judge: Dalla Lana School of Public Health. Research and Practice Day 2019 (November 15, 2019)

Reviewer: 2020 Masters of Health Promotion program applications, University of Toronto School of Social and Behavioural Health Sciences

CARNIDE, Nancy

Service Activities

Reviewer: Canadian Journal of Pain

Reviewer: Injury Prevention

Reviewer: Canadian Medical Association Journal (CMAJ)

Reviewer: CIHR Team Grant Review Board (Partnerships for Cannabis Policy Evaluation)

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

Reviewer: 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 (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

IRVIN, Emma

Teaching/Educational Role

Course Co-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)
Course Co-Instructor: REH 3600H Synthesis Toolkit, Rehabilitation Sciences Institute, University of Toronto

Service Activities

Peer reviewer: CIHR Knowledge Synthesis grant

Member: PREMUS Scientific Committee

Abstract reviewer: 2019 CADTH Symposium, 2019 PREMUS conference

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, International Journal of Health Promotion and Education

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: Julia Goyal, Ph.D, Institute for Work & Health Syme Fellow

Student supervisor: Corey McAuliffe, Ph.D, Institute for Work & Health Syme Fellow

Service Activities

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

LANDSMAN, Victoria

Teaching/Educational Role

Course Instructor: Statistical analysis of health data from complex samples. Dalla Lana School of Public Health, Division of Biostatistics (May - July 2018)

Course Instructor: Statistical analysis of health data from complex samples. Dalla Lana School of Public Health, Division of Biostatistics (May – July 2017)

Supervisor: Rose Garrett, PhD practicum student, Dalla Lana School of Public Health, Division of Biostatistics (October 2018 – April 2019)

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

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

Thesis Committee Member: Kathleen Dobson, PhD Candidate, Epidemiology, Dalla Lana School of Public Health, University of Toronto (September 2016 -present)

Thesis Committee Member: Kimberly Sharpe, PhD Candidate, University of British Columbia (2017-present)

Service Activities:

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

ROBSON, Lynda

Teaching/Educational Role

Practicum Supervisor (BAsC): Harrison Kote and Amy Nguyen, ENH 66A/B – Field Project, School of Occupational and Public Health, Ryerson University (2019-2020)
Practicum Co-supervisor (MSc): Echo Sun, CHL5207 Laboratory in Statistical Design and Analysis. Division of Biostatistics, Dalla Lana School of Public Health (2019-20)

Service Activities

Poster Judge, Annual School of Occupational and Public Health Student Research Symposium, Ryerson University (2019)
Associate Editor: International Journal of Workplace Health Management, (2015-present)
Reviewer: Safety Science

SMITH, Peter

Teaching/Educational Role

Course co-instructor: CHL5428 – Epidemiological methods for causal mediation analyses
Course co-instructor: CHL5426 – Population Perspectives in Epidemiology

Thesis Supervision:

Co-supervisor: Faraz Vahid Shahidi, post-doctoral Mustard Fellow, Institute for Work & Health. Research topic: the effects of unemployment benefit programs on the health of jobless workers. (August 2019 – present)
Primary Supervisor: Andrea Portt, PhD Candidate, Epidemiology, Dalla Lana School of Public Health, University of Toronto. Research topic: Migraine in Ontario (September 2017 – 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

Committee Member. Epidemiology PhD Admissions Committee, Dalla Lana School of Public Health, University of Toronto
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: Amirrabas 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)

Reviewer: ZonMw, The Netherlands Organization for Health Research (2019)

Reviewer: Domain Veni NWO-WOTRO Science for Global Development (2019)

CIHR Doctoral Research Awards (2019)

Ontario Graduate Scholarship Review Committee, Dalla Lana School of Public Health, University of Toronto (2018, 2019)

MPH Admission Committee, Dalla Lana School of Public Health, University of Toronto (2018, 2019)

VAN EERD, Dwayne

Teaching/Educational Role

Course Co-Instructor: IWH Systematic Reviews Workshop

Course Co-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.