

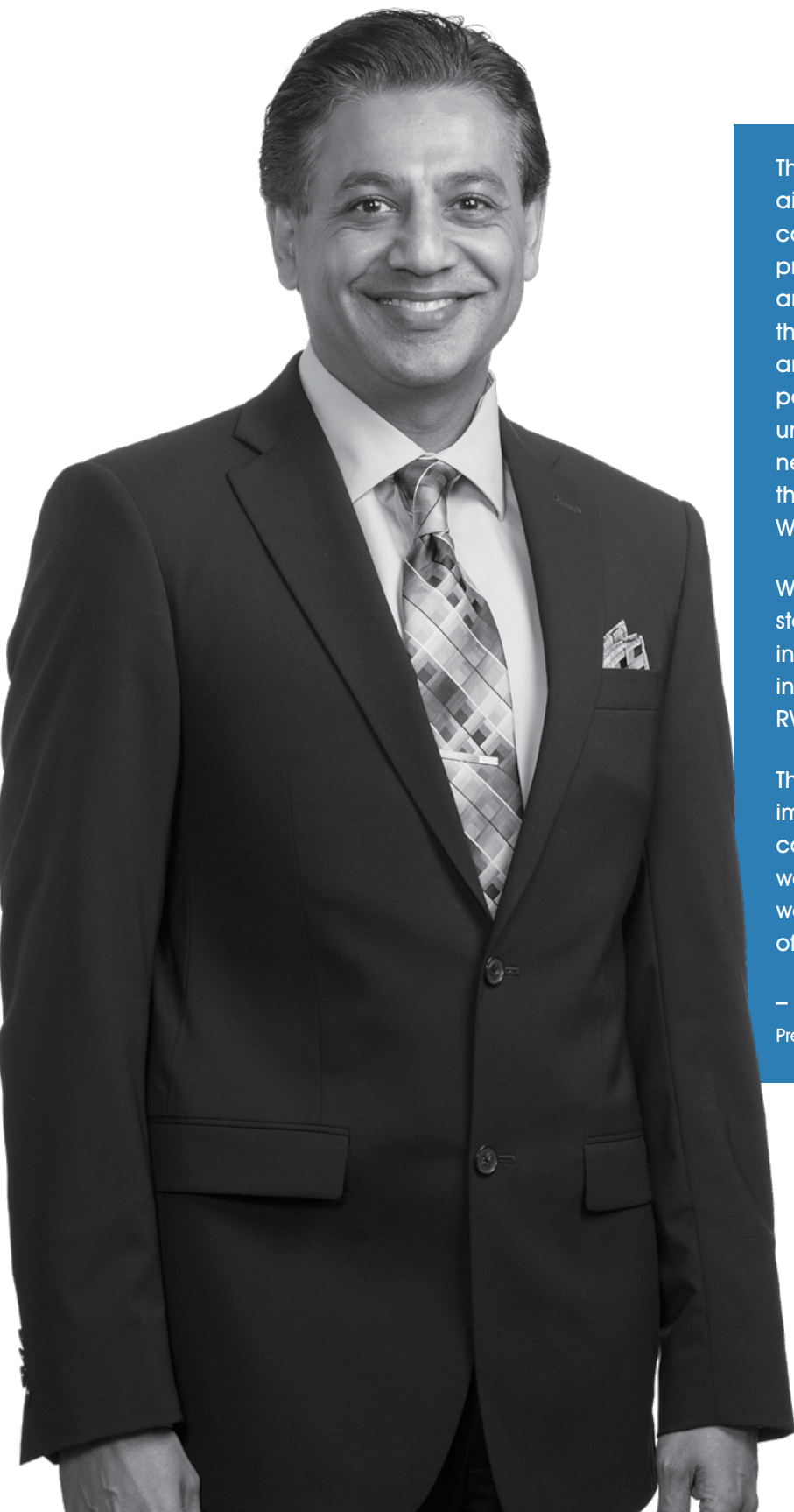
# Research and Workplace Innovation Program

Funding occupational health research, training and education and innovative workplace solutions



**2016 ANNUAL REPORT**

# President's Message



The Research and Workplace Innovation Program aims at developing and fostering partnerships in the community and has led to a number of valuable programs focused on reducing workplace injuries and illnesses. Each year, the WCB invests \$1 million in the program to fund high quality scientific research and programs. In 2016, the WCB revised the RWIP policy to include Research Priorities for applications under the Scientific Research funding stream. This new feature of the RWIP supports targeted research that will result in outcomes that are relevant to the WCB and its stakeholders.

We also had the opportunity to engage our partners, stakeholders, WCB staff and other interested parties in several Knowledge Transfer and Exchange initiatives by sharing innovative findings and results of RWIP funded projects as they came to maturation.

The benefits over the last several years have been impressive. The grants help our partners in the community create innovative projects that reduce workplace injuries and illnesses and help injured workers recover, contributing to a strong culture of safety in Manitoba.

**– Winston Maharaj**

President and CEO, Workers Compensation Board of Manitoba



# The Research and Workplace Innovation Program

The mission of the Workers Compensation Board of Manitoba (WCB) is to insure and support safe and healthy work and workplaces. We put workers and employers at the centre of all we do, and provide them with valued services for injury prevention, compensation, and return to health and work while maintaining system integrity.

The WCB established the Research and Workplace Innovation Program (RWIP) in 2009. The RWIP promotes and funds workplace innovation, scientific research, and training and education projects related to the prevention of occupational injuries and illnesses and the treatment and safe return to work (RTW) of injured and ill workers. 2016 marks the eighth year of the program.

The RWIP makes available \$1 million each year through three core funding streams:

- Workplace Innovation funding for projects that lead to improvements in health and safety and foster successful rehabilitation and safe return to productive and meaningful work at a specific Manitoba workplace or workplaces;
- Scientific Research funding for high quality scientific research on significant issues related to workers compensation; and
- Training and Education funding for instructional programs or activities related to workplace safety and health, injury prevention, safe RTW and occupational illness.

## **Workplace Innovation Funding supports projects that:**

- Develop, implement and evaluate innovative, practical solutions that improve occupational health and safety and foster successful rehabilitation and safe return to productive and meaningful work of injured or ill workers;
- Apply new information and technology to address occupational health and safety issues;
- Use existing knowledge in new ways to solve problems in occupational health and safety; and
- Transfer knowledge to the workplace through the development of education and training materials or programs in workers compensation issues or occupational health and safety.

## **Scientific Research Funding supports high quality studies that:**

- Develop a stronger understanding and further current knowledge of workplace injuries and illness;
- Identify, prevent, treat or support recovery from workplace injuries and illness;
- Explore risk factors associated with specific industries, occupations, technologies, work processes or other factors that may give rise to workplace injuries and illness; and
- Expand Manitoba's research capacity in occupational health and safety and issues related to workers compensation.

## Research Priorities

Effective February 2016, WCB Policy 52.10: *Research and Workplace Innovation Program* was amended to include the identification of annual research priorities for the Scientific Research funding stream of the program. This policy amendment was to ensure that RWIP-funded scientific research projects would better align with the WCB's priorities, strengthen the practical outcomes achieved from Scientific Research projects, streamline the review and evaluation process, and allow applicants to target research proposals towards the identified priorities.

One topic identified as a research priority in the 2016 Call for Applications was "Managing Psychological Injuries." As reflected in the strategic priorities of SAFE Work Manitoba, issues surrounding mental health in the workplace are a priority for the WCB and its partners. Effective January 1, 2016, *The Workers Compensation Act* was amended to include Post Traumatic Stress Disorder (PTSD) as a presumptive workplace injury. Qualified researchers were invited to submit Scientific Research applications on best practices for return to health and work for workers with PTSD and other mental health conditions.

The 2016 Call for Applications also identified "The Use of Social Marketing in Affecting Attitudes and Behaviour Regarding Workplace Safety and Health" as a research priority. Reducing workplace injuries and illnesses and enhancing workplace safety and health culture are key priorities for the WCB. The WCB uses various social marketing techniques to affect attitudes and behaviour regarding workplace safety and health. To contribute to the most effective use of this tool Scientific Research applications were welcome on how different social marketing techniques can be used to affect different social and demographic categories of people, including workers and employers in different industry sectors.

In addition to accepting Scientific Research applications that addressed the annual research priorities, the WCB continued to accept applications that were outside the scope of the 2016 Research Priorities but within the RWIP mandate.

## Training and Education Funding supports high quality projects that:

- Are consistent with the strategic priorities of SAFE Work Manitoba;
- Develop or expand capacity for training that will benefit Manitoba workplaces, industry sectors or occupational groups;
- Address gaps in the delivery of training and education;
- Promote training that is sensitive to the culture and language of immigrant workers and workers at risk;
- Improve training in workplace risk assessment and hazard identification related to health and safety, injury prevention and safe RTW; and
- Apply new information, technology, work processes or other factors to address injury prevention, safe RTW and occupational illness.

## Other Program Initiatives

In addition to the core funding streams, the RWIP may provide funding for other initiatives that are within the terms of reference of the program but do not meet the specific requirements of the core funding streams. Under the Special Funding provisions of the RWIP Policy the WCB may issue Requests for Proposals (RFP) or partner with other workers' compensation authorities, research agencies or third parties to undertake research or projects related to injury prevention or workers compensation.

## Knowledge Transfer and Exchange (KTE)

An ongoing objective of the RWIP is to ensure the resources developed and learning gained from RWIP projects are broadly shared and used by WCB leadership and staff, as well as Manitoba employers, workers and policy makers. Resources from completed RWIP projects are promoted on the WCB and SAFE Work Manitoba websites and through various newsletters and publications that provide information about the availability of completed project resources. These resources may be accessed at:

WCB – [www.wcb.mb.ca/research-and-workplace-innovation-projects](http://www.wcb.mb.ca/research-and-workplace-innovation-projects)

SAFE Manitoba – [safemanitoba.com/campaign/rwip](http://safemanitoba.com/campaign/rwip)

In addition, project resources and research findings are shared with relevant WCB departments, external stakeholders and interested parties. Grant recipients promote the results and outcomes of their projects within their respective community of practitioners or with knowledge experts at seminars and conferences and in peer-reviewed publications.

Since 2009, a total of 29 projects have been completed with financial support from the RWIP. Several sessions have been hosted to share findings of studies.

RWIP is giving increasing importance to engaging external audiences and stakeholders in developing research questions and identifying knowledge gaps or barriers in specific study areas.

The mechanism of the Project Advisory Committee has also been used to support this approach to KTE. This has the dual benefit of creating a pool of ambassadors committed to dissemination of results and findings, as well as having knowledge experts on the team who will ensure that findings will be relevant and useful to communities of practitioners and stakeholders. The development of a KTE plan has become established business practice for all new RWIP funded projects. The plan incorporates best practices from the Integrated KTE model which includes knowledge transfer initiatives from project start to completion. Integrated KTE planning is leading to a robust dissemination of project findings as projects evolve, develop and reach conclusions.

In June 2016, Dr. Michael Williams-Bell, University of Ontario Institute of Technology, presented the results of the study “Serious Games to Decrease Injury in the Fire Service by Training Safer Movement Patterns and Decision Making Skills” at the American College of Sports Medicine conference in Boston, Massachusetts. Dr. Williams-Bell’s abstract was accepted as a thematic poster presentation as part of the “Firefighting” session. In addition, the abstract was awarded the top PhD. research prize by the Environmental and Occupational Physiology Interest Group. The presentation allowed the dissemination of RWIP funded research to a global audience as representatives from various universities in Canada, the United Kingdom and the United States were in attendance. This project was completed in the spring of 2016.

The MFL Occupational Health Centre’s Annual General meeting on June 29, 2016 included a presentation on the project titled “First Language Health & Safety Training for Newcomers.” RWIP staff attended the presentation. The goal of the project is to increase knowledge and build capacity in health and safety in the workplace among Temporary Foreign Workers and other newcomers in the food processing industry in Brandon and Neepawa.

On November 9, 2016, Dr. Agnieszka Kosny from the Institute for Work and Health presented the findings from her RWIP-funded study “Engaging Healthcare Providers in the Return to Work Process” to WCB staff from a broad range of departments including the WCB’s Senior Medical Advisor. This study investigated the role of healthcare providers (HCP) in the workers compensation system and RTW process. This was a cross-jurisdictional study of four Canadian provinces: Manitoba, British Columbia, Ontario and Newfoundland

and Labrador. The findings clarified and provided evidence of the challenges encountered by HCP when planning RTW. The presentation will be posted on the WCB's website in early 2017.

On November 28, 2016, Dr. Chris McLeod from the School of Population and Public Health, University of British Columbia, presented the final findings from his RWIP project titled "Comparative Analysis of Work-Related Injuries and Long Duration Claims in Three Canadian Provinces" to WCB staff. Preliminary findings were presented to WCB staff in November 2015. The final project report and PowerPoint presentation will be posted on the WCB's website in early 2017.

While in Winnipeg, Dr. McLeod also presented findings on a project titled "Evaluation of the effect of an audit-based occupational health and safety recognition program on firm work-injury rates in British Columbia, Canada". This was a WorkSafe BC-funded project that involved an independent impact evaluation of WorkSafe BC's Certificate of Recognition (COR) audit program to assess how participation has affected firms' claim rates and health and safety experience. The presentation was timely as the SAFE Work Certified Program is under development by SAFE Work Manitoba. The presentation was well attended with representation from SAFE Work Manitoba, Business Intelligence Unit, Compensation Services, and Workplace Safety and Health. Also attending were representatives of the Construction Safety Association of Manitoba (CSAM) and RPM Trucking Industry Safety as well as the Chief Occupational Medical Officer for the Province of Manitoba.



*Left to right: Bruce Cielen, WCB; Derek Pott, Construction Safety Association of Manitoba (CSAM); Ed Pschulski, RPM Trucking Industry Safety; Suhail Marino, University of British Columbia (UBC); Jamie Hall, SAFE Work Manitoba; Mike Jones, CSAM; Chris McLeod, UBC*



*Left to right: Bruce Cielen and Rick Rennie, WCB; Dr. Agnieszka Kosny, Institute for Work & Health; Darren Oryniak, WCB*



*Left to right: David Scott, WCB; Suhail Marino and Chris McLeod, UBC; Rick Rennie, Bruce Cielen and Barry Warrack, WCB*

## RWIP Approved Projects 2009 to 2016

Over the last eight years, a total of 66 projects have been approved for funding. Of those, 17 were Workplace Innovation projects, 27 were Scientific Research studies, nine were Training and Education projects, five were Partnerships, five were RFP, and three were Special Funding projects. The table below provides an overview and status report of the projects approved for funding from 2009 to 2016.

Original Approved Projects			Status of Projects				
Funding Stream	Number of Projects	Original Approved Funding	Completed	Cancelled	New Projects Approved in 2016	In Progress	Revised Funding
Workplace Innovation	17	\$2,180,137	12	1	2	2	\$1,825,246
Scientific Research	27	\$3,733,935	9	1	4	13	\$3,616,625
Training and Education	9	\$947,903	0	0	2	7	\$992,153
Partnerships	5	\$545,605	4	0	0	1	\$669,805
Special Funding	3	\$568,190	0	0	2	1	\$568,190
Request for Proposals	5	\$324,875	4	1	0	0	\$359,710
<b>Totals:</b>	<b>66</b>	<b>\$8,300,645</b>	<b>29</b>	<b>3</b>	<b>10</b>	<b>24</b>	<b>\$8,031,729*</b>

\* Revised funding may occur in two ways. Frequently the entire original funding is not required for the successful completion of a project, resulting in a decreased funding amount. Occasionally a grant recipient may request an increase in funding. The Administration may approve increases up to \$20,000 as long as the total project cost does not exceed \$200,000. Increases in excess of those amounts are subject to Board approval.



# New Grants Awarded in 2016

## Workplace Innovation

### IDENTIFICATION AND ANALYSIS OF SAFETY HAZARDS ON THE VIRTUAL CONSTRUCTION WORKSITE

*Chris Taran, International Brotherhood of Electrical Workers Local Union 2085*

\$96,000

The International Brotherhood of Electrical Workers (IBEW) Local 2085 in partnership with the boilermakers, pipefitters, painters and other affiliated unions of the Manitoba Building and Construction Trades Council will develop a series of virtual reality (VR) resources for youth and new entrants in construction. These resources will include: Falls, Slips and Trips; Electrocutation; Struck By Objects; Caught in Between; Noise; Asphyxiation; Fire and Explosion; Elements of Weather Conditions; Toxicity from Exposures; and Ergonomics.

BIT Space Development, a Winnipeg-based company, will provide the technology for this project. The technology will allow a user to virtually explore the workplace through a 360 degree lens using a cell phone and an oculus headset.

The knowledge transfer and exchange (KTE) plan for the project includes activities to share the project's outcomes with other workplaces, key user groups and practitioners in the occupational health and safety community. The project's resources will be made available to safety associations, at the worksite for new worker orientation, in high schools, technical colleges, immigrant settlement agencies, remote locations and adult learning centres. This project has the support of MacDonald Youth Services, Seven Oaks School Division, Centre for Aboriginal Human Resource Development and the Northern Manitoba Sector Council.

Occupations in the construction sector are inherently hazardous. The addition of VR resources will increase access to safety training, reduce risk and prevent workplace injuries. This project is consistent with the strategic priorities of SAFE Work Manitoba which affirm the government's commitment to focus efforts in high hazard industries and workplaces that employ most-at-risk workers including new, young and immigrant workers.



Workplace injuries to inexperienced employees take place every day in the construction industry. The International Brotherhood of Electrical Workers Local Union 2085 in partnership with the boilermakers, pipefitters, painters and other affiliated unions of the Manitoba Building and Construction Trades Council believe that these injuries can be significantly reduced by creating a way to increase awareness and knowledge of jobsite hazards through real world situations without putting the learner at risk. New technology like virtual reality and funding from the Workers Compensation Board has made this possible. This project will produce a new approach to the way we teach and learn how to stay safe at work that can be shared by all.

*Chris Taran, International Brotherhood of Electrical Workers Local Union 2085*



## USING TECHNOLOGY TO IMPROVE SAFETY PRACTICES FOR HIGH RISK HAZARDS IN CONSTRUCTION

*Mike Moore, Manitoba Home Builders Association*

\$109,900

This project will digitize four safety courses using virtual reality (VR) technology for safety training by Manitoba Home Builders Association (MHBA). The courses are: Confined Space; Fall Protection; Scaffolding; and Safe Use of Power Tools; and will be delivered in partnership with the Construction Safety Association of Manitoba (CSAM). The target groups for this project include general labourers, tradespeople, new supervisors and safety trainers working in the homebuilding trades, heavy construction industries and transportation.

BIT Space Development, a Winnipeg-based company, will provide the technology for this project. The technology will allow a user to virtually explore the workplace through a 360 degree lens using a cell phone and an oculus headset.

The project's partners include Manitoba Heavy Construction Association's WORKSAFELY Program, CSAM, Manitoba Construction Sector Council, RPM Trucking Industry Safety, MHBA's Workplace Health and Safety Committee, Workplace Safety and Health Branch, Department of Growth, Enterprise and Trade, Red River College, Manitoba Institute of Trades and Technology, and several employers under the MHBA umbrella of companies. These partners will also function as an Advisory Committee for the review and development of the courses.

The knowledge transfer and exchange (KTE) planned for the project includes activities to share the project's outcomes with other workplaces, key user groups and practitioners in the occupational health and safety community. This technology will be made available through safety associations, at the worksite as part of a new worker orientation, in high schools, technical colleges, immigrant settlement agencies, remote locations and adult learning centres. Internet access is not required as the program can be installed onto any device and used in the most remote regions. This allows for greater accessibility to training in remote regions and at the time it is needed.

Occupations in the construction sector are inherently hazardous. The addition of on-line courses with a VR component will increase the number of construction workers who will have access to safety training. This project is consistent with the strategic priorities of SAFE Work Manitoba which affirm the government's commitment to focus efforts in high hazard industries and workplaces that employ most-at-risk workers including new, young and immigrant workers.



The Manitoba Home Builders Association works in partnership with the Manitoba Construction Sector Council to meet the education and training needs of the residential construction industry. The MHBA will partner with the Construction Safety Association of Manitoba, WORKSAFELY™, RPM Trucking Industry Safety, and the Canadian Manufacturers & Exporters Made Safe manufacturing safety association to develop innovative and interactive learning resources for safety training in confined space, fall protection, scaffolding and power tools.

*Mike Moore, Manitoba Home Builders' Association*

## Scientific Research

### IDENTIFICATION OF NEUROIMAGING-BASED BIOMARKERS IN THE TREATMENT OF POST-TRAUMATIC STRESS DISORDER

*Ronak Patel and Ji Hyun Ko, University of Manitoba*

\$199,464

Psychological injuries can often arise in the workplace, and post-traumatic stress disorder (PTSD) is one of the most prevalent. While interventions such as Cognitive Processing Therapy (CPT) and pharmacotherapy can effectively reduce symptoms of PTSD, a sizable proportion of individuals do not respond to these first-line interventions. The overarching goal of the study is to gain a better understanding of the neurobiological changes that underlie symptom reduction in PTSD and help advance the development of new treatments. The researchers will use brain imaging to examine brain changes before and after participants undergo CPT.

The specific objectives of the study are to develop imaging-based biomarkers for PTSD and validate the effect of CPT on the identified imaging-based biomarkers. The researchers plan to promote the use of the imaging-based biomarkers as a clinical tool to inform diagnosis, response to treatment, and assessment of functional outcomes such as return to work. Biomarkers refer to a broad sub-category of medical signs or objective indications of a medical state observed from outside the patient which can be measured accurately. Biomarkers help in early diagnosis, disease prevention, drug target identification, and drug response.

CPT is one of the therapies used by clinicians to help people recover from PTSD and related conditions. This treatment involves psychoeducation, cognitive restructuring and an examination of the impact of traumatic experiences in five areas: safety, trust, power and control, esteem, and intimacy.

The study will adopt a three-group design to delineate brain changes that are occurring in patients with PTSD, patients with trauma exposure but not diagnosed with PTSD and healthy subjects without any history of trauma exposure or PTSD. The participants will be recruited from the Winnipeg Regional Health Authority's outpatient-based psychiatry programs including patients from the Crisis Response Centre, Operational Stress Injury Clinic at Deer Lodge Centre, other outpatient psychiatry clinics, and the community at large.

The primary knowledge transfer and exchange (KTE) includes an initiative to implement imaging-based biomarkers as part of the standard of clinical care at the Health Sciences Centre. The researchers also plan to present the study's results at the Café Scientific and Edge of Science Talk local meetings and with mental health practitioners and radiologists in Manitoba. This study will enhance understanding of the recovery process and also support return to work planning for workers diagnosed with PTSD.



We are pleased to receive support through the Research and Workplace Innovation Program which will provide us with a very unique opportunity to advance our understanding of post-traumatic stress disorder (PTSD), one of the most prevalent psychological workplace injuries. This project will allow us to examine PTSD from a neurobiological perspective using advanced neuroimaging methods and track changes in the brain that are associated with recovery. Ultimately, we aspire to identify reliable biomarkers that can be readily used in clinical practice in order to strengthen both the diagnosis and treatment of PTSD. These biomarkers have the potential to facilitate the psychological well-being of Manitobans and assist them with the return to work process.

*Ronak Patel and Ji Hyun Ko, University of Manitoba*

## MANAGEMENT OF POST-TRAUMATIC STRESS DISORDER: A MULTIPLE TREATMENT COMPARISON META-ANALYSIS OF RANDOMIZED CONTROLLED TRIALS

*Jason W. Busse, McMaster University*

\$158,243

This study will undertake a systematic review of all available literature on post-traumatic stress disorder (PTSD). This review will evaluate all treatments for PTSD, the relative effectiveness and quality of treatments, prioritize studies on functional recovery that focus on return to work and synthesize evidence from all published randomized control trials (RCT) for PTSD treatments and reported functional recovery. The evaluation of the evidence will be undertaken using the system “Grading of Recommendations Assessment Development and Evaluation” (GRADE).

The study’s outcomes will be utilized to guide evidence-based management of patients, identify new areas of inquiry for research and practice and develop new educational tools for patients and clinicians. The results will also have broad application to all employment sectors and will add to the body of scientific knowledge on PTSD.

The knowledge transfer and exchange (KTE) planned for the study includes engagement of stakeholders led by a KTE expert. A Project Advisory Committee will be actively involved in the KTE initiatives to guide the dissemination of the study’s findings. The research team will engage in an end-of-study knowledge translation workshop with the WCB of Manitoba.



Post-traumatic stress disorder (PTSD) is increasingly a cause of workplace disability, and is associated with reduced health-related quality of life and substantial socioeconomic costs. This study will explore different treatments for PTSD regarding their effectiveness for improving functional capacity and return to work. We plan to create a stakeholder advisory committee with representation from health care providers who manage PTSD, patients with PTSD, representatives from the WCB of Manitoba, and PTSD researchers. The results of our study will guide an end-of-study knowledge translation workshop with the WCB of Manitoba to identify evidence gaps and develop an agenda to implement our findings into practice.

*Left to Right: Yasir Rehman, Gordon Guyatt and Jason W. Busse, McMaster University*



## ONLINE AND CLASSROOM DELIVERED MINDFULNESS-BASED COGNITIVE BEHAVIOUR THERAPY COURSE FOR BUILDING WORKPLACE RESILIENCE: A PILOT RANDOMIZED CONTROLLED TRIAL

*Jitender Sareen, University of Manitoba*

\$199,775

This study aims to prevent post-traumatic stress disorder (PTSD) and related conditions among members of the police force, firefighters, paramedics, and nurses. It is designed as a two-phase pilot intervention that will use “Mindfulness-Based Cognitive Behaviour Therapy” (M-CBT), a program created by the researchers to prevent relapses in depression. M-CBT uses traditional cognitive behavioural therapy methods plus newer psychological strategies such as mindfulness and mindfulness meditation. Several components of the program are also dedicated to the development of resilience. The inclusion criteria for participants are members from the police force, firefighters, paramedics, and nurses who are currently working and do not have a history of mental health service use related to a mental disorder, those with minimal distress and those with sub-threshold mood, anxiety and PTSD symptoms.

The research team has already developed the M-CBT classroom teaching program. This program provides strategies for symptom reduction of mood and anxiety disorders to individuals waiting to receive traditional treatments. In Phase One, participants from the police force, firefighters, paramedics, and nurses will take the M-CBT sessions. Phase One of the study will also see the M-CBT classroom program converted into an online format. The same group of participants in the classroom teaching program will be invited to take the online course. Focus groups will be held with each of the occupational groups to refine and adapt the classroom and online course modules for these occupations.

Phase Two of the study will include a randomized control trial (RCT) of participants who take the M-CBT classes, participants who take Online M-CBT, and participants who are on a waiting list. Participants will be recruited from the police force, firefighters, paramedics, and nurses and randomized into the RCT groups. The study team will assess baseline, post-intervention and a three-month follow-up of symptom measures, acceptability of the interventions and follow-up rates.

This work will fill a major gap in the field and has the potential to provide a cost-effective mental health promotion strategy that could be accessible to a wide range of professionals who regularly face high levels of occupational stress. It has practical application for the workplace and will be easy to access in the proposed online format. This study is consistent with the strategic priorities of SAFE Work Manitoba which commit Manitoba to becoming a leader in effective workplace mental health programs and services to help workers and employers better respond to the growing challenge of mental health in the workplace.

A Project Advisory Committee will be set up for knowledge transfer and exchange (KTE) of the project consistent with the Integrated KTE model utilized by the RWIP and will include representatives from the four target groups: the police force, firefighters, paramedics, and nurses.



Our team is passionate about making Cognitive Behavior Therapy with Mindfulness easily accessible to the public

*Left to right: Jacquelyn Wong, Natalie Mota, Laurence Katz, Debbie Whitney and Jitender Sareen, University of Manitoba*

## PERCEPTIONS AND EXPERIENCES OF TRAUMA WITHIN UNDERGRADUATE NURSING EDUCATION

*Kathryn Chachula, Brandon University*

\$40,873.16

This study will identify experiences of trauma within the nursing student population at Brandon University in order to better understand how, when and under what circumstances nursing students and graduates self-identify as being traumatized and/or act on their experiences and feelings of work-related trauma. Other goals of the study include increasing clinical instructor confidence to conduct debriefings in the clinical practice environment to mitigate the accumulating effects of trauma that may lead to new graduate exit from the profession; and developing strategies to foster resiliency and healthy coping mechanisms in undergraduate nursing students and, by extension, new nursing graduates.

The researchers will guide the study using two theoretical frameworks: the “McGill Illness Narrative Interview” (MINI) and the “Professional Quality of Life” (ProQOL) scale.

This is a multi-phase study and will include an initial investigation among new nursing graduates and conclude with a three-day course for faculty and clinical instructors on debriefing methods. The debriefing course will be delivered by Dr. Vincent Grant (MD, FRCP), Associate Professor, Section of Emergency Medicine, Department of Pediatrics, University of Calgary, and Medical Director, KidSIM Pediatric Simulation Program, Alberta Children’s Hospital. Findings of the study will be used to train participants in creating safe environments for students to cope with perceived traumatic events and repercussions of traumatic events. Students in the nursing program who are at risk of developing post-traumatic stress disorder (PTSD) will be given access to trained clinical instructors to help in prevention and management of trauma.

The project will include activities to change educational policy and assessment services at BU to build positive coping techniques that lead to protective, resiliency-enabling behaviours for students in the nursing program at BU.

Multiple activities and environments are planned for knowledge transfer and exchange (KTE) including: a presentation of findings to Nursing Faculties at Manitoba universities and to staff at the Workers Compensation Board; oral presentations at the Western and Northern Region Canadian Association Schools of Nursing that attracts nurses and educators from Manitoba, the Territories, Saskatchewan, Alberta and British Columbia; and at conferences hosted by the International Institute for Qualitative Methodology: Qualitative Health Conference, the Canadian Nurses Association, International Council of Nurses, Sigma Theta Tau International and the Society for Medical Anthropology.

This study is consistent with the strategic priorities of SAFE Work Manitoba which commit Manitoba to becoming a leader in effective workplace mental health programs and services to help workers and employers better respond to the growing challenge of mental health in the workplace.



The nature of nursing work in Manitoba predisposes nurses to the development of post-traumatic stress which is associated with an estimated 13 per cent of newly-graduated Canadian nurses intending to leave the nursing profession. We look forward to working with the Workers Compensation Board of Manitoba to identify resiliency solutions and strategies that can be applied during nurses’ pre-professional education, and help ensure that the incoming generation of Manitoban nurses are well-prepared for the broadest range of trauma-related issues and challenges in the workplace.

*Kathryn Chachula and Emma Varley, Brandon University*

## Training and Education

### BUILDING SUPPORT FOR NEWCOMER WORKERS IN THE FOOD PROCESSING INDUSTRY

*Karen Hamilton, MFL, Occupational Health Centre*

\$105,704

This project will provide training and education on health and safety in the workplace for newcomer workers in the food processing industry. It will promote, organize and conduct two Occupational Health Support Groups (OHSG) for newcomer workers in their first language. An OHSG is a 10 week program that provides newcomer workers with the opportunity to share their workplace experiences in their own language. It utilizes the Life Story Board framework developed by Occupational Health Centre physician, Dr. Rob Chase. The Life Story Board framework has proven to be successful in several projects both locally and internationally, across cultures and settings.

The program contains educational sessions on: Repetitive Strain Injuries: Causes & Symptoms; Preventing RSI; Medical Treatment of RSI; Basic Health & Safety Rights; How to Report an Injury & File a Workers Compensation Claim; Returning to Work after an Injury; and Upgrading and Retraining Opportunities.

Participants in the OHSG will be recruited from workers in the Westman Region of Manitoba. This project builds on the Train-the-Trainer program developed by the MFL, Occupational Health Centre for the project titled *First Language Health & Safety Training for Newcomers* in the food processing industry funded by a 2014 RWIP grant.

The knowledge transfer and exchange (KTE) planned for the project includes activities to share the project's outcomes with other workplaces, key user groups and practitioners in the occupational health and safety community. This project aligns with the strategic priorities of SAFE Work Manitoba as it addresses a gap in the training needs of temporary foreign workers employed in the food processing industry in Manitoba and targets vulnerable workers.



Newcomer workers in the food processing industry are one of the province's most vulnerable groups of workers. Through the support of WCB's RWIP fund, OHC has begun to develop and implement a comprehensive response to the needs of these workers. This project will enhance the health of newcomer workers in this industry by providing education to prevent injury and strengthening the social support from coworkers to deal with health and safety concerns. We are also excited to have the opportunity to use the Life Story board, a rich visual interview tool, to gather work and life stories from newcomer workers in the food processing industry. The workers' stories will allow the wider workplace health and safety community to better understand and develop responses to address the needs of this group of workers.

*Karen Hamilton, Claudia Colococho and Robert Chase, MFL, Occupational Health Centre*



## INTO ACTION: PSYCHOLOGICAL SAFETY TRAINING FOR MANAGERS

Joel Gervais and Jolen Galaugher, Vital Life Inc. Winnipeg

\$97,480

Vital Life Inc. will deliver a series of mental health and addictions training seminars for managers, human resource personnel, and health and safety representatives in the oil, gas, mining, agriculture, and healthcare sectors. The seminars will include training on: workplace mental health factors; signs and symptoms of a problem; prevention strategies; intervention skills; and accommodation. The content of the training seminars will be based on the 2013 Mental Health Commission of Canada's (MHCC) *National Standard of Canada for Psychological Health and Safety in the Workplace* (the Standard).

In 2014 Vital Life Inc. was awarded an RWIP grant for its project titled "Engaging Frontline Managers and Supervisors to Promote Mental Health and Psychological Safety in the Workplace: A Training Seminar and Resource Guide for Managers and Supervisors in the Construction, Manufacturing and Service Sectors". The response to this training exceeded expectations demonstrating the need for this type of training.

The proposed project will extend mental health and addictions training to industry sectors not targeted in the original project. It will also expand program content to better address Occupational Health and Safety (OH&S) concerns within these sectors. Vital Life Inc. plans to host half-day training seminars for managers and Lunch and Learn sessions over the project's duration. This project aligns with one of the goals of the strategic priorities of SAFE Work Manitoba which is to promote Mental Health and Psychological Safety in the workplace. The resources from this project will be utilized by SAFE Work Manitoba as the basis for consistent safety and health training standards. The knowledge transfer and exchange (KTE) plan for the project includes activities to share the project's outcomes with other workplaces, key user groups and practitioners in the OH&S community.



Building on our program evaluation and feedback from over 350 managers trained in 2015-2016, Vital Life Inc. will develop, deliver, and evaluate workplace psychological safety training for frontline supervisors and managers in high-risk sectors, with emphasis on the importance of policy and prevention.

At a time of increasing awareness among employers of workplace mental health and psychological safety as a critical Occupational Health and Safety issue, the project will offer employers the necessary tools, resources, and guidance to assist and accommodate employees who are struggling. Consistent with the MHCC's National Standard of Canada for Psychological Health and Safety in the Workplace, the project will also focus on finding a starting point for employers' and managers' psychological health promotion and psychological illness and injury prevention efforts.

Left to right: Joel Gervais, Michelle Paterson, Tracy Morgan and Jolen Galaugher, Vital Life Inc. and Gerry Kaplan, Kaplan Research Associates Inc.

## Special Funding

### ESTABLISHING AN EVALUATION FRAMEWORK FOR THE CULTURE OF SAFETY IN MANITOBA

*SAFE Work Manitoba*

\$70,000

SAFE Work Manitoba (SWMB) has engaged the services of the Institute for Work & Health (IWH), an independent, not-for-profit research organization to support SWMB in building a culture of health and safety in Manitoba. The objectives of this project are to: establish a new definition for the culture of safety that can be embedded into programming and activities; develop an evaluation framework to assess the success of SWMB towards the goal of growing a culture of safety by integrating work in training, social marketing, safety certification and other SWMB programs; develop key performance metrics for the new SAFE Work Certified program; and develop an evaluation framework to assess the effectiveness of the SAFE Work Certified program's dual goals of reducing injury and illness and growing a culture of safety.



This project will enable SAFE Work Manitoba to fulfil its role to make a positive change in the culture of safety and health in Manitoba. By having a clear definition of what we mean by a 'culture of safety and health' and practical evaluation processes to monitor progress, SAFE Work Manitoba will be well positioned to deliver positive changes in culture which will in turn, result in fewer workplace injuries and illnesses for Manitobans.

*Jamie Hall, SAFE Work Manitoba*

### DEVELOPMENT OF BENCHMARKING REPORTS AND A DASHBOARD TO CHANGE THE CONVERSATION IN CONSTRUCTION

*Ben Amick, Institute for Work and Health; Mike Jones, Construction Safety Association of Manitoba*

\$198,190

This project is a partnership between the Institute for Work and Health (IWH), an independent, not-for-profit research organization, and the Construction Safety Association of Manitoba (CSAM). The primary goal is to identify relevant leading indicators of injury and illness in the construction sector using the Organizational Policies and Practices Questionnaire (OPPQ), the Organizational Performance Metric (IWH-OPM) and the Joint Health and Safety Committee (JHSC) Functioning Scale. The OPPQ is a tool that evaluates an organization's occupational health and safety (OH&S) and disability management policies and practices to manage and prevent occupational injuries. The IWH-OPM tool is a scale that measures the safety culture of an organization using an eight-item inventory of key OH&S characteristics. The JHSC Functioning Scale measures the level of satisfaction with the JHSC. The study will also examine the relationship between injury rates and organizational and management metrics as well as develop and test a benchmarking dashboard to help an organization improve its OH&S performance over time.

The study supports change in OH&S decision-making practices for OH&S leaders in Manitoba's construction industry as the benchmarking dashboard will assist participating firms to evaluate their OH&S performance. The sample for the survey will be selected from CSAM's membership and the results linked to WCB claims data to ensure that the survey is representative of employers in the construction sector. The partners, with support from a Project Advisory Committee (PAC), will develop a benchmarking report and scorecard for all participating construction firms and test the usability of the dashboard of leading indicators for the construction sector.

Current members of the PAC include: Sudhir Sandhu, CEO, Manitoba Building Trades and Allied Hydro Council; David Wiebe, Regional Safety Supervisor, Stuart Olson Construction Ltd.; Peter Cooke, Safety Manager, Ambassador Mechanical Corporation; Michelle Berg-Wotton, Business Manager and Partner, Livingstone Landscaping Ltd.; and Mike Moore, President, Manitoba Home Builders Association.

A rigorous knowledge transfer and exchange (KTE) plan is envisaged for this project and will utilize an integrated approach involving stakeholder engagement from project start to project completion. This is a practical study with high value for improving OH&S and injury prevention among firms in Manitoba's construction sector. The dashboard will enable construction firms to easily identify and target efforts to improve health and safety programs for their workplaces.



This project is a partnership between the Institute for Work and Health and the Construction Safety Association of Manitoba to develop evidence-based benchmarks for the construction sector and a benchmarking dashboard to help an organization improve its occupational health and safety performance over time.

*Ben Amick, Institute for Work and Health*



The Construction Safety Association of Manitoba is pleased to be working with the Institute for Work and Health on an initiative that will equip Manitoba's construction industry with new tools to aid management practices, reduce workplace hazards and improve health and safety measures for workers in Manitoba.

*Mike Jones, Construction Safety Association of Manitoba*



# Chair's Message



The RWIP program is a great example of strengthening a culture of safety for all Manitoba workers, and plays a major role in ensuring we have fewer workers injured at work. Funding projects that range from engaging and training frontline managers and supervisors, to trade specific education aimed at reducing short and long term health issues, the RWIP program provides a wide range of benefits for workers and employers. We are strengthening a culture of safety for all Manitoba workers by working collaboratively with researchers and safety experts. By supporting these programs over the past eight years, we've reaped the rewards by helping employers reduce business-related costs. For workers, the benefits have been reducing workplace injuries and assisting injured workers recover and return to work.

– **Michael Werier**

Chairperson, Workers Compensation Board of Manitoba

# Projects Completed in 2016

## INTERACTIVE SAFETY E-BOOK: TAKING IT DIRECT TO THE LEARNER

*Robin Millar, Centre for Education and Work*

\$200,000 awarded in 2013

The Safety e-Book was a pilot project to test the feasibility of delivering an occupational health and safety (OH&S) course using the iPad. The Centre for Education and Work (CEW) succeeded in developing an interactive learning tool built on a platform that was accessible via an App for iPads. The App was to teach health and safety in the workplace to entry level and experienced workers.

The Safety e-Book has six chapters dedicated to: Culture of Safety; Rights and Responsibilities; What is a Hazard; Conducting an Informal Job Hazard Analysis; Doing a Job Hazard Analysis on Someone Else's Job; Course Review and Final Assignment. The project's beta testing demonstrated that the iPad format enabled users to learn outside the classroom and that learners did not require a facilitator. The study group component benefitted those who were able to meet in groups as this enabled learners to share stories, experiences and knowledge with persons who were not tech-savvy and did not have experience with an iPad. Workers with English as a second language preferred the group learning format. Some users indicated that in-class learning was their first preference but they also enjoyed using the Safety e-Book. Other users found the assignment on Job Hazard Analysis time consuming but noted that it was a useful and valuable exercise offered in the Safety e-Book.

The CEW was originally working towards having the Safety e-Book accessible through the Apple App Store, but the project team realized that this plan was not feasible due to technical issues that emerged during the pilot testing. Alternative methods to share the Safety e-Book were explored. CEW decided to reformat the Safety e-Book so that it could be shared via a downloadable link.

The Safety e-Book is now in EPub format and will be accessible for download through a website in 2017. It offers users an effective training program in OH&S.

## MANITOBA ABORIGINAL HEALTH AND SAFETY INITIATIVE (MAHSI)

*Marileen Bartlett, Centre for Aboriginal Human Resource Development (CAHRD), and Doug Lauvstad, Northern Manitoba Sector Council (NMSC)*

\$199,716 awarded in 2013

The Manitoba Aboriginal Health & Safety Initiative (MAHSI) project was a response to the need for more culturally-appropriate health and safety training for Aboriginal workers in Manitoba. The Centre for Aboriginal Human Resource Development Inc. (CAHRD) was the lead organization, in partnership with the Northern Manitoba Sector Council (NMSC). The partner for the design and development of the project was the Faculty of Business and Economics, University of Winnipeg. The project has developed online learning resources that have been customized to reflect Aboriginal practices, history and traditions. MAHSI's Online Learning Centre (OLC) is dedicated to Aboriginal workplace health.

The OLC was launched on December 2, 2015 with the MAHSI website going live. Project launch events were held in Winnipeg and Thompson. The launch events were well attended by employers and other project stakeholders. A Provincial Proclamation was issued jointly by the Minister of Labour and the Minister of Aboriginal and Northern Affairs to coincide with the Project Launch, declaring an Aboriginal Occupational Safety and Health Week for the first week of December.

The OLC has been developed as an independent learning centre to assist Aboriginal workers who are preparing to enter the workforce or those who are currently in the workforce. It is hosted and maintained by CAHRD on their website. The OLC is available to other user groups, including training institutions and employment preparation programs.

Aboriginal workers are identified as a vulnerable group of workers who are at increased risk of workplace injury and illness. MAHSI's OLC builds capacity for effective health and safety training for Manitoba's rapidly growing Aboriginal workforce. The project's resources may be accessed at:

<https://www.wcb.mb.ca/research-and-workplace-innovation-projects>

The OLC may be accessed at:

<http://cahrd.org/education-training/manitoba-aboriginal-health-safety-initiative/>

### **SERIOUS GAMES TO DECREASE INJURY IN THE FIRE SERVICE BY TRAINING SAFER MOVEMENT PATTERNS AND DECISION-MAKING SKILLS: DEVELOPMENT AND PILOTING**

*Bernadette Murphy, University of Ontario, Institute of Technology, and Steven Passmore, University of Manitoba*

\$199,993 awarded in 2011

Firefighters experience a high incidence of musculoskeletal injuries due to lifting, twisting and bending, often in awkward positions while under mental and physical strain. The primary goals of the project were to: develop a serious game that simulates the decisions of firefighters and assess cognitive function while under heat stress; develop a serious game for decision-making that has different levels of complexity and difficulty; and develop a serious game that would assess the movement patterns of firefighters during various lifting techniques.

The project incorporated principles from serious games technology commonly used for training and education. Serious games typically are simulations of real-world phenomena including processes designed for solving real problems in an interactive environment.

Twenty firefighters employed by the Toronto Fire Services were recruited to undergo moderate intensity treadmill exercise inside a climate chamber at the University of Ontario, Institute of Technology. Prototypes of the training videos for both games were completed.

The study found that cognitive function decreased in firefighters at a core temperature of 38.5°C. At these temperatures and above, firefighters experienced impairments in visuospatial memory and visual episodic memory.

The video game for safe lifting could not be developed because the researchers found that Microsoft Kinect, the video game system that was selected to track lifting postures, was not robust enough to capture skeletal tracking and dynamic postures in different lifting scenarios. However, the researchers discovered that Microsoft Kinect was better than conventional laboratory equipment to assess spinal load because the system could track the coordinates required to estimate spinal load. Microsoft Kinect accurately showed that the location and position of a person's hands when lifting an object translated to spinal force and spinal loads.

This was a breakthrough for the researchers because Microsoft Kinect could potentially be used as a tool for ergonomic assessments because of its capability to validate and evaluate spinal loads during various lifting postures. The researchers therefore redirected their efforts to creating an ergonomic assessment tool for spinal load. The result was the development of a computer program that can track in three-dimension the location of a user's hands and feet throughout a lifting task. This program enables the user to view lifting postures, calculate spine loading and injury risk using the tracking coordinates from the Microsoft Kinect's

software. This project resource is a useful addition to the resources available for training of emergency service personnel on proper lifting techniques.

The findings of this research were shared with the Canadian Society for Exercise Physiology; Firefighter Serious Game Knowledge Dissemination Session held at the Workers Compensation Board, Manitoba in 2015 with participants from the Winnipeg Fire and Paramedic Service, the United Firefighters of Winnipeg, the Office of the Fire Commissioner in Manitoba and WCB staff; the Toronto Global Forum, “Game On: Entrepreneurship in Digital Media and Interactive Technology” 2015; Ontario Professional Firefighters Association (OPFFA) Conference, Toronto, 2015; Ontario Association of Fire Chiefs (O AFC) Conference, Toronto, 2015; and internationally at the American College of Sports Medicine.

The various levels of the cognitive serious game may be accessed at the following URL:

<https://www.youtube.com/playlist?list=PLU97-xZpaaYYTvPBerNZCr0TxX8QVSJ13>

The final report may be accessed at:

[https://www.wcb.mb.ca/sites/default/files/files/Manitoba%20Project%20FINAL%20REPORT\\_FINAL\\_V4.pdf](https://www.wcb.mb.ca/sites/default/files/files/Manitoba%20Project%20FINAL%20REPORT_FINAL_V4.pdf)

### RETURN TO WORK FOLLOWING TOTAL KNEE REPLACEMENT IN WORKING INDIVIDUALS

*Martin Petrak, Orthopaedic Innovation Centre Inc.*

\$197,250 awarded in 2010

Arthritis commonly occurs in the knee and can be caused by osteoarthritis, inflammatory arthritis, sporting injuries or workplace injuries. Total knee replacement (TKR), is a common, cost-effective surgical procedure that can significantly reduce a person’s pain and increase his or her function. This was a prospective study involving patients awaiting knee replacement surgery who were recruited from the Concordia Joint Replacement Group’s (CJRG) surgical waitlist in Winnipeg between June 2011, and December 2015.

The objectives of this research were to identify the employment characteristics and determine work capacity in working-age patients awaiting TKR; and determine the impact of TKR on the functional abilities of patients to return to work post-operatively and perform their workplace duties.

The study cohort consisted of patients who were less than 65 years of age and diagnosed with primary or post-traumatic osteoarthritis. Data for this study were collected from self-reported patient questionnaires that were sent out to patients before and after TKR surgery. Both pre-operative and post-operative questionnaires included The Oxford Knee Score-12 (OKS) measurement scale. The OKS was used to assess function and pain before and after TKR.

By six months post-operatively, 84 per cent of patients working pre-operatively had returned to work while among patients not working prior to the surgery just 41 per cent had returned to work. These findings are concordant with current knowledge regarding worklessness, specifically that absence from work in and of itself contributes to slower recovery times and longer durations of disability.

The logistic modelling revealed a relationship between pre-operative OKS and employment status and showed that an OKS of approximately 45 or better is associated with a 90 per cent chance of remaining employed pre-operatively, whereas a score of 15 or less is associated with a 60 per cent chance of remaining employed while awaiting surgery.

For those patients who did return to employment, knee replacement surgery was found to greatly improve their ability to fulfill the demands of their job as well as increase productivity in the workplace. The empirical evidence from this study supports the promotion of initiatives that both maintain people in the workplace at suitable work while awaiting a knee replacement as well as allow for relatively quick access to a total knee replacement once it is determined to be required. The final report may be accessed at:

<https://www.wcb.mb.ca/sites/default/files/files/RWIP%20Employment%20and%20Knee%20Replacement%20Surgery.pdf>



### COMPARISON OF USAGE OF OPIOID MEDICATIONS BY INJURED WORKERS RECEIVING WORKERS COMPENSATION BENEFITS AND OTHER MANITOBIANS

*Allen Kraut, Faculty of Medicine, University of Manitoba*

\$78,188 awarded in 2011

This study was completed and reported as a completed study with highlights of findings in the 2014 RWIP Annual Report. The study was recorded in the 2015 RWIP Annual Report under the section Projects in Progress pending receipt of the final financial report for the study. The project's financials were received in early 2016.

The research team applied for and were approved funding for a follow-up study under the 2014 RWIP Call for Applications.

The project's report may be accessed at:

<https://www.wcb.mb.ca/comparison-of-usage-of-opioid-medications-by-workers-compensation-claimants-and-other-manitobans>

### TECHNOLOGIES AND SAFETY: MAKING FARMS SAFER

*Robin R. Millar, Centre for Education and Work*

\$208,900 awarded in 2011

This project was reported as a completed project in the RWIP 2014 Annual Report. The Safe Farms App was launched in January 2014. The project's report can be accessed at:

<http://www.wcb.mb.ca/making-farms-safer>

The Safe Farms App will be accessible for download through a website in 2017.

The project was recorded in the RWIP 2015 Annual Report under the section Projects in Progress because the Centre for Education and Work applied for and was approved additional funding of \$8,900.00 in January 2015. The additional funding was for Knowledge Transfer and Exchange activities including the promotion of the Safe Farms App in several farming communities in rural Manitoba. The additional funding request results in total project funding of \$208,900.

# Projects in Progress

## ENGAGING AN ORGANIZATION IN THE PREVENTION OF WORK RELATED INJURIES

*Kim Roer, St. Boniface Hospital*

\$49,706 awarded in 2015

This project is undertaking enhancements to the Occupational Health & Safety Incident Tracker (OHSIT) system currently in use at St. Boniface Hospital (SBH). The OHSIT currently uses visual displays to track and record injuries. Visual displays offer a unique way to see where all workplace incidents occur and can quickly show clusters and trends in injuries by spatial location and location on the body. The objectives of the project are to determine and implement enhancements to the visual displays. This includes the development of a “how to” manual for use of the displays. It will assist managers, supervisors and directors to correct safety issues, monitor corrective actions and prevent incidents. The project will establish clear expectations and directions for leaders to improve injury prevention strategies. The enhanced visual displays will be piloted in two departments to assess the “how to” manual and then develop a plan for facility wide implementation.

The project got underway with the hiring of a Project Coordinator during the summer of 2016. A project Advisory Committee has been created with representation from SAFE Work Manitoba, the Winnipeg Regional Health Authority and from various departments at SBH.

The KTE plan for the project includes sharing the results of the project with all Regional Health Authorities. The results will also be shared at SBH Manager Information Meetings and various committee meetings such as the SBH Joint Union Hospital Council and the Provincial Health Workplace Injury Reduction Advisory Committee.

## DEVELOPMENT OF A COMPREHENSIVE TOOLKIT FOR EVALUATING WORKPLACE MUSCULOSKELETAL INJURY INTERVENTIONS: SWINE INJECTION TECHNOLOGIES AS A TEST CASE

*Catherine Trask, University of Saskatchewan; Brenna Bath, Stephan Milosavljevic, Aaron Kociolek, Bernardo Predicala, Lee Whittington and Erika Penz, University of Saskatchewan*

\$119,650 awarded in 2015

This study will develop a comprehensive toolkit to evaluate workplace injuries caused by musculoskeletal injuries and ergonomic risks among workers in the pork industry in Manitoba and Saskatchewan. The toolkit will include a set of decision making protocols to measure the costs and benefits of needle-less and hypodermic injectors in terms of health and safety as well as to the costs of production in the swine production industry. The findings will provide evidence-based economic and productivity information that producers could use in their decision making. It will also be transferable to other animal care tasks in livestock farming, veterinary services and equestrian work.

Needle-less injectors eliminate the problems caused by needle-stick injuries, are more consistent in vaccine delivery, use smaller volume of vaccine, have higher antigen dispersion and better immune response, and eliminate the need for needle disposal. Research in this area is scarce because of the diversity of tasks on farms, limited direct-measurement technologies, and access to farms. This study will collect ground breaking data directly from hog barns in Manitoba and Saskatchewan.

The project began in June of 2016 and has since held monthly investigator meetings to plan and manage the projects. An advisory group of industry stakeholders including representation from SAFE Work Manitoba has been recruited and has met to provide input on project plans.

The project has made substantial progress on the exposure assessment and work productivity analysis by developing the protocols, attaining ethics certification, recruiting participants, and collecting all the data. Processing and analysis of the data are underway.

#### MENTAL HEALTH OUTCOMES FOLLOWING WORKPLACE INJURY

*Sarvesh Logsetty, Jitender Sareen, James Bolton and Allen Kraut, University of Manitoba; Dan Chateau, Manitoba Centre for Health Policy*

\$199,966 awarded in 2015

This study is investigating whether mental illness following a workplace injury is an outcome of the workplace injury or results from other causes. The study will compare a group of injured workers with two other groups: a cohort of persons with similar but non-work related injuries and an uninjured group drawn from the general population. The study will also examine the differences in mental illness between the three cohort groups. The researchers plan to link data from the Workers Compensation Board of Manitoba (WCB) with data from the Data Repository at the Manitoba Centre for Health Policy.

The findings from the study will provide evidence to enhance understanding of the relationship between mental health issues and workplace injury and the onset of mental illness in injured workers. It will also inform WCB policy and practice in the adjudication and management of psychological injuries in the workplace.

An integrated knowledge transfer and exchange plan is under development and recruitment of a Project Advisory Committee has begun which includes the WCB's Senior Medical Advisor as well as Director of Compensation Professional Services.

#### SUPERVISOR AND WORKER PERSPECTIVES ON WORKPLACE ACCOMMODATIONS FOR MENTAL HEALTH

*Vicki Kristman; Lakehead University; Marc Corbière, Université du Québec à Montréal; William Shaw, Liberty Mutual Research Institute for Safety; Karen Harlos, University of Winnipeg; Margaret Cernigoj, Workplace Safety & Prevention Services, Mississauga, Ontario*

\$170,839 awarded in 2015

This study is examining the factors that support workplace accommodations for workers with a mental health disorder (MHD) from the perspectives of supervisors and workers. MHD is characterized by alterations in thinking, mood, or behaviour associated with significant distress and impaired functioning over an extended period of time. The study will develop predictive models to explain supervisor willingness to accommodate workers with MHD, and the accommodations that workers receive. The findings will provide a conceptual basis for the design and refinement of workplace interventions to accommodate workers with MHD, lead to improvements in interventions for return to work, create awareness of the factors that influence and trigger MHD and provide better understanding for the management of claims associated with MHD.

Additional funding of \$15,950 was awarded to the project to strengthen the research design, develop an integrated knowledge transfer and exchange (KTE) plan and develop a stronger risk mitigation strategy for recruitment and retention of the sample.

A Project Advisory Committee (PAC) has been created and met on July 20, 2016 with representation from the Canadian Mental Health Association, the Canadian Union of Public Employees, SAFE Work Manitoba, Great West Life and the WCB of Manitoba. The PAC developed terms of reference, approved the KTE plan

and reviewed and gave feedback on the surveys that will be used for the project. The finalized surveys were submitted for ethics approval and have since been completed by participants identified for the pilot project. Pilot feedback will be used to modify the surveys and full study data collections will begin early in 2017.

#### **EXPLORING THE NEW STANDARD: PSYCHOLOGICAL SAFETY IN THE WORKPLACE USING JOINT WORKPLACE HEALTH AND SAFETY COMMITTEES. RISK/HAZARD IDENTIFICATION, REDUCING THE HAZARD, EDUCATION, AND EVALUATION**

*Maureen Grace, Hamilton Grace and Associates*

\$43,885 awarded in 2015

Maureen Grace of Hamilton Grace and Associates, a private consultancy firm is implementing Canada's national standard for Psychological Health and Safety in the Workplace (the Standard) at Red River College (RRC). Members of RRC's Joint Workplace Health and Safety Committees (JWH&SC) have been trained on the Standard and a staff survey has been chosen which passed RRC's Research Ethics Board. The survey was delivered to 857 employees in October 2016 with a response rate of approximately 40 per cent. Survey results have been analyzed and work has begun on implementing the Standard on the chosen area of focus: Respect and Civility.

This project was awarded additional funding of \$14,250 to develop an integrated knowledge transfer and exchange (KTE) plan and for development of a plan to evaluate the effectiveness of the intervention.

The Standard is a set of guidelines, tools and resources for promoting the psychological health of employees and preventing psychological harm due to workplace factors. It consists of nine key areas for implementation that include leadership commitment, development of an implementation plan, identification of a workplace's psychological health and safety hazards, education, training and awareness and data collection to monitor and evaluate the psychological health of a workplace.

A Project Advisory Committee has been created with representation from RRC, Manitoba Government and General Employees' Union, the Manitoba Federation of Labour, the Provincial Psychological Safety in the Workplace Advisory Group and SAFE Work Manitoba.

#### **STANDARDIZED & INTEGRATED SAFETY TRAINING FOR MANITOBA'S SKILLED TRADES**

*Sudhir Sandhu, Manitoba Building and Construction Trades Council and Allied Hydro Council of Manitoba, and Paul Holden, Manitoba Institute of Trades and Technology*

\$197,150 awarded in 2015

Manitoba Building and Construction Trades Council (MBCTC) is a non-profit umbrella organization representing 13 building trade unions with more than 6,000 members in the province's construction industry. The project will review current training programs, analyze the extent, capacity and standardization of existing safety training and develop a Model for Integrated Standardized Safety Training (MISST). The MISST will include uniform core safety competencies customized to meet specific occupational requirements in the building trades.

The training model will be shared with Apprenticeship Manitoba; Allied Manitoba Sector Councils; employers; trade unions; high schools; colleges; pre-employment programs; SAFE Work Manitoba; and other health and safety stakeholders and partners.

A Project Advisory Committee has been recruited with representation from key Manitoba stakeholders and with the hiring of a project director, the work on this project will begin early in 2017.



### WORKSAFELY ONLINE PROGRAM

*Don Hurst, Manitoba Heavy Construction Association; Jackie Jones, Manitoba Heavy Construction Association*  
\$186,400 awarded in 2015

The Manitoba Heavy Construction Association (MHCA) is undertaking a project to digitize four safety training courses under MHCA's WORKSAFELY program and offer these courses in an e-learning or online format. The four safety training courses are: Flag Person Training; Personal Protective Equipment (PPE); Prime Contractors; and Road Builders Safety. The target group for this project includes general labourers, trades people, new supervisors and safety trainers working in Manitoba's construction and transportation sectors. The project is reviewing the safety content of the four courses and has validated the changes with industry partners. A Project Advisory Committee has been created with representation from the Construction Safety Association of Manitoba, RPM Trucking Industry Safety and SAFE Work Manitoba.

The revised safety curriculum will be converted into digital formats and piloted with three construction companies. The revised training courses will also be shared with construction companies including two Northern Aboriginal construction companies, Safety Associations, vocational high schools and Manitoba Start, an immigrant settlement agency and other industry partners. MHCA has completed the work on two of the four safety courses proposed and has shared the results with key industry stakeholders.

### ENGAGING FRONTLINE MANAGERS AND SUPERVISORS TO PROMOTE MENTAL HEALTH AND PSYCHOLOGICAL SAFETY IN THE WORKPLACE: A TRAINING SEMINAR AND RESOURCE GUIDE FOR MANAGERS AND SUPERVISORS IN THE CONSTRUCTION, MANUFACTURING AND SERVICE SECTORS

*Joel Gervais and Dan Licoppe, and Vital Life Inc.*  
\$119,580 awarded in 2014

Vital Life is a private provider of vocational rehabilitation, return to work and disability management services in Winnipeg. Vital Life has developed and is delivering a series of mental health and addictions training seminars for the construction, manufacturing and service sectors. The project's training will include resources in English, French, Cree, Tagalog and Punjabi that will be made available to seminar participants.

Vital Life has delivered all of the proposed Workplace Psychological Safety Trainings for Managers for such companies and organizations as Merit, Meridian, Hi Tec Industries, Motor Coach Industry, FWS Group of Companies, St. Amant Centre, Vita Health, and Palliser. They have also provided training to various other mixed groups of participants from the construction, manufacturing and service sectors. Trainings has been well received, well attended and program evaluations forms have been very positive.

Half of the employee lunch and learn awareness sessions have been held with the remainder to be completed by early 2017. Lunch and learn sessions were delivered at such companies and organizations as Motor Coach Industry, Reliance Superior Heating, Turning Leaf, and Emergent BioSolutions.

There has been considerable interest in the Workplace Psychological Safety Trainings across all industry sectors. An end of project knowledge transfer and exchange event is being planned for the end of the first quarter of 2017.

### FIRST LANGUAGE HEALTH AND SAFETY TRAINING FOR NEWCOMERS

*Sonia Kowalewich, MFL, Occupational Health Centre and United Food and Commercial Workers*

\$87,234 awarded in 2014

The MFL, Occupational Health Centre (OHC), in partnership with the United Food and Commercial Workers union (UFCW), has established and delivered a Train the Trainer program to 14 newcomer workers on Workplace Health and Safety for food processing workers in the Westman area. The training program included the following topics: workplace health and safety rights; identifying hazards in the workplace; common repetitive strain injuries; preventing repetitive strain injuries through ergonomics; mental health; human rights in the workplace; workers compensation system; role of the union and adult education.

The Trainers have since provided first language workshops on workplace health and safety to 200 workers, including many Temporary Foreign Workers in the food processing industry in the following cultural/language communities: Chinese (Mandarin-speaking); Indian (Hindi-speaking); Latin American (Spanish-speaking); Ukrainian (Russian-Ukrainian speaking); Filipino (Tagalog-speaking).

Participants in the Train the Trainer program reported that the program increased their knowledge of health and safety and that the transfer of this knowledge to newcomer workers from the different language groups will be valuable in promoting workplace health and safety and injury prevention.

A Celebration and Community Report Back event took place in late 2016 in Brandon, Manitoba to share and celebrate what has been achieved through the project with the Trainers, health and safety committee members, and partners of this project.

### HUMAN FACTOR FOCUSED MUSCULOSKELETAL INJURY PREVENTION TRAINING FOR CONSTRUCTION WORKERS

*Marnie Courage, Enabling Access Inc*

\$84,800 awarded in 2014

Enabling Access Inc., a provider of health and safety services, is delivering training on musculoskeletal injury (MSI) prevention among workers who are at risk of sustaining MSI in small, medium and large companies in the construction sector. The project aims to reduce time loss injuries, specifically MSI and their associated costs to the worker, the workplace, and the industry. The proposed training will cover courses on Sprains, Strains and Tears; Customized Manual Material Handling; Situational Awareness; and Ergonomics.

Phase One of the project has been launched and 12 companies are slated to participate in the process of job evaluation. Currently work is being done in the Job Evaluation and Training Delivery Phase of the project. Eight companies have had the job evaluation task completed and training has been conducted or is scheduled to be conducted for six of the participating employers.

On completion of the job evaluations, customized training for reduction of MSI will be provided at each job site. Companies participating in Phase One of the project are: Maple Leaf Construction; Multicrete Systems Inc; Southside Electrical; CIMCO Refrigeration; Alpha Masonry; Euro-Can Enterprises; Supreme Steel; and Ventura Homes.

## TRADE SPECIFIC RESPIRATORY PROTECTION TRAINING

*Chris Hooter, International Union of Painters and Allied Trades, Local 739, and John Sedor, International Union of Painters and Allied Trades*

\$69,920 awarded in 2014

The primary purpose of this project is to provide trade specific respiratory protection training to painters and workers in the allied trades and to educate these workers on the risks of exposure to chemicals and toxic substances. The training reinforces the need to use respiratory protection due to inhalation risks associated with paint resins, solvents, thinners, pigments, and co-reactants (for example, epoxides, polyols or isocyanates).

The project is nearing completion with the Painters Local 739 having trained over 200 workers during the project's two year duration. A draft final report of the project was submitted to the WCB and will be available at the WCB and SAFE Work Manitoba websites in early 2017.

## A KNOWLEDGE TRANSFER INTERVENTION WITH SUPERVISORS: CAN WE REDUCE INJURY BY IMPROVING KNOWLEDGE TRANSLATION STRATEGIES FOR DIRECT SUPPORT WORKERS OF PEOPLE WITH INTELLECTUAL DISABILITY WHO DISPLAY CHALLENGING BEHAVIOUR?

*Beverley Temple, University of Manitoba and St. Amant Research Centre; Toby Martin, Jennifer Kilimnik, St. Amant Centre; Charmayne Dube, New Directions; Lisa Demczuk, University of Manitoba*

\$180,000 awarded in 2014

In partnership with the University of Manitoba and St. Amant Centre, this study is investigating whether equipping supervisors with knowledge translation skills will reduce the gap between the training given to frontline staff and use of the training when working with people with developmental disabilities at St. Amant. This study is a sequel to an earlier study funded by the RWIP in 2011, which found that a gap exists between the provision of training and the application of training knowledge resulting in a high number of workplace injuries. The 2011 study is complete and the report can be accessed at:

<http://www.wcb.mb.ca/working-with-individuals-with-intellectual-disabilities-injuries-and-challenging-behaviour>

The 2014 project is a three-phase study that includes a scoping review in phase one, development of a knowledge translation intervention in phase two using the findings of the review and an experimental trial in the final phase of the study. A scoping review is a type of research methodology that rigorously collects, synthesizes, appraises and presents findings from existing research on a topic in an emerging area of study. The PARiHS (Promoting Action on Research Implementation in Health Services) Framework was used throughout the study as the framework has proven to be an effective method to bring research evidence into practice.

The Phase One scoping review mapped available evidence on training of managers and their support of frontline staff who face challenging behaviour by people with intellectual and developmental disability. Research activities began in May 2015, with the development of protocols for the scoping review. The review resulted in 16 eligible peer-reviewed articles and 14 eligible unpublished documents including guidelines, policies and learning resources.

No intervention with supervisors comparable to the one proposed in this study was found. Therefore, the team developed a knowledge translation intervention based on extensive consultation with St. Amant staff and external experts.

The Phase Two knowledge translation intervention for the study involves the development of a self-learning course for supervisors. It will include self-study of four content modules followed by a single day-long workshop to apply the learning. The researchers have completed the four learning modules: Leadership

Foundations; Creating a Culture of Safety; Mindfulness; and Behaviour. Each of the modules is focused on a topic relevant to the service delivery culture at St. Amant and found to be integral to successful management of challenging behaviour. Four supporting videos and reference cards have been created to highlight key messages presented in the self-study modules. Documents are being finalized for a pilot test at New Directions for Children, Youth, Adults and Families.

The Phase Three Experimental Trial is slated to take place at St. Amant. Supervisors in the Community Residential Program will be offered an opportunity to take the course. In addition to measuring their satisfaction with the course, the researchers plan to compare results on staff self-efficacy and engagement between units where the supervisor completed the course and units where the supervisor did not participate. The sample design for Phase Three has been completed, study protocols drafted and the application for ethics approval has been submitted for approval.

The research team is aided by an advisory committee that includes representation from key stakeholders, New Directions for Children Youth Adults and Families, University of Manitoba Centre for the Advancement of Teaching and Learning, SAFE Work Manitoba, WCB and St. Amant.

#### **DETERMINING THE INFLUENCE THAT THE WCB OF MANITOBA'S OPIOID POLICY HAS HAD ON PRESCRIPTION OPIOID USE AMONGST WCB RECIPIENTS**

*Allen Kraut and Leigh Anne Shafer, University of Manitoba, and Colette Raymond, Manitoba Centre for Health Policy*  
\$54,470 awarded in 2014

This study is comparing opioid usage and physician prescribing practices between injured workers receiving WCB benefits and other Manitobans, before and after a WCB policy change. Opioid medications are sometimes used to treat non-cancer pain among injured workers. In 2011, the WCB introduced Policy 44.120.20, *Opioid Medication*, to provide parameters for the authorization and payment of opioids for cases involving non-cancer pain. This study is building on similar work done by these researchers before the introduction of the WCB's policy in 2011. The earlier study showed that injured workers were more likely to be prescribed higher dosages of opioids compared to other Manitobans, and were at risk of overuse. The study's report, *A comparison of usage of opioid medications by Workers' Compensation Board claimants and other Manitobans* may be accessed at:

<http://www.wcb.mb.ca/comparison-of-usage-of-opioid-medications-by-workers-compensation-claimants-and-other-manitobans>.

The journal article, *Proportion of Opioid Use Due to Compensated Workers' Compensation Claims in Manitoba, Canada*, may be accessed at:

<http://onlinelibrary.wiley.com/doi/10.1002/ajim.22374/pdf>

The opioids that will be included in the study are any oral codeine, meperidine, oxycodone, morphine, hydro-morphine, and trans-dermal fentanyl. Data collection and analysis for this study involves linking the WCB's data with the Data Repository at the Manitoba Centre for Health Policy. The study will provide evidence regarding the impact of the opioid policy on opioid usage and physician prescribing practices.



## INTERVENING IN THE TRANSPORTATION SECTOR TO REDUCE DRIVER FATIGUE, LOW BACK PAIN, AND DISCOMFORT AND TO INCREASE VEHICLE SAFETY

*Phillip Bigelow, University of Waterloo; Jim Dickey, Western University; Emile Tompa, Institute for Work and Health*  
\$127,098 awarded in 2014

With the support of Bison Transportation, a major truck carrier in Manitoba, and the Manitoba Trucking Association, this study is investigating the relationship between the exposure of truck drivers to whole body vibration (WBV) caused by different types of truck seats and the effects on fatigue, low back pain and disability. It will also assess the vibration characteristics of various seat-types so that trucking companies can make informed decisions when purchasing or modifying new or existing vehicles. The study will develop a knowledge transfer program, including several workshops, to share results with trucking companies. A tractor cab with the best seating ergonomics will be set up for test-drives by workshop participants.

The research team partnered with a trucking company, seat manufacturers and health and safety associations to collect data and create a social network which provided the study with a sufficiently large sample to quantify exposures. To capture the exposure data, accelerometers were placed on the seat pan and chassis of different trucks carrying a variety of loads on a variety of roadways.

The researchers have completed data collection activities. The researchers are analyzing the field data and the work to replicate exposures in the lab using a multi axis motion platform is in progress. During the field component each of the drivers were asked to complete a short survey. Over the next few months the researchers will compile and analyze the drivers' surveys.

Preliminary results indicate that type of seat and truck, in addition to road conditions, influence vibration exposure. Preliminary data shows the majority of the WBV were found to be at the health hazard zone.

Several project resources have been completed including the Partners in Prevention Poster (2015) and Trucker Interview Schedule. The researchers have made presentations to Partners in Prevention and to PREMUS in 2016. PREMUS is the International Scientific Conference on the Prevention of Work-Related Musculoskeletal Disorders.

A Project Advisory Committee has been established to guide the project to a successful conclusion and participate in the dissemination of findings. The researchers anticipate that the findings from the study will provide information on the correlation between seats and vibration exposure. These findings will support workplace accommodations during the return to work process.

## INDUSTRY-BASED SAFETY ASSOCIATIONS, PHASE TWO

*SAFE Work Manitoba*

\$300,000 awarded in 2014

The strategic priorities of SAFE Work Manitoba recognize the important role of industry-based safety associations in strengthening workplace safety and health practices and commit to continued support for existing associations and the establishment of additional associations. Many employers and industry sectors have also expressed strong interest in expanding the safety association network. To meet these commitments and respond to stakeholder interests, SAFE Work Manitoba has launched a two-phase project for the development of industry-based safety associations.

Phase One involves identifying prospective organizations to host safety associations, ensuring the requirements under WCB Policy 52.20, *Funding Industry-Based Safety Programs*, have been met, and that industry support exists from the prospective levied employer group that the safety association is meant to serve.

Phase Two involves building capacity towards implementation which includes establishing a governance framework and initiating planning for development of the safety association along with delivery of services and support. RWIP funding has been instrumental in achieving this objective by supporting the development of a governance package template. This template provides content, structure and processes that can be customized to fit the organization and industry and may be used in whole or in part to expand or improve on existing practices.

In addition, the RWIP funding supports the recruitment for leadership and establishes strategic and business planning for new industry based safety programs. This gives the safety associations a significant head-start and solid foundation from which to develop and implement occupational safety and health supports and services for their members. Three safety associations have been launched under this project: Motor Vehicle Safety Association of Manitoba; RPM Trucking Industry Safety; and Made Safe, Manufacturing Safety for Manitoba.

### ENGAGING HEALTHCARE PROVIDERS IN THE RETURN TO WORK PROCESS

*Agnieszka Kosny, Dorcas Beaton, Andrea Furlan and Ellen MacEachen, Institute for Work and Health; Juliette Cooper, University of Manitoba; Mieke Koehoorn, University of British Columbia; Barbara Neis, Memorial University*  
\$187,584 awarded in 2013

This study is investigating the role of healthcare providers (HCP) in the workers compensation and return to work (RTW) process. It involves a cross-jurisdictional study of four Canadian provinces: Manitoba, British Columbia, Ontario, Newfoundland and Labrador as well as the United Kingdom, Australia and New Zealand. Healthcare providers for this study included a general medical practitioners and family doctors who engage in the RTW process in multiple ways.

The collection of data for the study included a policy and document scan, in-depth analysis of medical certification forms from each jurisdiction and interviews with senior policy makers which is now complete. The emergent findings have been shared with the WCB.

The study's findings clarify and provide evidence of the challenges encountered by HCP with planning return to work. Results from the analysis were presented to project stakeholders including staff from the WCB of Manitoba, other Canadian Workers Compensation Boards and the Institute for Work and Health in the fourth quarter of 2016. A draft report of the study was submitted to the WCB and is currently under review. It will be available at the WCB and SAFE Work Manitoba websites in early 2017.

### EVALUATING THE ACCESSIBILITY OF THE MANITOBA CONSTRUCTION INDUSTRY TO PHYSICALLY DISABLED CONSTRUCTION WORKERS AND ITS RELATION TO SAFETY PERFORMANCE

*Mohammed Issa, University of Manitoba*  
\$71,035 awarded in 2013

This study is developing a model to measure and evaluate disability management (DM) and forecast the future safety performance of construction firms. The study is also reviewing the culture and disability management practices of employers in the construction sector, their compliance with their re-employment obligations and gaps in legislation. The focus of the study is general contractors specializing in the building trades.

A web-based survey was administered to a sample of construction firms who are members of the Construction Safety Association of Manitoba to enquire about workers disabled as a result of a workplace injury in the industry, practices in place to accommodate them, and barriers to their employment. The analysis of the responses of 88 organizations showed that the majority of responding organizations employed

few disabled workers. Disabilities due to musculoskeletal injuries were the most common, followed by physical mobility and hearing impairments. The respondents indicated that among the main reasons for a DM program is the value of retaining experienced employees and maintaining employee morale.

A literature review on DM and maturity modeling for the construction sector has been completed. The study has identified and developed safety metrics that will be used as lagging indicators of performance for validation of the maturity model. Experts in construction, health and safety and disability management backgrounds have been recruited to determine the importance of the different indicators of the model. The recruitment for the second stage validation is ongoing.

Next steps involve validating the model with four additional construction companies and collecting the developed metrics for the ten participating construction companies. All data collected will be subsequently analyzed with the results published in scientific journals and national and international conferences.

There is limited information on workers with disabilities in the construction sector. The study will provide information and data to assist construction firms with their re-employment and accommodation obligations, paving the way for improvements in DM in the construction sector.

#### **SAFE FARM PLANS FOR GLENLEA RESEARCH STATION AND FARM**

*Michele Rogalsky and Lorrie Koroscil, School of Agriculture, University of Manitoba*

\$200,000 awarded in 2013

Preventing injuries in agricultural work settings is challenging because of the unique nature of the agricultural work environment. Often farms are homes as well as worksites, so children and the elderly are also victims of agricultural injuries. Finding ways to increase safety awareness and safety practices on farms is important to improve the safety culture in agriculture.

The project team has completed an inventory of existing agricultural safety resource materials for the SAFE Farm Plans and completed risk assessments on all the farm units in Glenlea Research Station. The team is currently completing the safe work procedures (SWP) for each farm unit and a policy that will guide the SAFE Farm Plans.

Glenlea Research Station and Farm is operated by the Faculty of Agricultural and Food Sciences and the Department of Animal Science with financial support from Manitoba Agriculture, and the University of Manitoba. The 500 hectare facility consists of a wide variety of agricultural activities undertaken for the purposes of research, education and outreach to the local farming community.

The project is nearing completion and the tools and resources developed from this work will be shared with the agriculture community in Manitoba.

#### **SYNTHESIZING OCCUPATIONAL HEALTH AND SAFETY KNOWLEDGE FOR LOCAL STAKEHOLDERS**

*Stephen Bornstein and Robert Kean, Memorial University; Emma Irvin, Dwayne Van Eerd and Ron Saunders, Institute for Work & Health; Steven Passmore and Leslie Johnson, University of Manitoba*

\$196,000 awarded in 2013

This project is a collaboration involving researchers from Memorial University's SafetyNet Centre for Occupational Health & Safety Research (SafetyNet), the Institute for Work and Health (IWH) and occupational health and safety (OH&S) stakeholders in Manitoba. The project has developed and tested an innovative methodology for synthesizing current scientific knowledge on OH&S issues and tailoring it for use in specific local contexts. The resulting methodology will be a combination of features used by the

'Contextualized Health Research Synthesis Program' (CHRSP) with the systematic review techniques and synthesis reports pioneered by the Systematic Review Program at IWH.

A Manitoba Stakeholder Advisory Council (MSAC) has been set up with representation from business, labour, government and the WCB. The project team tested the blended methodology on two topics and the findings were used to further refine the contextualization matrix and variables that may influence the effectiveness of OH&S interventions in any given context. The team completed the third and final synthesis on a research question identified by stakeholders in Manitoba's OH&S communities: "What interventions are effective to manage depression in the workplace?" The blended methodology will be applied to identify which intervention approaches to manage depression in the workplace have been successful and have yielded value for workers and employers.

The final Manitoba Stakeholders Advisory Committee meeting took place on October 20, 2016 at the WCB. Initial results of the study were shared and feedback provided to the researchers. The feedback will be incorporated into the final version of the synthesized research framework and methodology that will be published in a handbook for end-users. The report of the study's findings and handbook will be available in early 2017.

#### A COMPARATIVE ANALYSIS OF SEVERE WORK-RELATED INJURIES AND LONG DURATION CLAIMS IN THREE CANADIAN PROVINCES

*Mieke Koehoorn and Christopher McLeod, School of Population and Public Health, University of British Columbia; Sheilah Hogg-Johnson, Cameron A. Mustard and Benjamin Amick, Institute for Work and Health; and Allen Kraut, University of Manitoba*

\$199,996 awarded in 2012

Long term claims have a significant and profound effect on all aspects of an injured worker's life. Reducing the burden of these injuries continues to be challenging, partly because there is incomplete understanding of treatment modalities that can be used to reduce the incidence and duration of long term claims. There is also a heavy cost burden to employers, the workers compensation system and society as a whole. The objective of this project was to: create comparable cohorts of injured workers in Manitoba, British Columbia and Ontario; conduct analyses investigating the trends and variations in long duration and serious injury claim rates across the three provinces; identify the key intra- and inter-jurisdictional drivers of the claims rate; and publish an atlas of findings that will serve as a policy and reference tool for compensation systems and other stakeholders.

The research team finalized cohorts of injured workers and completed analysis of the data sets for each of the three provinces to show disability duration curves and wage-loss days paid by province, year, gender, age, occupation and/or type of injury.

Final results from the analysis were presented to project stakeholders including staff from the WCB of Manitoba, other Canadian Workers Compensation Boards and the Institute for Work and Health in November 2016.

The research team is proceeding with the creation of a compendium of findings that will serve as a policy and reference tool for compensation systems and stakeholders. When completed, this work will pave the way for the analysis of the trends, variations and drivers of long term claims as well as identification of best practices across the three provinces.



### THE ECONOMIC COSTS OF WORKPLACE INJURIES TO MANITOBA WORKERS, EMPLOYERS, AND THE ECONOMY

*Greg Mason, Prairie Research Associates Inc.*

\$179,500 awarded in 2012

The loss in workers' earnings, reduced productivity and the cost of medical treatment and rehabilitation represent a large proportion of the costs of a workplace injury. This study explored the full cost of workplace injuries and occupational illnesses to injured workers and their families. The sample for the study consisted of injured workers and their carers. The researchers applied a multi-modal study design to estimate and value economic costs, changes in quality of life, and the range of indirect and non-economic costs experienced by injured workers and their families.

Respondents for the study were selected from the WCB's database of 54,481 claimants with a time loss claim between April 2010 and June 2014. Prairie Research Associates (PRA) undertook telephone interviews with 2,310 injured workers and 510 individuals (carers) who provided care to this group of injured workers. Carers were included because they would be able to furnish details of an injury that the injured worker may have forgotten or add important nuance to the narrative. PRA also undertook 20 in-person dyad interviews to explore more completely, the origins and consequences of a serious workplace injury or illness. Dyads are interviews of a matched pair comprising of the injured worker and the individual or significant other who provided care to the injured worker.

The study's findings show that the WCB's compensation system works well for the vast majority of workers who suffer no lasting effects from their workplace injury. A high proportion of injured workers also reported a range of emotional and psychological impacts including difficulty falling asleep or staying asleep, upsetting thoughts/memories of the injury and difficulty talking about the injury with others. The study provides evidence that an injury has physical and psychological dimensions and that the seriousness of an injury depends on objective measures of the extent of physical damage and ongoing limitations. The same objective level of physical injury may affect workers differently. The study highlighted that measuring the seriousness of an injury requires a multi-dimensional framework, which involves more than total days paid. The study's examination of the role of the carer showed that they were a critical and almost inseparable part of the recovery process.

Studies which estimate the full range of economic and social costs of workplace injuries and fatalities vary greatly in scope and intent, with few Canadian studies and none in Manitoba.

A final report of the study was submitted to the WCB and is currently under review.

### SAFETY KNOWLEDGE SHARING BEFORE RETIREMENT: AN EXAMINATION OF RETIRING EMPLOYEES' ATTITUDES, INTENTIONS AND BEHAVIOURS

*Nick Turner, Krista Uggerslev and Kasey Martin, Asper School of Business, University of Manitoba*

\$75,454 awarded in 2012

This project is exploring how experienced workers share safety-related knowledge with other organizational members. The project is also investigating the receptivity of younger and novice workers towards receiving safety knowledge from experienced workers, and how younger workers believe they can learn and share safety knowledge. The project consists of qualitative interviews and longitudinal surveys of trainees, instructors and work placement chefs in two locations: the Northern Alberta Institute of Technology, Edmonton, Alberta and Red River College, Winnipeg, Manitoba. Data collection in Edmonton and Winnipeg has been completed.

The study's findings will improve understanding of safety knowledge behaviours among experienced workers and younger workers, illustrate new approaches towards creating a stronger organizational safety climate and potentially reduce the number of workplace injuries. The information on inter-generational safety knowledge sharing in the workplace will provide new evidence to support the WCB's social messaging and communications strategy for creating safer workplaces and work practices.

An end of study presentation is being planned for the first quarter of 2017.

#### **DEVELOPMENT OF OCCUPATIONAL HEALTH AND SAFETY CONTENT FOR DISTANCE DELIVERY**

*Darlene Bouvier, School of Continuing and Distance Education, Red River College*

\$172,439 awarded in 2010

In partnership with Red River College (RRC), the WCB is supporting the development of a distance learning option to complement the current Occupational Health and Safety (OH&S) Certificate program offered by the College. The amount of funding initially approved has been increased to accommodate a review, update and enhancement to the existing curriculum prior to developing and offering the program through distance delivery. The instructor-led OH&S curriculum was enhanced and was offered to students in the 2015/2016 academic year. RRC launched two online courses in January, 2016 and a third course has been recently completed.

An advanced level OH&S certificate training program comparable to other training programs across Canada will meet the demand for certified OH&S practitioners in Manitoba. Additionally, the distance learning option will permit students in rural locations to complete their OH&S certification and increase the much needed capacity for OH&S expertise in rural Manitoba.

#### **YOUNG WORKER RESPONSES TO WORKPLACE HAZARDS, RESPONSIBILITY FOR SAFETY, AND WORKPLACE INJURIES ACROSS TIME**

*Sean Tucker, University of Regina, and Nick Turner, Asper School of Business, University of Manitoba*

\$92,390 awarded in 2010

A study in 2007, funded under the WCB's Community Initiatives and Research Program, surveyed young workers' responses to workplace injuries as well as their exposure to dangerous work and hazards in the workplace. This study is a sequel to the earlier study undertaken in 2007, and is analyzing changes over time in young workers' responses to hazardous behavior. The current study includes the influence of parents on safety behaviours of young workers. The study is also researching the differences in safety behaviours and attitudes between adults and young workers who work in similar frontline jobs. Work is ongoing to analyze data collected from the survey of young workers and parents.

Popular opinion suggests that young people take more risks at work and feel less responsible for workplace safety. The findings from this second study will provide information that will assist in the design of injury prevention and safety awareness programs for young workers, parents and older working adults who work in similar frontline jobs. Knowledge transfer and exchange activities will take place in the first quarter of 2017 where final study findings will be presented.

## Research and Workplace Innovation Program

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