

Institute for Work & Health Accomplishments Report 2020/21



Institute
for Work &
Health

Research Excellence
Safe Work
Healthy Workers



2020/21 Accomplishments Report

Institute for Work & Health
400 University Avenue, Suite 1800
Toronto, ON Canada
M5G 1S5

Telephone: 416.927.2027
Fax: 416.927.4167
Website: www.iwh.on.ca

2020/21 ACCOMPLISHMENTS REPORT

Table of Contents

<i>Introduction</i>	1
<i>Prevention of Work-Related Injury and Illness</i>	2
Vulnerable workers	4
Effective occupational health and safety practice	6
Working conditions and health	9
<i>Prevention and Management of Work Disability</i>	22
Return to work practices	24
Compensation and benefits	35
Measuring health and function	46
Evidence guides and tools	49
<i>Foundation Programs</i>	53
<i>Knowledge Transfer & Exchange (KTE) & Communications</i>	63
Publications and Funding	70
<i>Collaborators and Staff</i>	80
2020/21 Institute for Work & Health Staff	85

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 2020/21 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 2020/21 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 2020/21 publications, grants and awards. The final pages of the report also list all IWH staff in 2020/21, 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 improving the information on the health of Ontario workers, in addition to our on-going projects examining the impact of cannabis use in the Canadian workplace and continue to work on OHS preventative strategies in the workplace. This portfolio of work has led to the development of tools for practical application in workplace parties and the compensation system.

Prevention of Work-Related Injury and Illness

Vulnerable workers	4
The role of employers and settlement agencies in safe employment integration (1385).....	5
Effective occupational health and safety practice	6
Occupational health and safety performance in unionized construction (1257)	7
Evaluation of the implementation and effectiveness of the Ontario working at heights training standard (1360)	8
Working conditions and health	9
Occupational Health and Safety Risk in Ontario (1175).....	10
Examining gender/sex differences in the relationships between work stress and disease, work injury risk, and the consequences of work injury (1310)	11
Improving information on worker health protection in Ontario (1370)	13
Taking 9 to 5? Examining the impact of cannabis legalization on workplace cannabis use and perceptions among Canadian workers (1376)	14
Estimating the financial benefits of OHS prevention expenditures: a study of Ontario employers (1390)	16
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)	17
Cannabis and workplace fatalities: establishing a baseline in Ontario (1400)	18
XXII World Congress on Safety and Health at Work (2020)	19
Strategies for reducing the future risk of cancer in the Ontario construction industry (2285)	20

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. Over the course of the year, the Institute completed its work examining the complex and important role of employers and settlement agencies in safely integrating immigrants and refugees into Canadian employment.

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

Project Status: Completed

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 addressed 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:

- To understand employers' and settlement providers' experiences and practices in helping immigrants integrate into employment in Canada.
- To 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:

This project was completed in the first quarter of 2020. While a Knowledge Exchange Forum had been planned to end the project, this in-person event had to be cancelled due to the COVID-19 pandemic. Papers from the project are currently being completed and/or submitted to peer-review.

Researchers: Peter Smith (Co-Principal Investigator), Basak Yanar (Co-Principal Investigator), Stephanie 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: No new publications

Presentations: No new presentations

Funding: Smith, P. (PI), Yanar, B. (Co-PI), Premji, S. The role of employers and settlement agencies in safe employment integration. Immigration, Refugees and Citizenship Canada (Service Delivery Improvement competition), \$205,367 (2018-2020)

Effective occupational health and safety practice

IWH has several research projects examining the measurement of organizational policies and practices that support optimal workplace practices. In 2020/21, we replicated a previous study to determine if differences in OHS performance between unionized and non-unionized contractors observed in 2006-2012 are still present in the 2012-2018. In addition, we continued our evaluation of the implementation and effectiveness of the Ontario working at heights training standard.

Occupational health and safety performance in unionized construction (1257)

Project Status: Completed

Introduction: The Ontario Construction Secretariat (OCS) is comprised of twenty-five organized building trade unions (workers) and the signatory contractors (employers) of Industrial, Commercial and Institutional (ICI) construction, along with representatives from the provincial government. Together, they form a tripartite organization intended to enhance the well-being of organized ICI construction in Ontario. 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 replicated the methods of the previous study, updating the time period to 2012-2018.

Objectives:

- To 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: Completed

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 policy-makers.

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: No new publications

Presentations:

Robson L, Landsman V, Latour-Villamil D, Lee H, and Mustard C. The union effect on safety in the ICI construction sector: study update. Webinar presentation in IWH Seminar Series. January 12, 2021.

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

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

Project Status: Ongoing

Introduction: The recommendations of the Expert Advisory Panel on Occupational Safety & Health (2010) emphasized the development of mandatory fall protection training for workers working at heights (WAH). In response to this recommendation, the Prevention Office, Ontario Ministry of Labour, Training and Skills Development, has implemented regulations defining training program standards and has established a program for the accreditation of training providers. The Occupational Health and Safety Awareness and Training Regulation requires employers in Ontario to ensure that workers on construction projects successfully complete a WAH training program if they may use specified methods of fall protection. A training provider approved by the Prevention Office must deliver the program. The training requirements came into force on April 1, 2015. By the end of 2018, more than 500,000 people had been trained by about 200 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 MLTSD 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: Analysis of the two-year post-training follow up survey data collected from learners was completed. The quasi-experimental pre-post analysis of WSIB workers' compensation claims data was updated by adding records from 2018. A new analysis, comparing pre-post trends across four provinces, was completed using data from the Association of Workers' Compensation Boards of Canada and the Statistics Canada Labour Survey. As well as the below presentations, briefings were provided to the MLTSD and IHSA on new results. Plans for updating claims analyses with 2019 data and additional publications are underway.

Researchers: Lynda Robson (Co-Principal Investigator), Cameron Mustard (Co-Principal Investigator), Ben Amick, Vicky Landsman, Hyunmi Lee, Peter Smith

Collaborations and Partnerships: IHSA is a collaborator on the learner follow up study. There is a project advisory committee with labour and management representatives from the construction sector.

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, and Mustard CA. Preventing fall-from-height injuries in construction: effectiveness of a regulatory training standard. *J Safety Res* 2020;74:271-8. doi:10.1016/j.jsr.2020.06.007.

Presentations:

Robson L. Preventing fall-from-height injuries in construction: Effectiveness of a regulatory training standard. Webinar presentation organized by Worksafe Saskatchewan. January 27, 2021.

Robson LS, and Mustard C. Evaluation of the implementation and effectiveness of the Ontario Working at Heights (WAH) training standard: long-term follow up. IWH Speaker Series (Internal), Toronto, ON, May 12, 2020.

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).

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 2020/21, 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. In addition, we continued work to describe the movement patterns of Canadian workers at work and outside of work, to help identify which patterns are associated with optimal cardiometabolic health profiles. We completed a project to improve our understanding of geographic differences in trends in the nature of injury and injury events, in order to be able to improve worker health in the province. As in previous recent years, we continued to explore approaches to integrating sex and gender into work and health research.

Occupational Health and Safety Risk in Ontario (1175)

Project Status: Ongoing

Introduction: The Expert Advisory Panel on Occupational Health & Safety reported to the Minister of Labour (MOL) in December 2010. Legislation was passed in June 2011 implementing a range of recommendations from the panel, including the establishment of a prevention office within the MOL with responsibility to develop and execute an integrated occupational health and safety (OHS) strategy for the province. The recommendations of the Expert Advisory Panel also included a charge to improve the indicators of OHS performance at the workplace level and at the system level (Recommendation 6). The goal of this project is to support the implementation of the Expert Advisory Panel recommendations concerning enhanced data for OHS performance measurement.

Objectives:

- To support the implementation of Advisory Panel recommendations concerning: enhanced performance measurement data and the design of common database for planning and evaluation.
- To work with the MLTSD in measurement of hazard exposures and OHS risk for Ontario economic sectors.

Status: Planned activity in this project was suspended as a consequence of the COVID-19 emergency. Over the period November 2020 to March 2021, the project team developed a detailed scope of work to establish an epidemiology unit on occupational injury, to commence activities in 2021/22.

Researchers: Cameron Mustard (Principal Investigator), Victoria Landsman

Collaboration and Partnerships: A project team within the Ministry of Labour, Training and Skills Development will contribute to the definition of objectives and timelines of this project. Contributions would also be expected from the Workplace Safety and Insurance Board, the four Health and Safety Associations, OHCOW and the WHSC.

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

Publications: No new publications

Presentations: No new presentations

Funding: NA

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

Project Status: 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 will be ending in the first quarter of this year. 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: The findings of this research project are relevant to many external audiences. In particular Workplace Safety Prevention Services and the Public Services Health and Safety Association have been active recipients of project findings.

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 Canadian.

Publications:

Quinn EK, Harper A, Rydz E, Smith PM, Koehoorn MW, and Peters CE. Men and women at work in Canada, 1991-2016. *Labour & Industry*. 2020;30(4):401-12

Biswas A, Gilbert-Ouimet M, Mustard CA, Glazier RH, and Smith PM. Combined associations of work and leisure time physical activity on incident diabetes risk. *Am J Prev Med*. 2021; 60(3):e149-58. doi:10.1016/j.amepre.2020.09.017

Dobson KG, Gilbert-Ouimet M, Mustard C, and Smith PM. Body mass index trajectories among the Canadian workforce and their association with work environment trajectories over 17 years. *Occup Environ Med*. 2020;77(6):374-80. doi:10.1136/oemed-2019-106023

Gilbert-Ouimet M, Glazier RH, Brisson C, Mustard CA and Smith P Job strain, overweight and diabetes: a 13-year prospective study among 12,896 men and women in Ontario. *Psychosom Med*. 2021;83(2),187–95. doi: 10.1097/PSY.0000000000000898

Smith P, Gilbert-Ouimet M, Brisson C, Glazier RH, and Mustard C. Examining the relationship between the demand-control model and incident myocardial infarction and congestive heart failure in a representative sample

of the employed women and men in Ontario, Canada over a 15-year period. *Can J Public Health*. 2021;112(2):280-8. doi:10.17269/s41997-020-00378-3

Presentations: No new presentations

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: Completed

Introduction: The December 2010 report of the Expert Advisory Panel on Occupational Health and Safety made a number of recommendations to the Ontario Minister of Labour to improve the reliability and validity of data on the health of Ontario workers. This project aimed 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 had 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 was to conduct a formal record linkage of emergency dept. records for the treatment of work-related injury and illness (N=1,300,000) and workers' compensation claims (N=2,300,000) over the period 2004-2014. A primary interest of this study is in describing characteristics of the approximately 40% of emergency dept. 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).
- To improve the understanding of geographic differences in trends in the nature of injury and injury events.
- To enhance the 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: 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. A final report was provided to the Research Opportunities Program in January 2020.

Researchers: Cameron Mustard (Principal Investigator), Avi 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. Additional stakeholders who may be interested in the results of this proposed research include policy-makers in provincial workers' compensation authorities, representatives of organized labour, and representatives of employer organizations in Ontario.

Publications: No new publications

Presentations: Mustard CA. Emergency department encounter records as a source of enhanced information on work-related traumatic injury. SMH Occupational Medicine Rounds, February 10, 2021

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

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. 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. Findings suggest some workers engage in potentially risky workplace use and demonstrate problematic perceptions of the risks of using cannabis in the workplace. Through this study, we will continue to collect information from this group and expand the sample of workers to determine whether legalization is associated with changes in workplace use and related perceptions and norms.

Objectives:

- To 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.
- To examine whether trends in these constructs differ according to age, sex, labour market gender roles, occupational groups, and geographic location.
- To examine the reciprocal relationship between potentially modifiable factors and workplace cannabis use over time.

Status: The third yearly survey (second post-legalization) was extensively revised in consultation with our stakeholder advisory committee, accounting for potential changes in employment and health due to the COVID-19 pandemic. Online and telephone surveys were administered between August and October 2020. A total of 4,177 workers completed this survey, including 2,292 workers who also participated in one or both of the two previous surveys. Data cleaning and descriptive analyses have been completed with this new set of data. Two manuscripts comparing changes in cannabis use and perceptions over time - following the introduction of cannabis legalization and the COVID-19 pandemic, respectively - are currently being prepared. An infographic describing changes in workplace cannabis use, perceptions, and policies from pre- to post-legalization was produced and published on the IWH website.

Researchers: Nancy Carnide (Co-Principal Investigator), Peter Smith (Co-Principal Investigator), Andrea Furlan, Victoria Landsman, Hyunmi Lee, Sara Macdonald, Michael Frone (University at Buffalo), Amy Porath, Shawna Meister (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. This project will provide information to understand the short-term effects of legalization on the workplace and help to inform development of policies, practices, and prevention initiatives to ensure lower risk use among Canadian workers.

Publications:

Carnide N, Lee H, Frone M, Furlan AD, and Smith PM. Patterns and correlates of workplace and non-workplace cannabis use among Canadian workers before the legalization of non-medical cannabis. *Drug Alcohol Depend.* 2021; 218:108386. doi: 10.1016/j.drugalcdep.2020.108386

Carnide N, and Vu U. Despite fears, use of cannabis at work remained stable after legalization: study. *OOHNA Journal.* 2020;39(2):25-6.

Institute for Work & Health. Cannabis use and the Canadian workplace. Infographic. Toronto: Institute for Work & Health; 2020. Available from: <https://www.iwh.on.ca/publications/cannabis-use-and-canadian-workplace-2020>

Presentations:

Carnide N. Cannabis use among workers: occupational health considerations. CBM 2020. Cannabinoid based medicine: a practical approach for clinicians. Toronto, Canada. September 30, 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 year 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:

- To 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
- To 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 was suspended in March 2020 due to the COVID-19 pandemic. In the period April to August 2020, the project team conducted analyses of WSIB administrative records to identify leading employers in four economic sectors: construction, manufacturing, transportation and health care. As the disruptions of the COVID-19 pandemic recede, the project team will be recruitment from these leading employers to participate in a consensus-based deliberation.

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

Collaboration and Partnerships: We have sought 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 Health and Safety Excellence Program of the Ontario Workplace Safety & Insurance Board, the Ontario Ministry of Labour and the Ontario Health and Safety Associations in the findings from this project.

Publications: No new publications

Presentations: Mustard CA, Tompa E, and Yanar B. Estimating the financial benefits to employers of OHS prevention expenditures. Health and Safety Committee, WSIB Board of Directors. June 2020

Mustard CA, Tompa E, and Yanar B. Estimating the financial benefits to employers of OHS prevention expenditures. Health and Safety Committee, WSIB Board of Directors. September 2020

Funding: Mustard C, Tompa E. Estimating the financial benefits of OHS prevention expenditures: a study of Ontario employers. WSIB Grants Program, \$292,000, 2 years (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:

- To 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: The project was substantially delayed due to COVID-19 safety measures at the Toronto Research Data Centre. Nonetheless, the main analytical objectives have just been completed and we are beginning to prepare scientific manuscripts. Two to three scientific manuscripts are expected from our findings.

Researchers: Aviroop Biswas (Principal Investigator), Cameron Mustard, Peter Smith, Stephanie 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: No new publications

Presentations: No new presentations

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:

- To 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.
- To estimate, among cases with toxicology data, 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: The database used for entering information about each workplace fatality was refined. Due to the COVID-19 pandemic, data abstraction at the Office of the Chief Coroner of Ontario was significantly disrupted. Further data abstraction to continue over the upcoming year as restrictions are lifted.

Researchers: Nancy Carnide (Co-Principal Investigator), Peter Smith (Co-Principal Investigator), Momtaz Begum, Andrea Furlan, Sara Macdonald, Dylan Maccarone, Cameron Mustard, Amy Cheung, Tammy Khuc (Ontario Health), Lily Fang (Health Canada), Nikhil Rajaram (Ontario Ministry of Labour, Training and Skills Development), Melissa Smith (Employment and Social Development Canada, Labour Program)

Collaboration and Partnerships: Partners include the Ontario Ministry of Labour, Training and Skills Development, Health Canada, Public Services Health & Safety Association, Infrastructure Health and Safety Association, Workplace Safety North, and 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: No new publications

Presentations:

Carnide N, and Smith P. Cannabis and workplace fatalities: establishing a baseline in Ontario. CIHR Cannabis Research in Urgent Priority Areas, End-of-Grant Virtual Workshop. Virtual. November 18, 2020.

Carnide N. Using coroner data to understand workplace fatalities: a discussion of methods and future research potential. Webinar presentation. Institute for Work & Health Speaker Series. Toronto, Canada. May 5, 2020.

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).

XXII World Congress on safety and health at work (2020)

Project Status: Ongoing

Introduction: The World Congress on Safety and Health at Work is the world's largest global forum for occupational health and safety professionals. In September 2021, Canada will host the 22nd gathering of the Congress as a virtual meeting, an adjustment required to respond to the global public health challenges of COVID-19. More than 2,500 international delegates are expected to participate. The Congress provides a forum for exchange of knowledge, practices and experience in order to promote safe and healthy work for all, strengthens connections, networks and alliances while laying the groundwork for cooperation and strengthening relationships among all concerned. The Congress is a platform for the exchange of knowledge, innovation, and both strategic and practical ideas to protect the health of workers. The motto for the 2021 World Congress is 'Prevention in the Connected Age: Global solutions to achieve safe and healthy work for all.

Objectives:

- To progress planning and preparations for the September 2021 virtual meeting of the World Congress on Safety and Health at Work

Status: In May 2020, the International Organizing Committee endorsed the Canada host organizations recommendation to postpone the Congress from September 2020 to September 2021. Subsequently, in January 2021, the host organizations and the International Organizing Committee endorsed the recommendation to host the Congress as a virtual event. Planning advanced as scheduled through the spring of 2021.

Researchers: Cameron Mustard, Mary Cicinelli, Fareena Khan.

Collaboration and Partnerships: The World Congress is sponsored by the International Labour Organization (ILO) and the International Social Security Association (ISSA). Canadian hosts for the 2021 World Congress are the Institute for Work and Health (IWH) and the Canadian Centre for Occupational Health & Safety (CCOHS). The Canadian hosts are supported by a National Advisory Committee.

Potential Audiences and Significance: Participants attending the virtual 2021 World Congress will include high-level government officials and decision-makers in the public and private sectors, labour leaders, and CEOs, occupational Safety & Health professionals such as safety engineers, safety technicians, occupational hygienists, scientists, occupational physicians and others dealing with occupational medicine, regulators, labour inspectors, and safety and health inspectors, trade unions, workers and their representatives, social security institutions and researchers, instructors, trainers and teachers in the field of OSH education.

Publications: No new publications

Presentations: No new presentations

Funding: NA

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

Project Status: Completed

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 estimated attributable fractions for Ontario construction workers who are exposed to carcinogens at work based on current practices, and then estimated the effectiveness and cost-effectiveness of intervention programs to reduce exposures up to the year 2060. Different scenarios were considered such as high and low exposure reductions from various prevention efforts. We estimated 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: Analysis for the economic evaluation of best practices for silica dust and UV exposure prevention were completed and two manuscripts submitted to journals. The former was published in the *Journal of Occupational and Environmental Hygiene* in 2021, and the latter is under review at the *Journal of Occupational and Environmental Medicine*. We have also been organizing a special issue of a journal, *International Journal of Environmental Research and Public Health*, on economic burden and economic evaluation in occupational health and safety. A methods paper for the special issue, based on the occupational cancer research initiative, has been under development over the last year.

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 MOL and the Provincial Labour Management Health and Safety Committee of the construction industry (Section 21 committee) (knowledge users).

Publications:

Mofidi A, Tompa E, Mortazavi 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.

Mofidi A, Tompa E, Song C, Tenkate T, Arrandale V, Jardine K, Davies H, and Demers PA. Economic evaluation of interventions to reduce Solar Ultraviolet Radiation (UVR) exposure among construction workers. *J Occup Environ Hyg*. 2021; 18(6): 250-64. [doi:10.1080/15459624.2021.1910278](https://doi.org/10.1080/15459624.2021.1910278)

Tompa E, Mofidi A, Song C, Arrandale V, ZJardine K, Davies H, Tenkate T, and Demers P. Silica exposure reduction in construction: a system-level cost-benefit analysis. Submitted to the *Journal of Occupational and Environmental Medicine* (March 2021).

Presentations: No new presentations

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 2020/21, 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.

Prevention and Management of Work Disability

- Return to work practices.....24**
 - Examining the role of job accommodations and communication practices in supporting the employment participation of Canadians living with disabilities (2255) 25
 - Accommodating and Communicating about Episodic Disabilities (ACED) (2270/2271) 27
 - Conceal or reveal? Facilitators and barriers to older workers' communication of accommodation (2280) 30
 - Work disability prevention for Millennial young adults with rheumatic disease (2310) 32
 - Return to work in policing: synthesizing current practices and implementation guidance (3390) 34
- Compensation and benefits..... 35**
 - Income security and labour-market engagement: envisioning the future of disability policy in Canada (2195) 36
 - Assessment of the human and economic burden of workplace cancer (2205) 39
 - The cost of exclusion of persons with disability in Canada (2265) 40
 - Financial incentives to promote employment of people with disabilities: when and how do they work best? (2297) 42
 - Tracking long-term outcomes of injured workers in Ontario to better target supports (2305)..... 43
 - Ontario life after work injury study (2320) 44
 - What is the extent and nature of claim suppression in British Columbia (2325)..... 45
- Measuring health and function..... 46**
 - Development and testing of the DASH outcome measure: DASH instrument (0425) 47
- Evidence guides and tools..... 49**
 - Future-proofing young Canadians with disabilities for the changing labour market (2330) 50
 - Canadian work disability prevention standard for paramedics with PTSI (3400)..... 52

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 2020/21, 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. It also initiated a project to describe and synthesize current RTW programs/practices along with the best available research evidence. We completed a project on assisting work disability parties on what they should say to an injured worker and how they should deliver information regarding return to work.

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 and job disruptions when compared to their peers not living with a disability.

Research on the relationship between job accommodations and communication practices and employment participation is required in a larger sample of Canadians living with different disabling conditions. Absent from existing research are insights into: 1) the relationships between communication/disclosure of disability and accommodations; 2) life course differences in accommodation needs and use among individuals of different ages and career stages; 3) a more in-depth understanding of work context factors and their relationship with communication and accommodation use (e.g., job sector; contract or parttime work; unionized employment; job type; managerial responsibilities; job control); and; 4) experiences of workers without a disability, but who work with a disabled individual who requires accommodations.

Objectives:

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

Status: This is a sub-grant of a large partnership grant. Over the course of the year the analysis and manuscript preparation continued. Three peer-reviewed manuscripts have been published based on results; one additional paper is under peer-review.

Researchers: Monique Gignac (Co-Principal Investigator), Arif Jetha (Co-Principal Investigator), Julie Bowring

Collaborations and Partnerships: Canadian Disability Participation Project, University of British Columbia, McMaster, 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:

Gignac MAM, Jetha A, Martin Ginis KA, and Ibrahim S. Does it matter what your reasons are when deciding to disclose (or not disclose) a disability at work? The association of workers' approach and avoidance goals with perceived positive and negative workplace outcomes. *J Occup Rehabil.* 2021;[epub ahead of print].

[doi:10.1007/s10926-020-09956-1](https://doi.org/10.1007/s10926-020-09956-1)

Jetha A, Martin Ginis KA, Ibrahim S, and Gignac MAM. The working disadvantaged: the role of age, job tenure and disability in precarious work. *BMC Public Health*, 2020;20(1):1900.

Jetha A, Gignac MAM, Ibrahim S, and Martin Ginis KA. Disability and sex/gender intersections in unmet workplace support need: findings from a large Canadian survey of workers. *Am J Ind Med.* 2021;64(2):149-61.

Presentations:

No new presentations

Funding: 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. People may have periods of well managed health punctuated by periods of more severe symptoms that limit activities, often unpredictable and invisible to others. As such, there may be misperceptions or stigma about a worker's abilities or motivation. 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. This partnership aims to enhance the work sustainability of Canadians with chronic, episodic mental and physical health conditions through the development of easily accessed, evidence-based tools, resources and training that protects privacy and facilitates communication and accommodation planning among workers, supervisors and others in the workplace.

Objectives:

- To consolidate and enhance existing evidence for toolkit development.
- To develop new evidence-informed resources, including communication tools, job analysis and accommodation planning tools, and skills training for supervisors and HR/disability managers.
- To pilot test and evaluate the toolkit in diverse workplaces, including conducting cost analyses.
- To expand the evidence base to include greater attention to sex/gender, age/life course, diverse employment contexts and episodic conditions.
- To develop new researcher capacity in disability studies and build new workplace partnerships.

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. Two manuscripts are published.

Phase 2 (2271: "ACED: Accommodating and Communicating about Episodic Disabilities") activities in 2019-2020 include: development of the Job Demands and Accommodation Planning Tool (JDAPT) and completion of a cognitive debriefing study/feasibility study with 69 participants. A manuscript describing the findings will be developed. We also began programming of an online JDAPT. Programming will be completed in 2021 and the next phase of evaluation will begin, likely with a pre-post-follow-up study design. Work has continued on synthesizing the communication literature in order to create a communication decision-making tool.

Canada Life provided additional funding for the JDAPT testing. We also completed a report for the Canadian Mental Health Association (CMHA) on a satisfaction survey for clients of their "Not Myself Today" program that arose out of a survey we designed and implemented with them. They have contacted us again in 2021 asking if we would repeat the survey work for the latest version of their program.

Researchers: 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; Renee-Louise Franche (Simon Fraser University), Joy MacDermid (Western University), William Shaw (University of Connecticut), Aaron Thompson (WSIB)

Collaboration and Partnerships: Partners include The Arthritis Society, the Canadian Mental Health Association, Crohn's & Colitis Canada, the Great-West Life Centre for Mental Health in the Workplace, Mindful Employer Canada, the Multiple Sclerosis Society of Canada, the Ontario Ministry of Labour, Training and Skills Development, Realize Canada, and the University of Toronto.

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:

Gignac MAM, Bowring J, Jetha A, Beaton DE, Breslin FC, Franche RL, Irvin E, Macdermid JC, Shaw WS, Smith PM, Thompson A, Tompa E, Van Eerd D, and Saunders R. Disclosure, privacy and workplace accommodation of

episodic disabilities: Organizational perspectives on disability communication-support processes to sustain employment. *J Occup Rehabil.* 2021;31(1):153-65. doi:10.1007/s10926-020-09901-2

Van Eerd D, Bowring J, Jetha A, Breslin FC, and Gignac MAM. Online resources supporting workers with chronic episodic disabilities: an environmental scan. *Int J Workplace Health Manag.* 2020;14(2):129-48.

Gignac MAM, Jetha A, Martin Ginis KA, and Ibrahim S. Does it matter what your reasons are when deciding to disclose (or not disclose) a disability at work? The association of workers' approach and avoidance goals with perceived positive and negative workplace outcomes. *J Occup Rehabil.* 2021; [epub ahead of print]. doi:10.1007/a10926-020-09956-1.

Cheng L., Jetha A., Cordeaux E., Lee K., and Gignac MAM. Workplace challenges, supports, and accommodations for people with inflammatory bowel disease: a scoping review and directions for future research. Revise and resubmit for *Disability and Rehabilitation.*

Presentations:

Reports:

Canadian Mental Health Association (CMHA) & Accommodating and Communicating about Episodic Disabilities (ACED) (2020). Not Myself Today version 7 report. CMHA and ACED, November 2020.

Invited talks:

Gignac MAM). Accommodating and Communicating about Episodic Disabilities (ACED): workplace challenges and solutions. Invited speaker for the Managing Your Duty to Accommodate Virtual Conference. Infonex Professional Development, March 30, 2021.

Gignac MAM. Accommodating and Communicating about Episodic Disabilities (ACED). Invited speaker for the Virtual National Summit on Episodic Disabilities and Employment. Hosted by Realize Canada. March 23, 2021.

Cheng L and Gignac MAM. Accommodating and Communicating about Episodic Disabilities (ACED): a partnership to deliver workplace tools and resources to sustain the employment of people with chronic, episodic conditions. Invited presentation to Crohn's and Colitis Canada, Lunch and Learn Seminar Series. Webinar, October 14, 2020.

Gignac MAM. Accommodating episodic disabilities: the latest law and research. Lancaster House Audio Conference, May 14, 2020. Toronto, ON.

Gignac MAM. Accommodating and Communicating about Episodic Disabilities (ACED): a partnership to deliver workplace tools and resources to sustain the employment of people with chronic, episodic conditions. Invited presentation to the Workforce Planning Board of Waterloo, Wellington, and Dufferin. Making Cent\$ of Abilities, Webinar, November 5, 2020.

https://www.workforceplanningboard.com/pdfs/gignac_aced_workforce_planning_board_nov_2020_slides_to_pos_tpdf

Gignac MAM. Does it matter what workers' reasons are for disclosing or not disclosing an episodic disability at work? Open plenary for the Institute for Work & Health's Speaker Series Webinar, November 24, 2020 (225 participants).

Gignac MAM. Accommodating and Communicating about Episodic Disabilities (ACED): a partnership to deliver workplace tools and resources to sustain the employment of people with chronic, episodic conditions. Invited presentation to Epilepsy Toronto, Workplace Workshop Series. Webinar, September 24, 2020.

Gignac MAM. Accommodating And Communicating About Episodic Disabilities (ACED): a partnership to deliver workplace tools and resources to sustain the employment of people with chronic, episodic conditions. Invited presentation to the Occupational Health Rounds at St. Michael's Hospital, Toronto. Webinar, October 21, 2020.

Conference presentations:

Gignac MAM. Accommodating and Communicating about Episodic Disabilities (ACED): a partnership to deliver workplace tools and resources to sustain the employment of people with chronic, episodic conditions. Presentation given as part of the symposium, "Strengthening Supports for Employees with Episodic Disabilities" with the Arthritis Society and Realize Canada. Disability and Work in Canada (DWC), 2020 Virtual Conference, December 1, 2020.

Other communication/KTE:

"Greater focus on episodic disabilities needed: Study" Canadian HR Reporter, August 24, 2020.
<https://www.hrreporter.com/focus-areas/compensation-and-benefits/greater-focus-on-episodic-disabilities-needed-study/332638>

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).

Gignac, M.A.M. (Co-PI) & Smith, P. (Co-PI) (2021). Evaluation of the Not Myself Today program. Canadian Mental Health Association. Partnership Funding for the ACED Healthy and Productive Work: Partnership Grant. \$25,000 (2021-2022).

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

Project Status: Ongoing

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

Objectives:

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

Status: This research is ongoing. In 2020 a survey was administered to 3,066 participants. Based on qualitative data findings, the survey was expanded beyond older workers to include three age groups (18-34 years, 35-49 years, 50 years and over). EKOS implemented the survey. Additional questions were added to assess COVID-19 experiences and concerns. Dr. Faraz Shahidi, the Mustard Postdoctoral Fellow, joined the research team to provide additional expertise on work precarity. Genevieve Jessiman-Perreault, a PhD student, is using the data for part of her thesis work. A paper examining concerns about COVID-19 among those living with and without a disability has been submitted and received a revise and resubmit. Several presentations were given. Additional manuscripts are in preparation.

Current research team: Monique Gignac (Principal Investigator), Julie Bowring, Genevieve Jessiman-Perreault, Arif Jetha, Vicki Kristman, Faraz Vahid Shahidi, Jill Cameron (University of Toronto)

Collaboration and Partnerships: Not Applicable

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

Publications: Gignac MAM, Shahidi FV, Jetha A, Kristman V, Bowring J, Cameron J, Tonima S, and Ibrahim S. Impacts of the COVID-19 pandemic on health, financial worries, and perceived organizational support among people living with disabilities in Canada. Revise and resubmit.

Presentations: Gignac MAM. Accommodating and Communicating about Episodic Disabilities (ACED): a partnership to deliver workplace tools and resources to sustain the employment of people with chronic, episodic conditions. Invited presentation to the Workforce Planning Board of Waterloo, Wellington, and Dufferin. Making Cent\$ of Abilities, Webinar, November 5, 2020.
https://www.workforceplanningboard.com/pdfs/gignac_aced_workforce_planning_board_nov_2020_slides_to_pos_tpdf

Shahidi F. Measuring the nature and extent of precarious employment in Canada. Presented to the annual meeting of the Scientific Advisory Committee (SAC). Virtual meeting. 2021.

Funding: Gignac MAM (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). [Note: funding extended for all SSHRC grants for 1 year because of COVID-19]

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:

- To identify the workplace supports needed by Millennial young adults with RD, and to what extent are they available and used.
- To examine characteristics of Millennial young adults with RD and how their work conditions relate to unmet workplace support needs.
- To review findings to assess if those that report greater unmet workplace support needs are more likely to indicate difficulties with employment.
- To 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 3 data collection has been completed. We are currently analyzing data and writing manuscripts based on the findings; two papers have been published. We are currently writing one paper. Arif Jetha received a career salary award from the funder to extend data collection.

Researchers: Arif Jetha (Principal Investigator), Julie Bowring, Monique Gignac, C Backman (University of British Columbia), Vicki Kristman (Lakehead University), Laurie Proulx (Canadian Arthritis Patient Alliance), Lori Tucker (University of British Columbia)

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

Publications:

Jetha A, Tucker L, Backman C, Kristman VL, Bowring J, Hazel EM, Perlin L, Proulx L, Chen C, and Gignac MA. Rheumatic disease disclosure at the early career phase and its impact on the relationship between workplace supports and productivity. *Arthritis Care Res.* 2021;[epub ahead of print].

Jetha A, Tucker L, Chen C, and Gignac MAM. Impact of the COVID-19 pandemic on the employment of Canadian young adults with rheumatic disease: longitudinal survey findings. *Arthritis Care Res.* 2021;[epub ahead of print].

Presentations:

Jetha A, Tucker L, Chen C, and Gignac MAM. Impact of the COVID-19 pandemic on the employment of Canadian young adults with rheumatic disease: longitudinal survey findings. Canadian Arthritis Research Conference. Virtual, 2021. (Awarded best original research presentation)

Jetha A and Proulx L. Research on inclusive work environment requires lived experience and a collaborative approach. Disability and Work Conference. Virtual National conference, 2020.

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 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:

- To describe and synthesize current RTW programs/practices along with the best available research evidence
- To 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
- To 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. We are in month 18 (of 24). The review component of the project is nearly complete and QL data analysis is underway. Recruitment is still open, and we plan to schedule 6-8 more interviews. Recruitment will close June 30, 2021. We have had excellent stakeholder engagement for recruitment and are scheduling meetings for developing the resource for RTW and dissemination activities for the project.

Researchers: Dwayne Van Eerd (Principal Investigator), Siobhan Cardoso, Monique Gignac, Emma Irvin, Arif Jetha, Morgane Le Pouésard, Emile Tompa, Basak Yanar, Tanya 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: No new publications

Presentations: No new presentations

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. One ongoing area of study is to understand the impact of legislation, policies and programs on the income security and labour market engagement of different groups of workers. Work on examining when and how financial incentives to promote employment of people with disabilities work best was ongoing at the national level though we completed our examination at the provincial level. In 2020/21 work continued to identify factors associated with positive and negative labour market and health recovery outcomes. We completed work on identifying the distribution of costs of exclusion across stakeholders—people with disabilities and their families, employers, the public sector, and society at large. In addition, we also completed our project which was tracking long-term outcomes of injured workers in Ontario to order to better target supports.

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

Project Status: Ongoing

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

Objectives:

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

Status: In 2020 the CRWDP initiative focused on two key activities, the DWC Federal-Provincial/ Territorial Policy Roundtable and the DWC 2020 Stakeholder Conference. Both were held virtually due to the COVID-19 pandemic. The Federal-Provincial/Territorial Policy Roundtable was held over two days (June 16 & 17, 2020). Topics covered included an overview of important work underway (CSA Work Disability Management System Standard, Financial Incentives to Promote Employment of Persons with Disabilities, the Benefits of Inclusion Study, the Disability Coalition Leadership Group, and the COVID-19 Disability Advisory Group), impact of remote work and online services during COVID-19, updates from participating jurisdictions, resources shared by participants, opportunities for collaboration, and ideas for the conference. The DWC 2020 Conference was held over four days (November 25 & 26 and December 1 & 2, 2020). Registration for the conference was the highest since the start of the yearly conference in 2017, with almost 400 registrants. Keynote speakers included the Bob Rae, Ambassador and Permanent Representative of Canada to the United Nations; Honourable Carla Qualtrough, Minister of Employment, Workforce Development and Disability Inclusion; David Soltis, Director, Talent Acquisition and Employee Policy, Canada Post, and Jannet Nguyen, Advisor, Equity, Diversity and Inclusion, Canada Post; Al Etmanski, Writer, Community Organizer, Disability Advocate; Hassan Yussuff, President, Canadian Labour Congress, and Honourable Perrin Beatty, President and CEO, Canadian Chamber of Commerce.

Over the last 12 months we continued with periodic e-alerts to our constituents, as well as the new researcher webinar series. We have also hosted a webinar series focused on the new Work Disability Management System Standard (CSA Z1011:20), which was released in June 2020. We also worked on completing the final report back the funder, SSHRC. The year ahead will be the last year of formal operation under the SSHRC partnership funding initiative.

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, and 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. 2020. Available from: <https://ppforum.ca/wp-content/uploads/2020/01/SkillsGap-Disabilities-PPF-JAN2020-Feb6.pdf>

Yazdani A, and Tompa E. Managing work disability using a new Canadian standard. OOHNA Journal. Fall/Winter 2020; 7-10.

Lahey PM, Kirsh B, Tompa E, MacDermid J, and Gewurtz RE. The Ontario disability support program work exit process: Parallels to a hostage negotiation. J Disabil Policy Stud. 2020;[epub ahead of print]. [doi:10.1177/1044207320944609](https://doi.org/10.1177/1044207320944609)

Presentations:

Tompa E. The CSA Z1011:20, Work disability management system Standard. Virtual Presentation given at a Finish Stakeholder Meeting. March 17, 2021.

Tompa E. High-level summary of the Standard (CSA Z1011:20, Work disability management system): Dr. Emile Tompa. Webinar 13: Continued Conversations on the Labour Perspective. Webinar Series - Work Disability Management System (WDMS) Standard (CSA Z1011). May 31, 2021.

Tompa E. High-level summary of the Standard (CSA Z1011:20, Work disability management system): Dr. Emile Tompa. Webinar 12: Continued Conversations on the Role of Healthcare and Disability Management Services. Webinar Series - Work Disability Management System (WDMS) Standard (CSA Z1011). April 26, 2021.

Tompa E. High-level summary of the Standard (CSA Z1011:20, Work disability management system): Dr. Emile Tompa. Webinar 10: Continued Conversations on the Insurer's Perspective. Webinar Series - Work Disability Management System (WDMS) Standard (CSA Z1011). March 8, 2021.

Tompa E. High-level summary of the Standard (CSA Z1011:20, Work disability management system): Dr. Emile Tompa. Webinar 8: Continued Conversations on the Employer Perspective. Webinar Series - Work Disability Management System (WDMS) Standard (CSA Z1011). February 8, 2021.

Tompa E. High-level summary of the Standard (CSA Z1011:20, Work disability management system): Dr. Emile Tompa. Webinar 6: Continued Conversations on the Implications for Persons with Disabilities. Webinar Series - Work Disability Management System (WDMS) Standard (CSA Z1011). January 11, 2021.

Tompa E. Workplace Guidance for COVID-19 Responses and Return to Work: A focus on the needs and experience of workers with disabilities. Panel session speaker. Disability & Work in Canada virtual conference, November 25-26 and December 1-2, 2020.

Tompa E. DWC Pre-conference workshop: The Centre for Research on Work Disability Policy (CRWDP). Virtual session hosted by the CRWDP Atlantic Cluster. October 28, 2020.

Tompa E. DWC Pre-conference workshop: Le Centre de recherche sur les politiques en matière d'invalidité professionnelle (CRPIP). Virtual session hosted by the CRWDP Quebec Cluster. November 24, 2020.

Tompa E. Workplace Disability Management Systems: Injury/illness rehabilitation, return-to-work plans, and accommodation. Lancaster House Webinar, Nov 12, 2020

Tompa E. Overcoming unconscious bias and creating an inclusive workplace. Lancaster House and Centre for Industrial Relations and Human Resources (CIRHR) Workshop entitled Promoting Mental Health in the Workplace: Best Practices for Business Leaders. October 21, 2020.

Tompa E. Workshop Program Lead and Master of Ceremonies: Promoting Mental Health: Promoting Mental Health in the Workplace: Best Practices for Business Leaders. Lancaster House and Centre for Industrial Relations and Human Resources (CIRHR) Workshop. October 20, 21 and 26, 2020.

Tompa E. High-level summary of the Standard (CSA Z1011:20, Work disability management system). Work Disability Management System Standard (CSA Z1011:20) Webinar Series, Oct 5, 2020.

Tompa E, Bellon S, Haan M, and Hu D. (invited) Panel speaker. The Walrus Talks at Home: Inclusion (Part 1). October 27, 2020.

Haan R, and Tompa E. Keynote Presentation on Moving Forward Together: A Pan-Canadian Strategy for Disability and Work. Canadian Autism Spectrum Disorder Alliance (CASDA) Summit 2020. October 5-6, 2020.

Tompa E. High-level summary of the Standard (CSA Z1011:20, Work disability management system): Dr. Emile Tompa. Webinar 2: Conversations on Managing Mental Health in the Workplace. Webinar Series - Work Disability Management System (WDMS) Standard (CSA Z1011). October 5, 2020.

Tompa E., Yazdani A., and Brown D. Overview of the Work Disability Management System Standard. Panel presentation. Webinar 1: Formal Launch of the Work Disability Management System (WDMS) Standard CSA Z1011. Webinar Series - Work Disability Management System (WDMS) Standard (CSA Z1011). September 14, 2020

Tompa E. Key research projects. Disability & Work in Canada Virtual Policy Roundtable, June 16-17, 2020

Tompa E. Work Disability Management System Standard (CSA Z1011). Disability & Work in Canada Virtual Policy Roundtable, June 16-17, 2020

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: Core analyses for this project have been completed and published. There is ongoing methods work that is being developed for publication in conjunction with project 2285 for a special issue of a journal, *International Journal of Environmental Research and Public Health*, on economic burden and economic evaluation in occupational health and safety.

Researchers: Emile Tompa (Principal Investigator), Young Jung, Christina Kalceвич, Amir Mofidi, Doug Hyatt (University of Toronto), Martin Lebeau (Institut de recherche Robert-Sauvé en santé et en sécurité du travail (IRSST)), Chris 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: No new publications

Presentations: No new presentations

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: Completed

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 developed a conceptual framework and methods for costing the exclusion of people with disabilities and then applied it to the Canadian context. It drew on the cost of illness/ economic burden methodology and extended 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: A special issue of the journal *Equality, Diversity and Inclusion* entitled *The benefits of Inclusion: Disability and Work in the 21st Century* will be out in the summer of 2021. The centrepiece article is a conceptual framework for the cost of exclusion of persons with disabilities from full participation in society. It is available as an open access article. The journal special issue includes 10 contributions from academics from around the world.

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

Collaborations and Partnerships: We will be drawing 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, and 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 summer 2021.

Tompa E, Mofidi A, Jetha A, Lahey P, and Buettgen A. Development and implementation of a framework for estimating the economic benefits of an accessible and inclusive society. *Equality, Diversity and Inclusion*. 2021;[epub ahead of print]. doi:10.1108/edi-07-2020-0186

Gewurtz RE, Harlos K, Tompa E, Oldfield M, Lysaght R, Moll S, Kirsh B, Sultan-Taïeb H Cook K, and Rueda S. Retaining and supporting employees with mental illness through inclusive organizations: lessons from five Canadian case studies. *Equality, Diversity and Inclusion*. 2021;[epub ahead of print].

Presentations:

Tompa E. Measuring the cost of social exclusion: advancing methods for assessing the economic burden of illness, injury and disability. Institute for Work & Health Scientific Advisory Committee Meeting, Toronto, April 15, 2021.

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? (2297)

Project Status: Ongoing

Introduction: Financial incentives for employers to recruit, retain and promote persons with disabilities (FIs) take many forms. They are used in Canada and elsewhere as a way to address low rates of employment among people with disabilities. However, to date there has been little research examining how and when they work to improve employment opportunities for people with disabilities. In Canada, the federal government directly operates programs in this domain and supports other initiatives through transfer payments to the provinces. The funds allocated to employment support activities are substantial. The overarching goal of the initiative is to undertake a multi-module, partnered research and knowledge mobilization initiative to develop evidence-informed resources on best-practices for the use of FIs.

Objectives:

- To develop a map of the Canadian FIs policy arena and the key stakeholders who engage in it with details of the characteristics of program offerings and funds allocated
- To undertake an international environmental scan of good practices in the use of FIs
- To develop case studies using qualitative and quantitative methods that contextualize how and when FIs work well or do not work well and why
- To develop contextualized, evidence-informed resources for stakeholders (including government and employer representatives) on best practices in the use of FIs

Status: Over the last year we have hosted three Advisory Committee Meetings to get feedback on interim project activities. Three modules of research activities have been active. The first is a mapping module in which funding sources were identified from across Canada that provide financial incentives. The second is qualitative interviews with stakeholders across Canada on their perceptions of the best use of financial incentives, as well as challenges associated with their use. The third is an international environmental scan in which we are collecting data on current and promising practices in the use of financial incentives in jurisdiction around the world. The mapping module is complete and the other two modules near completion. We have begun a fourth module which involves the development of case studies.

Researchers: Emile Tompa (Co-Principal Investigator), Rebecca Gewurtz (Co-Principal Investigator, McMaster University), Emma Irvin, Heather Johnston, Cindy Moser, Kathy Padkapayeva, Dan Samosh

Collaboration and Partnerships: Maureen Haan (Canadian Council on Rehabilitation and Work), Abdou Saouab (Employment and Social Development Canada), Michael MacDonald (Jazz Aviation)

Potential Audiences and Significance: This study is of relevance to federal and provincial/territorial governments and policymakers as well as service providers who provide job development, matching and support services for workers with disabilities and employers.

Publications: No new publications

Presentations: No new presentations

Funding: 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: Completed

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: Over the last year we were completing the last few analyses, which included poverty and labour-market earnings trajectories. The latter analysis required a special module of that SAS statistical package to be loaded onto the Statistics Canada server where the LAD is kept. This process has taken over a year to negotiate. We completed the trajectory analysis in Q1 2021. In Q3 2020 we completed and submitted a draft report to the funder of the various components of the project, and the final report was submitted in April 2021. The funding envelope ended in March 2021. A component of the project was presented at a WSIB Research Day held in June 2021. We have drafted several manuscripts which will be submitted to journals through the remainder of 2021.

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

Collaboration and Partnerships: N/A

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: No new publications

Presentations:

Tompa E. Tracking long-term outcomes of injured workers in Ontario to better target supports. WSIB Research Day: Occupational Health and Safety Research. June 17, 2021

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 life after work injury 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. We will also compare health and labour market outcomes of the three groups of workers' compensation lost-time claimants 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:

- To recruit three groups of 400 lost-time claim beneficiaries to participate in an interviewer-administered survey collecting 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
- To 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: Recruitment was completed in March 2020, with 1,132 lost-time claimants completing interviews. Data management procedures commenced in April 2020, including the incorporation of information from WSIB administrative records. Descriptive analyses were completed in the fall of 2020 and a progress report was provided to WSIB staff in October 2020. Analysis to address study objectives is in progress.

Researchers: Cameron Mustard (Principal Investigator), Nancy Carnide, 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:

Orchard C, Carnide N, Smith P, and Mustard CA. The association between case manager interactions and serious mental illness following a physical workplace injury or illness: a cross-sectional analysis of workers' compensation claimants in Ontario. *J Occup Rehabil.* 2021;[epub ahead of print]. doi:10.1007/s10926-021-09974-7

Mustard CA, Nadalin V, Carnide C, and Smith PM. Cohort Profile: the Ontario life after workplace injury study. Submitted for publication: *BMJ Open*.

Presentations:

Mustard CA. Ontario injured workers outcome study. Institute for Work & Health Speaker Series. April 21, 2020.

Funding: Mustard CA, Smith PM, Tompa E. Ontario Injured Workers Outcome Study. WSIB Grants Program, \$590,298, 3 years (2019-2021).

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

Project Status: Completed

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. Until this study, there were no data on the incidence of claim suppression in British Columbia. This project, a collaboration between the Institute for Work and Prism Economics, aimed to address this gap.

Objectives:

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

Status: A draft of the report was completed in August 2020 and presented to officials at WorkSafeBC in September. The final report was submitted in December 2020, and another presentation was made to officials at WorkSafeBC in March 2021. A draft of an Issue Briefing on the study was prepared in March 2021 (later finalized and released in May 2021).

Researchers: Ron Saunders (Principal Investigator), Siobhan Cardoso, John O'Grady (Prism Economics)

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: Issue Briefing (released May 2021)

Presentations: Presentations to officials of WorkSafe BC in September 2020 and March 2021. ("Estimates of the Nature and Extent of Claim Suppression in British Columbia's Workers Compensation System")

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 2020/21, the Institute continued work on two important research areas. 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.

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 used internationally with translations available in over 50 dialects and languages. In 2005, the 11-item QuickDASH was released. In 2011, we published a paper that outlined benchmarking scores for the DASH. 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. In 2012, we developed the DASH Outcome Measure application for use on the iPad. In the last year we have systematically reviewed the literature finding all articles that have used the DASH. This includes over 300 articles on the DASH's measurement properties. Ongoing work with the DASH includes creating new evidence and standards as well as creating ways to make the growing body of evidence on the DASH accessible to our key stakeholders. We are rechecking that the content of the DASH is still relevant and comprehensive for capture the impact of a musculoskeletal disorder of the upper limb on day to day functioning.

Objectives:

- To continue work with the DASH and review of measurement properties
- To revise the scoring system for the DASH based on the findings of repeated factor analysis and a recheck of the relevance of the content of the DASH
- To pro-actively address issues related to the DASH

Status: The DASH Outcome Measure continues to be one of the most frequently used outcome instruments to capture upper limb functioning in research, quality improvement and clinical care. 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. The following table summarizes the amount of evidence that is available on the DASH / QuickDASH.

Face Validity	Content validity	Feasibility	Factor analysis	Int Cons	Construct - corr	Construct known groups	Test-retest	Responsiveness	Thresh holds
7	44	31	42	128	353	45	135	179	51

This year we will continue with the 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 as soon as possible post-pandemic.

This year the DASH will be celebrating 25 years since its release.

Researchers: Dorcas Beaton (Institute Coordinator), Jocelyn Dollack, Selahadin Ibrahim.

Collaboration and Partnerships: Consultation with stakeholders, regulatory bodies and other researchers have and will continue to occur throughout the development and fulfillment of these projects.

Potential Audiences and Significance: Professional organizations such as the Canadian Physiotherapy Association (CPA), American Academy of Orthopaedic Surgeons (AAOS) and regulatory colleges have demonstrated their support through use of the DASH, as has the Workplace Safety & Insurance Board (the QuickDASH is the outcome used in the shoulder program of care).

Publications: No new publications

Presentations: No new presentations

Funding: NA

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.

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:

- To 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.
- To identify technological, sociopolitical, environmental and economic signals of change that characterize the future of work for the employment of people with disabilities.
- To 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.
- To 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 have completed a horizon scan which highlighted nine key trends in the future of work and how they may reinforce work and health inequities. We also completed a qualitative study of young people living with disabilities which collected information on how the changing nature of work could impact their careers. In the winter, we began an interview study of policy makers and labour market specialists to examine their perspectives on the future of work. Due to COVID-19, the funder provided a top-up of funds and extended the grant by one year.

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, Shamaee A, Bonaccio S, Gignac MA, Tucker LB, Tompa E, Bültmann U, Norman CD, Banks CG, and Smith PM. Fragmentation in the future of work: a horizon scan examining the impact of the changing nature of work on workers experiencing vulnerability. *Am J Ind Med.* 2021;[epub ahead of print].

Presentations:

Jetha A. Future-proofing young people with disabilities for the changing nature of work. Making Cent\$ of Abilities Coalition: Workforce Planning Board of Waterloo Wellington Dufferin, 2021.

Jetha A. Fragmentation in the future of work: Understanding how the changing nature of work will impact vulnerable workers. IWH Open Speaker Series. Toronto, ON, Canada, 2021.

Jetha A, Jahani R, Da Silva, P, Elliott C. A multidimensional view of the school-to-work transition of young people with disabilities: Highlighting opportunities for policy and practice. Disability and Work Conference. Virtual National conference, 2020.

Jetha A. Future-focused job accommodation practices for the school-to-work transition. Disability and Work Conference. National virtual conference, 2020.

Jetha A. Future of work and its impact on vulnerable workers: EPID@Work Talks. Webinar, 2020.

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, \$270,361.00 (2019-2023).

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:

- To 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.
- To undertake a needs assessment of paramedic organization in the area of work disability management and prevention of PTSI and mental health.
- To develop, promote and disseminate a nationally applicable Canadian standard for paramedics on work disability prevention.
- To develop guidance and tools to facilitate uptake of the standard in paramedic organizations across Canada.

Status: Over the last year, the Technical Committee that was tasked to develop the standard has been meeting monthly to detail the standard, drawing on the seed document developed by the research team. The Technical Committee is chaired by Amin Yazdani, and co-chaired by Emile Tompa and Pierre Poirier. The draft standard was completed in the first quarter of 2021 and was out for public review in the second quarter of the year.

Researchers: Emile Tompa (Co-Principal Investigator), Amin Yazdani (Co-Principal Investigator, Conestoga College), Sabrina Imam, Emma Irvin, Dwayne Van Eerd, Ron Meyers, Nicki 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, and 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. Toronto: Centre for Research on Work Disability Policy, Institute for Work & Health; 2020. Available from: <http://www.crwdp.ca/en/crwdp-reports#2020>

Presentations: No new presentations

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

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

Measurement methodology studies (0925).....	55
Methodological developments in systematic reviews (0951)	57
Do work exposures differ for men and women? Do similar exposures result in different work-related health outcomes for men and women? (3230)	58
Developing recommendations for an integrated workplace health protection and health promotion approach (3270)	59
Instruments for assessing permanent psychological impairment (3275).....	61
Musculoskeletal injury prevention: a practical implementation guide for Newfoundland and Labrador (3385)	62

Measurement methodology studies (0925)

Project Status: Ongoing

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

Objectives:

- To evaluate approaches used to determine the validity and reliability of different indicators/measures and the approaches used to review these properties in the literature.
- To produce models of recovery based on qualitative and quantitative findings.
- To advance evidence-based approaches to selection of outcome measurement instruments in musculoskeletal disorders and work-related injuries.

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 handbook group and co-chair Technical Advisory Group: Beaton). In the measurement methods project at IWH 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 600 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. 2020 saw the successful methodological work sessions at the virtual OMERACT meeting, along with the co-development of the training materials on integrating technical outcomes such as imaging or equally biomechanical outcomes into core outcome sets. We have developed more detailed descriptions of definitions. This work is also linked into international collaborations of measurement initiative groups, the collaboration is called RedHat and Beaton is one of two representatives of the OMERACT style work there. Beaton is also sharing measurement methods work with two expert panels standardizing outcomes for acute asthma, as well as for diagnostic excellence. Finally, several members are collaborating with project lead Dr Martin Offringa at the Hospital for Sick Children on standards for reporting measurement property studies sharing work we have developed here at IWH for key features of these studies to report. 2020 saw PhD student Ellie Pinsker complete her PhD work on patient-centred outcome following ankle injuries and related arthritis. We offer training experiences in measurement sciences through workshops, training videos/webinars, and teaching at the University.

Researchers: Dorcas Beaton (Institute Coordinator), Claire Bombardier, Cynthia Chen, Sheilah Hogg-Johnson, Emma Irvin, Peter Smith, Dwayne Van Eerd, Katie Bingham (University Health Network), Kim Cullen (Memorial University), Lisa Engel (University of Manitoba), Francis Guillemin (University of Nancy, France), Tari Osobo (Hospital for Sick Children), Ellie Pinsker (St Michael's Hospital), Zahi Touma (University of Toronto), Peter Tugwell (University of Ottawa), George Wells (Ottawa Hospital Research Foundation).

Collaboration and Partnerships: Partners in this project include clinicians, researchers, trainees, and students, in the field of measurement. We have strong links with OMERACT (international organization standardizing outcome measurement in rheumatology research) as well as collaborations with international groups such as COMET, COSMIN and IMMPACT, and a collaboration of those groups called RedHAT. We are partnering on a grant with Martin Offringa on standardizing reporting of outcome measurement property studies.

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

Maxwell LJ, and Beaton DE. Comment on: improving the generalizability and credibility of core outcome sets (COS) by a large and international participation of diverse stakeholders by Chevance et al. *J Clin Epidemiol.* 2020;125:213-5. doi:10.1016/j.jclinepi.2020.05.012

Nielsen SM, Rasmussen MU, Boers M, van der Windt DA, de Wit M, Woodworth MT, Flurey CA, Beaton D, Shea B, Escorpizo R, Furst DE, Smolen JS, Toupin-April K, Boonen A, Voshaar M, Ellingsen T, Barnaby GA, Reeves C, March L, Tugwell P, and Christensen R. Towards consensus in defining and handling contextual factors within rheumatology trials: an initial qualitative study from an OMERACT working group. *Ann Rheum Dis.* 2021;80:242-9.

Tayer-Shifman OE, Green R, Beaton D, Ruttan L, Wither JE, Tartaglia MC, Kakvan M, Lombardi S, Anderson N, Su J, Bonilla D, Zandy M, Choi MY, Fritzler MJ, and Touma Z. Validity evidence supports the use of automated neuropsychological assessment metrics as a screening tool for cognitive impairment in lupus. *Arthritis Care Res (Hoboken).* 2020;72(12):1809-19. doi:10.1002/acr.24096

Vaillancourt S, Cullen JD, Dainty KN, Inrig T, Laupacis A, Linton D, Malherbe S, Maybee A, Schull MJ, Seaton MB, and Beaton DE. PROM-ED: development and testing of a patient-reported outcome measure for emergency department patients who are discharged home. *Ann Emerg Med.* 2020;76(2):219-29. doi:10.1016/j.annemergmed.2019.12.023.

Presentations:

Beaton DE. Developing core outcome sets and advances in instrument selection. REDHAT collaboration, 2020.

Beaton DE. Methodology used for selection of imaging outcomes. Workshop for OMERACT 2020 Virtual meeting.

Funding: NA

Methodological developments in systematic reviews (0951)

Project Status: Ongoing

Introduction: IWH is committed to continuously improving the field of systematic review methodology. In 2019/20, we proposed to initiate, undertake, and advance the following methods projects:

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

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

Create a database of prognosis reviews.

Objectives:

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

Status: In the Winter term of 2021 the group successfully ran a course at the University of Toronto Rehabilitation Sciences Institute for PhD and MSc students and guest lectured to the OT students. The team continued to work on a paper on the use of Artificial Intelligence in Systematic Reviews and initiated a paper on the IWH QA tool.

Researchers: Emma Irvin (Institute Coordinator), Dwayne Van Eerd (Institute Coordinator), Nancy Carnide, Andrea Furlan, Joanna Liu, Jill Hayden (Dalhousie University), Jo Jordan (Keele University), Robin Parker (Dalhousie University), Martin Van Tulder (EMGO, Amsterdam)

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

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

Publications: NA

Presentations: NA

Funding: NA

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: Completed

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 or 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:

- To 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.
- To provide knowledge users and stakeholders with a database of all the material found in this review and a synthesis report; and
- To 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: A final report was submitted to the funder on January 31st, 2021, and revisions to the report have begun. A first scientific manuscript from the project was submitted to the journal, *Current Environmental Health Reports*. A second manuscript is currently being prepared.

Researchers: Aviroop Biswas (Principal Investigator), Emma Irvin, Peter Smith, Mieke 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.

Project Targets for 2020/21:

Publications: no new publications

Presentations: Two abstracts were submitted for presentation at EPICOH 2021.

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:

- To 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.
- To identify challenges, successes, and outcomes of integrated approaches.
- To 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: The final report was submitted to the funder on May 2020, I presented the findings to Alberta Labour and Immigration on March 2021. Two scientific manuscripts have been published. The project is completed.

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. Additional partners are being sought.

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. Our partners represent a sizable proportion of industry stakeholders important to Alberta's economic future. The recommendations can indicate areas of strength and improvement along the continuum toward full integration and serve as a stimulus for priority setting and decision-making. 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:

Biswas A, Begum M, van Eerd D, Smith PM, and Gignac MAM. Organizational perspectives on how to successfully integrate health promotion activities into occupational health and safety. *J Occup Environ Med.* 2021; 63(4):270-84. [doi:10.1097/JOM.0000000000002087](https://doi.org/10.1097/JOM.0000000000002087)

Biswas A, Begum M, Van Eerd D, Johnston H, Smith PM, and Gignac AM. Integrating safety and health promotion in workplaces: a scoping review of facilitators, barriers, and recommendations. *Health Promotion Practice.* Accepted June 3, 2021.

Presentations:

Biswas A. Developing recommendations for an integrated approach to worker health and safety. Alberta Labour and Immigration. Given on March 18, 2021.

Biswas A. Actionable recommendations for a holistic approach to safety and wellness practices in Canadian workplaces: integrating scoping review results with stakeholder insights. *Public Health 2020* (virtual conference). October 14, 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: Completed

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: The team held a stakeholder meeting in the Summer of 2020; and completed the review and submitted our draft report to the funder in the Fall of 2020. In the Spring the team responded to the funding agencies peer review process and finalized the report. The team are drafting a potential paper for publication.

Researchers: Peter Smith, Emma Irvin (Co-PIs), Monica Bienefeld, Monique Gignac, Morgane Le Pouésard, Joanna Liu, Quenby Mahood, Maggie Tiong

Collaborations and Partnerships: WorkSafe BC

Potential Audiences and Significance: Compensation Boards and clinical assessors

Publications: No new publications

Presentations: No new presentations

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

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

Project Status: Completed

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 conducted 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 was produced. The guide includes information about effective MSI prevention practices and how to implement them in the context of NL workplaces. Most importantly, the guide was 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:

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

Status: The project has been completed with a final report and presentation to the funder. Stakeholders in NL expressed appreciation for the work and found the findings applicable. The guide produced is being disseminated broadly in NL. One manuscript is under review and a second is underway (with some additional analysis required).

Researchers: Dwayne Van Eerd, Emma Irvin (Co-Lead), Siobhan Cardoso, Morgane Le Pouesard, Kay Nasir, Amanda Butt (Memorial)

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: Van Eerd D, Irvin E, Le Pouésard M, Butt A, and Nasir K. Musculoskeletal disorder (MSD) prevention: current practice evidence. Submitted to Applied Ergonomics.

Presentations: No new presentations

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.*** We explore creative and effective ways to expand evidence dissemination and facilitate knowledge, transfer and exchange using new and current technologies and techniques. The website is our major repository of IWH information, our quarterly newsletter *At Work* is our main vehicle for communicating lay-friendly findings, and our monthly e-bulletin *IWH News* is the main way we point people to information on the website and in our newsletter. We pursue coverage in trade and general media, and we use social media to disseminate information and to follow issues raised by our stakeholders. Where 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

Stakeholder Networks 65
IWH Hosted Events 66
Outreach and Promotion (0650)..... 67
Products: Newsletters, Plain-Language Summaries and Other Information Resources (0604, 0611, 0629, 0636, 0660, 0663, 0665, 0690) 68
Reach and Dissemination: Website, Media, Social Media, e-Alerts and Subscriber Acquisition (0630, 0650, 0655, 0660, 0682, 0690) 69

Stakeholder Networks

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 (MLTSD), and the Workplace Safety and Insurance Board (WSIB). IWH also participates in other Ontario prevention system forums such such as the Ergonomics System Committee.

Objectives:

- To facilitate and support knowledge exchange among IWH researchers and network members to enhance existing research and future studies at IWH
- To 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
- To increase participation in IWH research projects and IWH events
- To 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 2020/21 year, PKEG met each quarter (June, September, December and March). There were presentations by the Ministry of Labour, Training and Skills Development on operations during COVID-19, the future of work, and the development of the Occupational Illness Plan; a presentation by the Occupational Health Clinics for Ontario Workers on COVID-19 risk among different worker groups, and a presentation by the Occupational Cancer Research Centre on the use of surveillance data for prevention. In 2021, the Institute began an internal review of the five health practitioner networks and the Disability Managers and OHS professionals networks to ensure their continued effectiveness for members and the Institute. Network members continued to receive event invitations and research updates as well as periodic requests to assist with research projects (as participants, providing feedback and assisting with promotion and recruitment).

Team: Kristina Buccat, Siobhan Cardoso, Monique Gignac (Project Co-Lead), Sara Macdonald (Project Co-Lead), Cindy Moser, Peter Smith (Project Co-Lead), Sabrina Tonima, Uyen Vu

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

IWH Hosted Events

Project Status: Ongoing

Introduction: The Institute hosts events over the course of each year to share research findings and engage our stakeholders. The IWH Speaker Series is a regular Institute event held from September to June, providing an opportunity to learn about the latest findings from work and health researchers. Each month stakeholders are invited to a presentation by an Institute scientist, followed by a question-and-answer period. The IWH also invites other Canadian and international researchers to present and discuss their research with Institute staff. Presentations for external stakeholders are recorded and made available on the IWH website.

The Alf Nachemson Memorial Lecture is a key IWH event, 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.

Objectives:

- To increase the visibility of the Institute's research provincially, nationally and internationally
- To identify and acknowledge individuals who have made significant contributions to work and health research
- To 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
- To 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 World Congress on Safety and Health at Work, and the Covid-19 pandemic, a decision was made to postpone the 2020 Nachemson lecture. The IWH Speaker Series continued to be held as live webinars. Participation in IWH Speaker Series webinars increased significantly over the year. A new webinar platform enabled KTE and Communications staff to engage with stakeholders before, during and after the event and track attendance. Presentations continue to be made available on the IWH YouTube channel, accessible from the IWH website.

Team: Kristina Buccat, Siobhan Cardoso (Project Co-Lead), Jan Dvorak, Monique Gignac, Sara Macdonald, Lyudmila Mansurova, Cindy Moser (Project Co-Lead), 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:

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

Status: Although in-person conferences and events were cancelled in 2020/2021 due to the Covid-19 pandemic, KTE and Communications staff were able to take opportunities to participate in online events. The aim was to continue to increase stakeholder awareness of the Institute's research, to network and build relationships with stakeholders, encourage subscriptions to IWH newsletters, and to generate stakeholder interest in participating in research. KTE and Communications staff created resources to share with stakeholders from virtual exhibits at the 2020 Public Services Health & Safety Association conference and the 2021 Partners in Prevention conference. The Institute KTE staff also attended events held by our stakeholders to network and learn how our research could support their work. IWH researchers also made practitioner-focused presentations at several conferences.

Team: Kristina Buccat, Siobhan Cardoso, Monique Gignac, Sara Macdonald (Project Lead), 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 together also 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.

Audience: Policy-makers (in the fields of occupational health and safety, disability management, workers' compensation, accessibility and inclusion, and public health); workplace parties (employers, labour representatives and workers); OHS/disability professionals; health practitioners; other researchers in the field of work and health; and the intermediary organizations representing and serving these external stakeholders (e.g. health and safety associations, professional associations)

Objectives:

- To develop lay-friendly, easy-to-access informational resources valued by external stakeholders
- To keep external stakeholders aware of the research and events coming out of the Institute
- To ensure IWH information is of high quality, relevant and easy to understand by stakeholders
- To encourage and support uptake and use of IWH research findings and resources
- To increase the Institute's visibility as a credible, reliable, and impartial source of research evidence

Status: In 2020/21 (April 1, 2020 to March 31, 2021) 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 flagship newsletter, which included a total of 24 articles –11 of which were related to COVID-19, including the popular "Setting up a temporary home office"
- 12 issues of IWH News, our monthly e-newsletter
- three infographics (our annual "5 things we think you should know" and "Cannabis use and the Canadian workplace (2020, post-legalization)
- six Research Highlights (lay summaries of peer-reviewed journal articles)
- one Sharing Best Evidence (summaries of systematic reviews) on osteoarthritis and work
- one Issue Briefing (briefing for policy/decision-makers) on workplace transmission of COVID-19
- two tools/resources ("Working with a rheumatic disease" and "Implementing MSI prevention programs: advice from workplaces for workplaces")
- two issues of a project-specific e-newsletter (for ACED)
- six webinar recordings of IWH Speaker Series presentations
- one media release (plus work on another two through other organizations)
- 10 articles for external publications, plus another 10 short items for MLTSD What's New;
- 2019/20 Annual Report, themed "Disrupted," which focused on IWH's pivot in pandemic
- one journal article on the Institute's research impact model
- almost weekly issues of the internal staff newsletter thistweek@iwh.

Team: Cindy Moser (Project Leader), Uyen Vu (Co-Lead), Kristina Buccat, Siobhan Cardoso, Jan Dvorak, Monique Gignac, Sara Macdonald, Lyudmila Mansurova, Sabrina Tonima, 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:

- To keep external stakeholders aware of the research, news and events coming out of the Institute
- To encourage, support and increase uptake and use of IWH research findings and resources
- To build awareness of the Institute for Work & Health brand as a reliable source of information
- To promote events, including the IWH Speaker Series
- To extend the reach/audience for IWH research
- To support the building and maintenance of strong and active stakeholder relationships
- To monitor and manage reach, dissemination and impact metrics
- To keep website contents, features, design and security up to date

Status:

Subscribers: 7,278 total to all products/notifications at end of March 2021 (up from 7,139 at end of March 2020); 6,653 to IWH News and 6,677 to At Work (up from 6,388 and 6,615, respectively,); 2,130 IWH Speaker Series notification subscribers (up from 1,669); 867 new subscribers acquired during the 2020/21 year; 599 lost subscribers—465 due to bounced emails (i.e., job change or retirement); 134 removed by request

Website: 900,024 unique users during year ending March 2021 (up from 708,856 in previous year), of which 62,004 were in Ontario; 1,126,071 unique web page views (up from 914,149), 247,179 unique web page views without What Researchers Mean By (up from 246,390) – and 81,718 were from Ontario; 51,488 total views of At Work pages (up from 50,931), 162,862 total views of publications and resources (up from 161,082), 11,322 total views of event pages (down from 17,049); 19,302 total downloads during year (down from 23,612)

E-alert referrals: 11,729 referrals to website through IWH News articles (up from 11,000); 3,510 through At Work e-alerts (down from 4,824); 407 through IWH Speaker Series e-alerts (down from 1,903 – could be due to registration moving to GoToWebinar)

Media: 274 media mentions within year ending March 2021 (up from 159 previous year)

Social media: Twitter—4,074 followers at end of March 2021 (up 3,845 from previous year); 201 tweets (down from 450), 287 mentions (down from 588), 485 retweets (down from 1,054) and 907 link clicks (down from 1,907) – all Twitter measure less than half compared to previous year due to decision to tweet less during pandemic; LinkedIn—3,381 followers by year ending March 2021 (up 3,068 from previous year); 67 updates, 160 shares, 1,301 link clicks during year (changed slightly from 57, 171 and 1,735 the previous year, respectively)

Videos: 12,770 views during year ending March 2021 (up from 10,600 the previous year)

Team: Cindy Moser (Project Leader), Uyen Vu (Co-Lead), Jan Dvorak (Co-Lead), Kristina Buccat, Siobhan Cardoso, Sara Macdonald, Lyudmila Mansurova, Sabrina Tonima

Collaboration and Partnerships: IWH scientists, researchers and other staff

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

2020/21 Accomplishments

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.

Journal articles: published and forthcoming

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Research Project Funding – Awarded in 2020/2021

Biswas A, Dobson K, Prince Ware S, Shahidi F, Smith P. Using decision tree machine learning to identify worker movement typologies. DLSPH Seed Grant, \$20,000, 1year.

Furlan A, Adisesh A, Smith P, Carnide N, Irvin E. Project ECHO Occupational and Environmental Health (OEH): development, implementation and evaluation. WSIB 2020: \$396,008, 2 years.

Jetha A, Gignac M, Tucker L. A complex transition: Examining the impact of rheumatic disease on the multifaceted experience of entering adulthood. Arthritis Society Career Award, \$373,139, 3 years.

Mustard C, Smith P, Carnide N. Health and employment outcomes among lost-time claimants in the shadow cast by the COVID-19 emergency. WSIB Fall 2020, \$297,119, 2 years.

Tompa E, Gewurtz R, Irvin E, Mofidi A, Mohan A. The development of an indicator framework in relation to culture change towards accessibility and inclusion of persons with disabilities. ESDC, \$ 99,609.50, 1 year.

Van Eerd D, Tompa E, Irvin E, Gross D, Els C, Straube S, Brémault-Phillips S, Carleton RN, McElheran, M. Evidence-informed workplace policies and practices for the prevention of PTSD work disability. Alberta Supporting Psychological Health in First Responders grant program, \$172,820, 1 year.

Non-IWH Research Project Funding – Awarded in 2020/2021

Bottari, C., (PI), Engel, L. (Co-PI), McDonald, M (Co-PI), Gignac, M.A.M., Lemsky, C., Nadler, E., Rotenberg, S., Schmidt, J., Swaine, B., Zarshenas, S. Optimizing community associations' rapidly evolving responses to meet the unique needs of people living with acquired brain injury during the COVID 19 pandemic. Canadian Institutes of Health Research (CIHR) Project Grant Competition, \$218,025, 2 years.

Bottari, C., Engel, L., Levesque, McDonald, M., Gignac, M.A.M., Lemsky, C., Nadler, E., Rotenberg, S., Schmidt, J., Swaine, B., Zarshenas, S. Enhancing the pandemic responses of disability support services. Université de Montréal, Faculté de médecine, Vice-décanat à la recherche et au développement, \$50,000, 1 year.

Hayden, Jill A; Kiepek, Niki C, Asbridge, Mark; Campbell, Samuel G; Ellis, Jenna; Furlan, Andrea D; Grant, Douglas (Gus) A; Jackson, Lois A; Ogilvie, Rachel L; Parkash, Ravi; Singh, Sareen; Stanojevic, Sanja; Stewart, Samuel A; Stewart, Sherry H; Taylor, Heather G; Yadav, Krishan. Opioid use after first prescription for low back pain in the emergency department. CIHR Project Grant Fall 2020, \$359,549, 3 years.

Hennebry J, Caxaj CS, Huesca E, McLaughlin J, Diaz A, Cole D, Vosko L, Tew M, Smith P. COVID-19: Pandemic Survey of Migrant Agricultural Workers in Ontario. SSHRC - PEG COVID-19 Special Initiative, \$24, 961, 1 year.

Kumbhare D.A. (PI), Gignac, M. A. M., Furlan, A.D., Stiell I.G., He, W. Development of a Canadian return to work clinical decision rule for chronic pain patients. WSIB Grants Program, \$140,000, 2 years.

LeBlanc A., Bosma R., Goldowitz D., King M., Poitras ME., Witteman H.; Principal Knowledge User : Black A, Fernandez N, Kent A, McCormick R, Robinson Settee H, Smithman MA, Turcotte S. Co-investigator : Abou Setta A, Atherton P, Aubin D, Bacon S, Barnett T, Barrett B, Belanger M, Birnie K, Boivin A; Bonin R, Brown JB, Buckley N, Carpentier A, Carver T, Couturier Y, Crowshoe L, Despres JP; Dogba JM, Dumez V, Etchegary H, Fairie P, Ferrari M, Furlan A, Garg A, Getchell L, Groulx A, Hawke L; Henderson J, Irlbacher Fox S, Iyer S, King A, L'Esperance A, Lambert S, Letourneau N, Li L; Lukewich J, McGrail K, McPhee C, McPherson A, Menear M, Mushquash C, Parrilla Lopez MJ, Riley J; Smith A, Stewart M, Stinson J, Straus S, Street C, Terry AL, Trempe Martineau J, Tricco A; Van Hoorn R, Wasylak T. Innovative National Strategies for Patient-Oriented Research Education / Stratégies Nationales Innovantes pour l'Éducation en Recherche axée sur le Patient (INSPIRE) . Canadian Institutes of Health Research (CIHR) CIHR Training Grant: Strategy-for Patient-Oriented Research (SPOR) National Training Entity, \$ 5,250,000, 5 years.

Offringa M, Butcher NJ, Moher D, Tricco AC, Aiyegbusi O, Barnett Tapia C, Beaton D, Borkhoff C, Farmer J, Gagnier J, Gale C, Hal N, Johnson S, Kelly L, Klassen A, Monga S, Potter E, Smith M, Smith P, Szatmari P, Touma Z, Tugwell P, Ungar W, Vohra S, Webbe J, Welch V, Wong K. Development, validation, and implementation of a knowledge synthesis reporting guideline for outcome measurement instruments in health research. CIHR Project Grant Fall 2020, \$392,010, 3 years.

Touma Z (PI), Green R, Beaton D, Ruttan L, Tartaglia C, Bingham K, Wither J, Goldenberg A, Fritzler M, Choi M, Katz P, Erdman L, Keill L. Modeling Cognitive Impairment in Patients with Systemic Lupus Erythematosus. Lupus Research Alliance, \$299,486.00 USD, 2 years.

Research Project Funding – Submitted in 2020/2021

Biswas A, Koehoorn M, Smith P, Irvin E, Johnston H. Examining sex/gender differences in exposures to workplace-acquired communicable disease: A systematic review. WorkSafeBC IAW, \$49,951, 1 year.

Biswas A, Prince Ware S, Lang J, Pinault L, Smith P, Tjepkema M, Villeneuve P, Mazza J. Exploring where Canadians work and live and their effects on active transportation. CIHR Fall Project Grant 2020 - Healthy Cities Research Initiative Priority, \$75,000, 1 year.

Dohly A, Van Eerd D, Irvin E, Robson L. Practical Guidance for Delivering Effective MSI Prevention Training in Manitoba Workplaces. Manitoba WCB, \$85,567, 1 year.

Gewurtz R, Tompa E, Packham T, Sultan-Taïeb H, Harlos K, Samosh D, Richards D, Oldfield M, Sonoda J, Yates T, McKenna W, MacDonald M. Building Employer Capacity to Hire and Support People Living with Arthritis and Related Chronic and Episodic Conditions. The Arthritis Society Strategic Operating Grant, \$299,671, 3 years.

Jetha A (Co-PI), Smith P (Co-PI), Gignac M, Smith B, Biswas A. Facing the COVID-19 pandemic as a frontline worker in the retail trade or accommodation and food services industry: Applied solutions for health and safety. Toronto COVID-19 Action Initiative, \$205,847, 1 year.

Jetha A. Facing the COVID-19 pandemic as a frontline worker in the retail trade or accommodation and food services industry: Applied solutions for health and safety. Ontario Together, \$205,847, 1 year.

Mustard CA, Smith PM, Carnide N, Jetha A. Workers Vulnerable to Adverse Health and Employment Outcomes in the COVID-19 Emergency: A Quasi-Experimental Study. CIHR Rapid Response Funding Opportunity, COVID-19, \$489,647, 1 year.

Robson L, Smith P, Mustard C, Landsman V, Van Eerd D. Safety in Construction during the COVID-19 Pandemic. WSIB Fall 2020, \$166,132, 1.6 years.

Smith P, Gignac M and Gilbert-Ouimet M. Developing approaches to measuring the dimensions of gender and examining the relationship between 'gender dimension discordance' and health among Canadian men and women. CIHR Project Grant Fall 2020, \$735,000, 4 years.

Smith P, Gignac M, Mustard C, Vahid Shahidi F. Social and workplace-based responses to reduce COVID-19 impact in Canada: building on ongoing work and the model of OHS vulnerability to understand the relationships between labour market participation, workplace protections and mental health. CIHR Rapid Response Funding Opportunity, COVID-19, \$393,323, 1 year.

Smith P, Mustard C, Smith B, Robson L, Vahid-Shahidi F. Identifying industry, workplace and individual factors associated with risk of work-related COVID-19 infection. WSIB Fall 2020, \$284,968, 2 years.

Smith P, Mustard C. Understanding access to workers compensation among Ontarians with work-related chronic mental illness. WSIB 2020, \$219,084, 1.5 years.

Smith P. Understanding the needs of employers during the relaxing of physical distancing in Ontario: developing a research base for policy and program development. Ontario Together, \$350,000, 1 year.

Tompa E (Nominated Principal Applicant), Gewurtz R (Co-Principal Applicant), Marshall C, Laberge M, Moll S, Bruyere S, Kristman V, Irvin E, Harlos K, Sultan-Taieb H, Fleisig R, Maisel J, Wyndham-West C, Coutu MF, Gomez R, Veres A, Coppin P, Jetha A, Kondo T, Van Eerd D, Bonyhady B, (Co-Investigators), Giulione J, Moser C, Farquhar A, Sukhai M, MacDonald M, Haan M (Collaborators). Inclusive Design for Employment Access (IDEA). New Frontiers in Research Grant -Transformation Stream, \$ 24000000, 6 years.

Tompa E, Gewurtz R, Samosh D, Farquhar A. Impact of COVID-19 on Persons with Disabilities: Informing Policy Responses with Near Real Time Evidence. McMaster COVID-19 Research Funding Call, \$93,685, 1 year.

Tompa E, Mofidi A, Arrandale V. The Economic Cost of Saving Lives: Development and Application of a Cost Benefit Framework for Pandemic Response. Toronto COVID-19 Action Initiative, \$114,976, 1 year.

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

Van Eerd D, Irvin E, Johnston H, Dennerlein J, Fischer S, McInnes B, Tyson J, Macdonald. Risk factor identification and assessment tools for musculoskeletal injuries: a Systematic review and Survey . WorkSafeBC Specific Priorities/ Systematic Reviews, \$130,740, 1 year.

Non-IWH Research Project Funding – Submitted in 2020/2021

Adishes A, Furlan A. Occupational eHealth - Working for Ontario Workplaces (OeH-WOW). WSIB 2020, \$168,797, 2 years.

Gilbert-Ouimet M, Brisson C, Milot A, Smith P, Talbot D, Trudel X. A sex and gender examination of the relationships between psychosocial stressors at work, long working hours and the 24-year incidence of cardiovascular diseases among 9,188 women and men. CIHR Project Grant Fall 2020, \$325,000, 3 years.

Hamdani Y, Tint A, Jetha A, Gignac M, Lai M, Kriss A, Spoelstra M. Gender, disability and sustainable employment: Promoting gender and neurodiverse talent through inclusive workplace supports. Social Sciences and Humanities Research Council: Insight Development Grant, \$74,123, 2 years.

Moll S, Baynton M, Slade K, Zannis A, Franch RL, Macedo L, Smith P, Hamza. Advancing a mobile-health approach to supporting Canadian healthcare workers through implementation science. CIHR Operating Grant: COVID-19 Mental Health & Substance Use Service Needs and Delivery, \$200,000, 1 year.

Moll S, Macdermid J, Macedo L, Smith P, Slade K. Evaluating organizational implementation and impact of a new e-mental health app for healthcare workers. WSIB Fall 2020, \$253, 518, 2 years.

Siddiqi A, Blair A, Frank J, Parnia A, Rosella L, Tuite A, Vahid Shahidi F. Filling an Urgent Gap in Understanding the Social Determinants of COVID-19: A Study of Inequities in Risk across Canadian Neighbourhoods. CIHR Rapid Response Funding Opportunity, COVID-19, \$191,410, 1 year.

Siddiqi A, Frank J, Blair A, Parnia A, Shahidi FV, Sreeram P, Zekiros S, Tan V, Rosella L, Tuite A, Berry I, Soucy J-P. Spatial and Social Patterning of COVID-19: Supporting Ongoing Forecasting Efforts and Decision-Making in Canada. Toronto COVID-19 Action Initiative, \$222,661, 1 year.

Smith B, Brown K, Buchan S, Jetha A, Papayo R, Arjumand S, Smith P, Vahid Shahidi F. Estimating the unequitable burden of COVID-19 exposure at work: A key factor for understanding race/ethnicity and income differences in COVID-19. CIHR Rapid Response Funding Opportunity, COVID-19, \$200,000, 1 year.

Trudel, X (Co-PI), Gilbert-Ouimet M, Mâsse B, Smith P, 7 other Co-Applicants, Talbot D (Collaborator). 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. CIHR Project Grant Fall 2020, \$1,195,000, 5 years.

Research Personnel Funding & Other Awards

Vahid Shahidi F. Canadian Institutes of Health Research, Fellowship Awards, \$56,667 (plus \$5,000 Research Allowance).

Woticky, Gemma Canadian Institutes of Health Research, Doctoral Award: Frederick Banting and Charles Best Canada Graduate Scholarships Awards, \$30,000 (plus \$5,000 Research Allowance)

Collaborators and Staff

2020/21 Participating Organizations

Ontario Ministry of Labour, Training and Skills Development (MLTSD): The MLTSD'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 MLTSD-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 MLTSD-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 MLTSD-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.

2020/21 Collaborating research organizations

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

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

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

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

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

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

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

Work Wellness and Disability Prevention Institute (WWDPI): Formerly known as the Canadian Institute for the Relief of Pain and Disability (CIRPD), WWDPI is a global centre of excellence with a mandate to create and sustain work wellness, prevent disability, and eliminate impairment-related job loss and worklessness for those

with, or at risk of, chronic and episodic health-related challenges. It aims to do this through credible, science-informed and practical tools and educational resources that reduce the gap between what is known from high-quality research and what is done in practice.

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

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

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

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

2020/21 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.

2020/21 Institute for Work & Health Staff

* denotes staff no longer at the IWH

Research

Beaton, Dorcas; PhD, Senior Scientist

Begum, Momtaz, MSc, Project Coordinator

Biswas, Aviroop; PhD, Associate Scientist

Bowring, Julie; MA, Research Coordinator

Canga, Albana; BA, Administrative Assistant

Cardoso, Siobhan; MEd, KTE Associate/ Manager, Research Operations/Research Associate

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, 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 Assistant

Irvin, Emma; BA, Director, Research Operations

Jetha, Arif; PhD, Scientist

Johnston, Heather, PhD student, Research Associate

Khan, Fareena; BA, National Project Manager, World Congress 2020

Kristman, Vicki; PhD, Associate Scientist

Landsman, Victoria; PhD, Scientist

Latour-Villamil, Desiree; MA, Research Assistant

Le Pouésard, Morgane; MSc, Project Coordinator

Lee, Hyunmi; MSc, Programmer Analyst

Liao, Qing; MSc, Research Associate, Analyst

Liu, Joanna; BA, Diploma Library and Information Technology, Library Technician

Maselli, Paolo; Network Administrator/Systems Analyst

McLeod, Chris; PhD, Associate Scientist

Nadalin, Victoria; MA, Research Analyst

Nasir, Kay; BA, Research Assistant

Padkapayeva, Kathy; BA, Research/Administrative Assistant

Raktoe, Shanti; BSc, Administrative Assistant

Robson, Lynda; PhD, Scientist

Severin, Colette; MSc, Manager, Research Operations

Ali Shamaee, Project Coordinator
Smith, Peter; PhD, Scientific Co-Director and Senior Scientist
Tiong, Maggie; BA, Manager, Library Services
Tomba, Emile; PhD, Senior Scientist
Tonima, Sabrina; BAsC, Project Coordinator
Van Eerd, Dwayne; PhD, Associate Scientist
Yanar, Basak; PhD, Research Associate
Yao, Grant; BComm, Network Administrator/Systems Analyst

Knowledge Transfer & Exchange

Buccat, Kristina; Dip. Radio and Television Production, Administrative Assistant
Dvorak, Jan; BA, Web & Design Coordinator
Macdonald, Sara; QEHS Management Diploma, Manager, Knowledge Transfer & Exchange
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)
Dobson, Kathleen; PhD Student
Fan, Jonathan; PhD Student
Jessiman-Perreault, Genevieve; PhD Student
Mofidi, Amir, Post-doc
Orchard, Crista; PhD Student
Pickard, Angela; PhD Student (maternity leave)
Portt, Andrea; PhD Student
Samosh, Dan; Post-doc
Shahidi, Faraz; Post-doc
Woticky, Gemma; PhD student

2020/21 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

99 2019/20 Accomplishments 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 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. Lisa Engel is a registered occupational therapist and an assistant professor in the Department of Occupational Therapy in the College of Rehabilitation Sciences at the University of Manitoba. Her program of research evolved directly from her clinical experiences working as a hospital-based occupational therapist. Her research aims to improve the financial capability and financial well-being of people living with chronic health conditions or disabilities, especially those living with cognitive impairments—based on the view that addressing finances is

foundational to addressing health. She also focuses on the assessment and intervention of financial capability and financial well-being within health and social-care contexts. Engel received her master's of science in occupational science/therapy and her PhD in rehabilitation sciences, both from the University of Toronto. She completed a post-doctoral fellowship at the University Health Network's Centre for Prognosis in Rheumatic Diseases. She was awarded a three-year Canadian Institutes of Health Research allied health fellowship during her doctoral studies, an Arthritis Society post-doctoral research fellowship, and a three-year project grant from the Government of Canada Social Development Partnerships Program (disability component).

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. Rebecca Gewurtz is an occupational therapist and associate professor in the School of Rehabilitation Science at McMaster University. Gewurtz's research focuses on work disability policy, income insecurity, and employment among people living with mental illness and other episodic disabilities. She uses primarily qualitative methods in her research to examine the experiences of people with disabilities as they seek and retain employment and apply for income-replacement benefits. She has been involved in large partnership projects that include diverse community collaborators, such as employers, non-profit social service organizations and government agencies. She has experience with participatory action research and co-designing solutions to complex workplace problems. Her recent work includes a focus on the unique experiences of people who have experienced homelessness and are transitioning to being housed, as well as retaining people who are living with mental health conditions in the workplace. Gewurtz earned a master's of science and a PhD in rehabilitation science at the University of Toronto. She also completed a collaborative program through the CHSRF/CIHR Ontario Training Centre in Health Services and Policy Research.

Dr. Mahée Gilbert-Ouimet is an associate professor of population health in the Department of Health Sciences at the Université du Québec à Rimouski. She holds a Canada Research Chair in Sex and Gender in Occupational Health. Gilbert-Ouimet's research mainly focuses on the effects of adverse psychosocial working conditions on the incidence of chronic health conditions, and on intervention studies aimed at reducing these working conditions. She is also interested in developing methods and recommendations that improve sex and gender considerations in health research. Gilbert-Ouimet received her PhD in epidemiology from Laval University. She held a first post-doctoral fellowship in epidemiology at the Institute for Work & Health and a second post-doctoral fellowship in health economics at the Université du Québec à Montréal.

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. Chris McLeod is co-director of the Partnership for Work, Health and Safety at the School of Population and Public Health at the University of British Columbia (UBC) in Vancouver, where he is also an associate professor. McLeod holds a PhD in population and public health from UBC and a master's in economics from McMaster University. He is the recipient of a five-year (2013-2018) Canadian Institutes of Health Research (CIHR) New Investigator Award and of a five-year (2016-2021) Michael Smith Foundation for Health Research Scholar Award. He was a member of the Institute for Work & Health's scientific staff until March 2021. McLeod's research focuses on the program and policy evaluation of occupational health policies and practices, and on the causes and consequences of work-related injury and disease. He is also a content data expert for Population Data BC, working on developing and extending the occupational health data available to researchers through Population Data BC.

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, 103 2019/20 Accomplishments 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.

Dr. 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 104 2019/20 Accomplishments 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

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

Secretary & Board Member: Canadian Association for Research on Work & Health (CARWH)

Research project collaborator: Prince SA, Lund Rasmussen CL, Biswas A, Holtermann A, Aulakh T, Merucci K, Coenen P. The effect of leisure time physical activity and sedentary behaviour on the health of workers with different occupational physical activity demands: A systematic review. International Journal of Behavioural Nutrition and Physical Activity. Accepted June 8, 2021.

Research project collaborator: Pentland V, Spilsbury S, Biswas A, Mottola MF, Paplinskie S, Mitchell MS. Does walking reduce postpartum depressive symptoms? A systematic review and meta-analysis of randomized controlled trials. Submitted to the Journal of Women's Health (JWH-2021-0296). May 31, 2021

CARNIDE, Nancy

Associate Member: College of Reviewers, Canadian Institutes of Health Research (2021 – present)

Member: Canadian Consortium for the Investigation of Cannabinoids (2018 – present)

Member: Canadian Standards Association (CSA) Group Technical Committee (management of substance-related impairment in the workplace) (2019 – 2021)

Member: Canadian Mental Health Association, Not Myself Today Medical Cannabis Advisory Committee (2019 – 2020)

Member: Canadian Association for Research on Work and Health

FURLAN, Andrea

Staff Physician: Physiatry, Toronto Rehabilitation Institute

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

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

Associate Member: Institute of Medical Science, University of Toronto

Member: Ontario Ministry of Health Narcotics Monitoring Working Group

Member: Ontario Ministry of Health Opioid Education Working Group

Co-chair: ECHO Ontario

Member: Canadian Association of Physical Medicine and Rehabilitation

Member: Canadian Pain Society

Member: Canadian Academy of Pain Medicine

Member: International Society of Physical & Rehabilitation Medicine (ISPRM)

Member: Clinical Sciences Committee, International Society of Physical and Rehabilitation Medicine (ISPRM)

Representative of the Institute of Medical Sciences (IMS) Department of the University of Toronto in the “CoPAS” Collaborative Program in Addiction Studies

GIGNAC, Monique

Professor, Dalla Lana School of Public Health, University of Toronto, Status Appointment, Toronto, Ontario
Scientific Co-Director, Institute for Work and Health, Toronto, Ontario
Senior Scientist, Institute for Work and Health, Toronto, Ontario
Affiliate Scientist, Division of Health Care & Outcomes Research, Krembil Research Institute (formerly the Toronto Western Research Institute), The University Health Network, Toronto, Ontario
Adjunct Member: Research Centre for Enhancing Prevention of Injury and Disability at Work (EPID@Work), Lakehead, University, Ontario
Privacy Officer, Institute for Work & Health, Toronto, Ontario
Chair, Institute Advisory Board (IAB), Institute for Musculoskeletal health and Arthritis (IMHA), Canadian Institute of Health Research
Member, Search Committee, Department of Occupational Science and Occupational Therapy, University of Toronto, Early Career Professor in Workplace Mental Health
Chair, Scientists’ Meetings, Institute for Work and Health
Member, Executive Committee, Institute for Work and Health (IWH)
Chair, Speaker Series Committee, Institute for Work and Health (IWH)
Member, Ontario Episodic Disabilities Forum (OEDF)
Vice Chair, Integrated Scientific and Medical Advisory Committee (iSMAC), Arthritis Society
Member, International Working Group for the Measurement of Work Productivity, Outcome Measures in Rheumatology (OMERACT)
American Psychological Association (APA) (since 1987)
Canadian Association on Gerontology (CAG) (since 1987)
Gerontological Society of America (GSA) (since 1991)
Association of Rheumatology Health Professionals (ARHP) (since 2006)

IRVIN, Emma

Adjunct appointment with the Department of Rehabilitation Sciences at the University of Toronto
Member, Canadian Health Librarian Association (CHLA) (2003 – present)
Member, Canadian Library Association (CLA) (1994 – present)
Member, ICOH Scientific Committee MSD

JETHA, Arif

Adjunct Scientist: Enhancing Prevention of Injury and Disability at Work, Lakehead University, Thunder Bay, ON, Canada, 2019 - Present.
Assistant Professor (status only): Dalla Lana School of Public Health University of Toronto (August 2016-present)
Member: Association of Rheumatology Health Professionals, (2013 - Present)
Board Member: Dalla Lana School of Public Health Alumni Association (January 2017- present)
Co-Chair: Training Committee, Institute for Work & Health, 2019 - Present
Collaborator, Centre for Research on Work Disability Policy (July 2015 – present)
Contributing Content Expert: Spinal Cord Injury Rehabilitation Care High Performance Indicators Project (SCI-HIGH), Toronto Rehabilitation Institute, University Health Network
Executive Board Member and lead of advocacy group: Canadian Association for Research on Work & Health (CARWH), 2016 - 2020
International Commission on Occupational Health, Work Disability Prevention and Integration Scientific Committee (2015 - Present)
Member: American Public Health Association (APHA) (2013-present)
Member: Association of Rheumatology Health Professionals (ARHP) (2013- present)
Member: Centre for Disability Participation Project, McMaster University
Member: Grant Review Board, 2019 WorkSafeBC Research Training Award Panel
Member: Rehabilitation Institute, UHN (February 2016- present)
Project Collaboration: Arthritis Program, Centers for Disease Control and Prevention
Scientific Member-at-Large: Privacy Committee, Institute for Work & Health, 2018 - Present
Workers’ Compensation Research Group: (2015 - Present)

MUSTARD, Cameron

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
President, National Organizing Committee, XXII World Congress on Safety & Health at Work, October 2017 to October 2020
Chair, International Organizing Committee, XXII World Congress on Safety & Health at Work, October 2017 to October 2020
Member, Steering Committee, Toronto Region Statistics Canada Research Data Centre
Member, OCRC Steering Committee, April 2018 to present
Member, Health Reports Editorial Board, January 2017 to present
Member, Epidemiology Faculty Advisory Committee, Dalla Lana School of Public Health, University of Toronto, 2016
Member, Epidemiology Faculty Curriculum Committee, Dalla Lana School of Public Health, University of Toronto, 2018 to present

ROBSON, Lynda

Adjunct Professor, School of Occupational and Public Health, Faculty of Community Services, Ryerson University
Member, Canadian Association for Research on Work and Health
Member, Canadian Evaluation Society

SMITH, Peter

Committee Member. Epidemiology PhD Admissions Committee, Dalla Lana School of Public Health, University of Toronto
Member - Medical Cannabis Advisory Group. Canadian Mental Health Association
Panel Member. Academic Review, Institute for Safety Compensation and Recovery Research, Monash University.
Chair, Scientific Committee. World Congress on Safety and Health at Work

TOMPA, Emile

Technical Committee Member, Employment Standard. Accessibility Standards Association. 2021-present.
Technical Committee Member and Vice-Chair, Work Disability Management System Standard for Paramedic Organizations. CSA Group. 2020-present.
Technical Committee Member and Chair, Work Disability Management System Standard. CSA Group. 2019-2020.
Data and Measurement Consultations, Accessibility Data and Measurement Strategy, Accessibility Secretariat, Employment and Social Development Canada (Ongoing)
Consultations with Zoe McKnight regarding best practices for accommodating persons with mental health conditions in the workplace, Policy Analyst at Strategic Policy, Analysis and Workplace Information Directorate, Labour Program, Employment and Social Development Canada (March 2020)
Consultations on Work Disability Policy, with the Income and Employment Branch, Program Policy and Improvement Division of Alberta Government (February 2020)
Member, Canadian Institutes of Health Research (CIHR) College of Reviewers, October 2017-present
Chair, Canadian Standards Association Committee for the development of a standard on Work Disability Prevention Management Systems, January 2019 – May 2020
Steering Committee Member of Disability & Work in Canada (DWC) Initiative

VAN EERD, Dwayne

Researcher, Centre for Research Expertise for Musculoskeletal Disorders, Waterloo, Ontario (Jan 2008–Present)
Adjunct Lecturer in the Department of Occupational Sciences and Occupational Therapy, University of Toronto (July 2018 – Present)
Associate (restricted) Graduate Faculty, Rehabilitation Sciences Institute, University of Toronto (Oct 2019 – Present)
Member, Ontario Kinesiology Association

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)

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

Graduate Application Reviewer, MSc. Health Promotion applications, Social and Behavioural Health Sciences, Dalla Lana School of Public Health, University of Toronto

Graduate Application Reviewer, MSc – Epidemiology, Dalla Lana School of Public Health, University of Toronto

Faculty Tutorial Lead: CHL5401: Epidemiologic Methods, Dalla Lana School of Public Health, University of Toronto

Alumni mentor: University of Toronto, Alumni Mentorship Program

Service Activities

Reviewer: BMC Public Health

Reviewer: American Journal of Preventive Medicine

Reviewer: Occupational and Environmental Medicine

Reviewer: PLOS ONE

Reviewer: Disability and Rehabilitation

Reviewer: Journal of Science & Medicine in Sport

Reviewer: Annals of Internal Medicine

CARNIDE, Nancy

Service Activities

Reviewer: Syme Fellowship Award, Institute for Work & Health

Reviewer: Journal of Occupational and Environmental Medicine

Reviewer: Canadian Medical Association Journal (CMAJ)

Reviewer: Operating Grant: COVID-19 Mental Health and Substance Use Service Needs and Delivery. Canadian Institutes of Health Research.

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:

Invited Lecturer (March 2020): HAD5302H: Measurement in Clinical Research. "Development of Measures: How good are those instructions, items, and response options". Course Director: Cory Borkhoff.

Thesis Committees:

Genevieve Jessiman-Perreault, July 2019 to present. Thesis title TBA. (Co-supervisor with Dr. Peter Smith)

Faraz Vahid Shahidi, PhD., Postdoctoral Fellowship, August 2019 to present. Canadian Institutes of Health Research Postdoctoral Fellowship. (Co-supervisor with Dr. Peter Smith)

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

Leslie Cheng, MPH Student, May 2020-December 2020. Co-supervised with A. Jetha and Crohn's and Colitis Canada through the ACED Partnership grant. Practicum project: Workplace challenges, supports, and accommodations for people with inflammatory bowel disease: A scoping review and directions for future research.

Ayesha Khan, MPH Student, May 2020-December 2020. Co-supervised with A. Jetha and Realize Canada through the ACED Partnership grant. Practicum project: An employment policy brief for people with episodic disabilities.

M.Sc. Committee Member for Adriano Nella, Institute for Medical Sciences, University of Toronto. Supervisor, Andrea Furlan. Thesis title: TBA. November 2020.

PhD. Committee Member for Andre Luquini, Faculty of Medicine, University of British Columbia. Supervisor, Diane Lacaille. Thesis title: TBA. June 2019 to present.

Ph.D. Committee Member for Kristina Kokorelias, Rehabilitation Sciences, University of Toronto.

Jill Cameron. Thesis title: Caring for the Caregiver: An Examination of Support Needs and Service use across the Alzheimer's Disease Trajectory. September 2016 to January 2021.

Ph.D. Committee Member for Jonathan Fan, Epidemiology program, Dalla Lana School of Public Health, University of Toronto. Supervisor: Peter Smith. Thesis title: Age-related differences in work outcomes: Developing a better understanding of variations in return-to-work, wage replacement and retirement outcomes using better methods and data. May 2016 to August 2020.

M.A. External Examiner: Danielle Aubin (May 2020). "After the Dust Settles: A Qualitative Study of Underground Workers Exposed to an Aluminum Dust Prophylaxis." Laurentian University. Supervisor: Nancy Lightfoot.

Service Activities:

Associate Editor, Arthritis Care & Research

Reviewer: Arthritis Care & Research, Journal of Occupational Rehabilitation, Disability and Rehabilitation

IRVIN, Emma

Teaching/Educational Role

Lead Instructor, REH 3600H Synthesis Toolkit, Graduate course, Rehabilitation Sciences Institute, University of Toronto (Jan 2021 – Apr 2021)

Guest lecturer, Meta Analysis- Basic Principles (OCT1122Y), Department of Medicine, University of Toronto (May 2020)

Service Activities

Reviewer, Journal of Occupational Rehabilitation, Arthritis and Rheumatism, CMAJ and International Journal of Health Promotion and Education (2020)

JETHA, Arif

Teaching/Education Role

Course Co-Instructor, CHL 5400: Introduction to public health. Course director: Dr. Jeremy Scott, Dalla Lana School of Public Health, University of Toronto, 2016-Present

Course Co-Instructor. CHL 5308: Public Health Policy Tools. Course director: Dr. Robert Schwartz, Dalla Lana School of Public Health, University of Toronto, 2016-Present.

Faculty member: Institute for Pandemics, Dalla Lana School of Public Health, University of Toronto, ON, Canada, (2021-present)

Faculty Mentor: Collaborative Program in Public Health Policy, Dalla Lana School of Public Health, University of Toronto (2017-present)

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 , Scandinavian Journal of Work, Environment and Health ,PLOS Medicine, 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

Reviewer: Canadian Standards Association. Workplace and COVID-19: Occupational Health and Safety consideration for reopening and operating during the pandemic, 2020.

Reviewer: Huang E. (Oregon Institute of Occupational Health Sciences). COVID-19 Safety Climate Scale Development, 2020.

Reviewer: WorkSafeBC Research Training Award Panel (2), 2019-Present

Reviewer: Arthritis Society Operating Grant Program (2), 2018-Present

LANDSMAN, Victoria

Teaching/Educational Role

Supervisor, Mingxin S. Analytic challenges of estimating effectiveness of a regulatory training program. 2019-2020.

Supervisor, Linda L. Estimating cause-specific mortality rates by smoking levels: utilizing vital statistics and National Health Interview data with mortality follow-up. 2019-2020.

Supervisor, Sylvia L. Improving on analyses of self-reported data using multiple imputation. 2020-2021.

MUSTARD, Cameron

Teaching/Educational Role

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

Thesis Committee Member to Kimberly Sharpe, PhD Candidate, University of British Columbia, 2017 to present

Principal Supervisor to Laura Bogaert, PhD Candidate Epidemiology, Dalla Lana School of Public Health, University of Toronto, September 2013 to present

ROBSON, Lynda

Teaching/Educational Role

BASc Practicum Supervisor. Melanie Zukowski. Topic: Remote delivery of training: a literature review. ENH 66A/B – Field Project. School of Occupational and Public Health, Ryerson University. 2020-21.

BASc Practicum Supervisor. Harrison Kote and Amy Nguyen. ENH 66A/B – Field Project. School of Occupational and Public Health, Ryerson University. 2019-20. Outputs: Final report and research poster, both titled “Joint health and safety committees as change agents: an exploratory qualitative study in two Ontario firms”

Service Activities

Grant reviewer: National Institute for Occupational Safety and Health, NORA Small Project Intramural Grants, 2020 (1)

Ad-hoc journal reviewer: Safety Science

SMITH, Peter

Teaching/Educational Role

Course Designer and Co-Instructor: CHL5428 – Epidemiological methods for causal mediation analyses

Guest Lecturer: Factor Analysis. Measurement in Clinical Research (HAD5302)

Thesis Supervision:

Co-Supervisor to Dorothy Apedaile, Dalla Lana School of Public Health, MPH (Epidemiology) - summer practicum, 2020

Co-supervisor to 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 to Christa Orchard, PhD Candidate, Epidemiology, Dalla Lana School of Public Health, University of Toronto. Research topic: Using data-driven population segmentation to improve our understanding of long-term patterns of mental healthcare among men and women in Ontario (September 2019 - present)

Primary Supervisor to Andrea Portt, PhD Candidate, Epidemiology, Dalla Lana School of Public Health, University of Toronto. Research topic: Migraine in Ontario (September 2017 - present)

Primary Supervisor to Kathleen Dobson, PhD Candidate, Epidemiology, Dalla Lana School of Public Health, University of Toronto. Research topic: Exploring Prevalence Trends and Economic Consequences of Depression among Canadian Labour Force Participants (September 2016 - present)

Primary Supervisor to Jonathan Fan, PhD Candidate, Epidemiology, Dalla Lana School of Public Health, University of Toronto. Research topic: Examining age-related differences in work injury and disability (September 2015 – August 2020)

Thesis Committee Member to Laura Bogaert, PhD Candidate Epidemiology, Dalla Lana School of Public Health, University of Toronto. Research topic: Quantifying the burden of hearing loss among Canada’s military population (September 2013 – Present)

Service Activities

Deputy Editor: Occupational and Environmental Medicine

Associate Editor: Annals of Work Exposures and Health

TOMPA, Emile

Teaching/Educational Role

Co-Instructor, Module on Work as a Social Determinant of Health (3 sessions), Advanced Topics in Health Economics (Econ 791), Department of Economics, McMaster University (Winter 2021)

Co-Instructor, 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, 2021)

Course Coordinator and Instructor, Employment Health, Centre for Industrial Relations and Human Resources, University of Toronto (IRE378H1S), (Winter, 2021)

Instructor and Course Coordinator. Current Topics in Health and Safety (IRE 1655). Centre for Industrial Relations and Human Resources, University of Toronto Fall 2020.

Instructor, The Economics of Occupational Health and Safety (WHDM404). Pacific Coast University, (Fall 2020).

Committee Member for Nirusa Nadesar, M.Sc. Rehabilitation Sciences, University of Toronto (Winter 2021 – present)

Committee Member for Nazlim Bilgi, M.Sc. candidate, School of Rehabilitation Sciences, McMaster University (Fall-2020 – present)

Committee Member for Gemma Woticky, PhD candidate, Dalla Lana School of Public Health, University of Toronto (Fall 2019-present)

Committee Member for Mary Beth MacClean, PhD candidate, School of Rehabilitation Therapy, Queen's University (December 2019-present)

Post-doctoral Mentor for Amirrabas Mofidi, funded by IWH, (2019-2021)

Postdoctoral mentor for Dan Samosh, Centre for Industrial Relations and Human Resources, University of Toronto (2019-2021)

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

Service Activities:

Reviewer, CIHR 2019 POR Awards – Transition to Leadership Stream Competition (2020)

Reviewer, SSHRC Partnership Development Grants Review Panel (2020, 2021)

Reviewer, CIHR Doctoral Research Awards (2019, 2020)

Expert Advisor, Sectoral Meetings on Assessing the Asbestos Situation and Valorization of Asbestos Mine Tailings, Environmental Pubic Hearing Office, Quebec Minister of Environment and the Fight Against Climate Changes, February 15, 2020.

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

Member, Labour Market Information Council National Stakeholder Advisory Panel, October 2017-present

Adjunct Faculty Member, Area Lead Faculty of Research, Curriculum Committee, Pacific Coast University for Workplace Health Sciences, 2018-present

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: The International Journal of Human Resource Management, BMC Musculoskeletal Disorders, Journal of Occupational Rehabilitation, Evidence and Policy, Occupational Health Science, Occupational and Environmental Medicine, Scandinavian Journal of Work & Environmental Health, WORK, Inquiry, Funding program, Institution of Occupational Safety and Health.