

Research and Workplace Innovation Program

Funding occupational health research and innovative workplace solutions



2014 ANNUAL REPORT



President's Message



“The \$1 million annual investment in the RWIP program signifies our commitment to ensuring healthier and safer Manitoba workplaces now and into the future. In 2014 we strengthened that commitment by introducing a third funding stream for Training and Education to support training projects in occupational health and safety that are consistent with *Manitoba's Five-Year Plan for Workplace Injury and Illness Prevention*. These RWIP-funded projects help train, educate, and give workers better and safer ways to perform their jobs, allow injured workers to quickly and safely return to health and meaningful work, and ensure the WCB continues to place workers and employers at the centre of all we do.”

– **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. We 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 as a successor to the Community Initiatives and Research Program. RWIP promotes and funds workplace innovation, scientific research, training and education, and knowledge transfer projects related to the prevention of occupational injuries and illnesses and the treatment and safe return to work of injured and ill workers. 2014 marks the sixth 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 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 health and safety, injury prevention, safe return to work, and occupational illness.

Workplace Innovation Funding supports projects that:

- Develop, implement, and evaluate innovative, practical solutions that improve workplace 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 safety and health issues;
- Use existing knowledge in new ways to solve problems in occupational safety and health; and
- Transfer knowledge to the workplace through the development of education and training materials or programs in workers compensation issues or occupational safety and health.

Scientific Research Funding supports high quality studies that:

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

Training and Education Funding supports projects that:

- 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 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 return to work; and
- Apply new information, technology, work processes or other factors to address injury prevention, safe return to work and occupational illness.

In addition to the core funding streams, the RWIP may provide special funding for initiatives that are within the terms of reference of this program but do not meet the specific requirements of the core funding streams; issue Requests for Proposals (RFPs); and partner with other workers compensation authorities, research agencies, or third parties to undertake research or projects related to prevention or workers compensation.

Over the last six years, a total of 47 projects have been approved for funding. Thirteen were workplace innovation projects, 20 were scientific research studies, four were training and education projects, five were partnerships, four were RFPs, and one was a special funding project. The table below shows the number of projects funded from 2009 to 2014.

RWIP APPROVED PROJECTS 2009 TO 2014								
Funding Stream	2009	2010	2011	2012	2013	2014	Total Number	Percentage of Total
Workplace Innovation	2	1	3	1	6	0	13	29%
Scientific Research	2	4	4	4	3	3	20	42%
Training and Education	0	0	0	0	0	4	4	8%
Partnerships	0	1	2	1	1	0	5	11%
Special Funding	0	0	0	0	0	1	1	2%
Request for Proposals	1	2	0	1	0	0	4	8%
Total Projects Funded	5	8	9	7	10	8	47	100%

New Grants Awarded in 2014

Training and Education

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, Mental Health and Addiction Services, Occupational Rehabilitation Group (O•R•G) of Canada and Vital Life, and Dan Licoppe, Vocational Rehabilitation and Disability Management Services, (O•R•G) of Canada
\$89,580

O•R•G is a private provider of vocational rehabilitation, return to work, and disability management services in Winnipeg over the last 25 years. O•R•G will develop and deliver a series of mental health and addictions training seminars for the construction, manufacturing, and service sectors. Training seminars will be offered to managers and supervisors on organizational strategies, policies, and procedures on the awareness and prevention of psychological health and safety in the workplace. “Lunch and Learn” sessions to raise awareness about mental health in the workplace will be offered to workers. Resources in English, French, Cree, Tagalog and Punjabi will be made available to seminar participants. A resource guide for Manitoba managers and supervisors will be developed in English and translated into French.



“O•R•G of Canada & Vital Life training ensures that frontline managers have the necessary skills to assist employees who are struggling, and that at-risk employees have access to key resources. Employers have begun to recognize that such training is no longer a nice-to-have – it’s a must have. The RWIP funding is timely, and we look forward to our partnership with the WCB.”

Left to right: Dan Licoppe, Joel Gervais, Rick Drennar, Jolen Galaugher

FIRST LANGUAGE HEALTH AND SAFETY TRAINING FOR NEWCOMERS

Sonia Kowalewich, MFL Occupational Health Centre (OHC) and United Food and Commercial Workers (UFCW)
\$87,234

The MFL Occupational Health Centre (OHC) in partnership with the United Food and Commercial Workers union (UFCW) will develop and deliver a Train-the-Trainer Program on Workplace Health and Safety for food processing workers in Brandon and Neepawa. The project will select 15 newcomer workers to be trained in the OHC's current train-the-trainer program. The proposed training will include workplace health and safety; rights of workers to refuse dangerous work; 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 OHC will evaluate workshop participants to assess changes in their knowledge about health and safety, usefulness of the workshops, and their confidence level in addressing health and safety concerns. A knowledge transfer program is planned for unions, health and safety committees, and immigrant settlement workers on lessons learned and project outcomes. The training program is expected to reach approximately 200 temporary foreign workers from five cultural and language groups in the food processing industry.



“Temporary foreign workers and other newcomers to Manitoba are some of the province’s most vulnerable workers when it comes to health and safety. This program will deliver a Train-the-Trainer Program for workers in the Westman region’s food processing industry. Trainers will go on to provide much needed health and safety training in multiple languages for temporary foreign workers and other newcomer workers in this industry.”

Back row, left to right: Jose Chinchilla (OHC), Phil Kraychuk (UFCW 832)

Front row, left to right: Wanda McGorum (UFCW Training Centre), Sonia Kowalewich (OHC), Karen Hamilton (OHC), Tej Bains (OHC)

Inset: Lin Lin (UFCW Training Centre)

HUMAN FACTOR FOCUSED MUSCULOSKELETAL INJURY PREVENTION TRAINING FOR CONSTRUCTION WORKERS

Marnie Courage, Enabling Access Inc.

\$84,800

Enabling Access Inc., a provider of health and safety services, will undertake Musculoskeletal Injury (MSI) Prevention Training for workers who are at risk of sustaining MSIs in small, medium, and large companies in the construction sector. The project aims to reduce time loss injuries, specifically MSIs 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. Designed in two phases, the first phase will involve four companies, with training content customized through job task analysis at each site. Subsequently, training will be rolled out to 20 construction companies. Participation is intended for both union and non-union worksites.



“This project will produce innovative training that allows customization of content for each workplace, based on their specific job tasks. This training targets workers in the construction industry, which is the highest hazard sector in Manitoba and focuses on factors which contribute to MSIs including physical and cognitive changes related to aging, the use of proper body mechanics, and mindfulness at work to promote safer work behaviour.”

– **Marnie Courage**

Marnie Courage

TRADE SPECIFIC RESPIRATORY PROTECTION TRAINING

Chris Hooter, International Union of Painters and Allied Trades, Local 739 (Painters), and John Sedor, International Union of Painters and Allied Trades
\$69,920

Painters Local 739 aims to raise the bar on safety for painters and workers in allied trades by providing trade specific respiratory protection training. The focus of the training is to reinforce the need to use respiratory protection due to inhalation risks associated with paint resins, solvents, thinners, pigments, co-reactants (for example epoxides, polyols or isocyanates), and common surface preparation. The planned training courses include a two-day course for new workers, a two-day course for workers with English as an additional language, a one-day refresher course for experienced painters, special hazards training associated with women of child-bearing age, a one-day course for managers and supervisors, and medical screening of participants for use of respirators. Painters Local 739 proposes to train 200 workers over the project's two-year duration.



“The Painters Union is very grateful to the WCB of Manitoba and their RWIP funding stream for our Respirator Training and Education Project. Be it sandblasting or lead paint abatement, the chemical cocktail of ingredients that exists in modern coatings from something as routine as sanding drywall, sees workers potentially chronically exposed to a plethora of workplace respiratory hazards. With this funding, Painters is in a much better position to educate our members of “the latest” concerning their trade specific airborne hazards, provide the appropriate respirator protection training for their *specific* hazards and, eventually, expand this training to other trades.”

Left to right: John Sedor, Chris Hooter

Scientific Research

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

In partnership with the University of Manitoba, this study will deliver a knowledge transfer program for managers and supervisors at St. Amant. The study will develop and implement interventions for managers and supervisors to address gaps in the transfer of knowledge between training and the practical application of that training. This study is a sequel to an earlier study funded under the RWIP in 2011, which found that a gap exists between training and the application of training knowledge, and resulting with a high number of workplace injuries. The 2011 study is completed and the report can be accessed at: <http://www.wcb.mb.ca/working-with-individuals-with-intellectual-disabilities-injuries-and-challenging-behaviour>.

This study will undertake a scoping review as well as develop, test, and implement three to five intervention modules using the findings of the review. The study aims to improve the support by managers and supervisors of frontline workers, especially those suffering from mental and emotional trauma, and promote a culture of safety at St. Amant. St. Amant is a not-for-profit organization that offers a wide range of programs for Manitobans with developmental disabilities and autism.



“People who support individuals with an intellectual or developmental disability are at risk of injury from challenging behaviours. Training to reduce injuries, when available, is costly, and yet we know from our previous study that there is a gap between training content and the ability of workers to implement it in their everyday work. We plan to intervene with support managers to increase their ability to translate training into action. Organizations might then make better use of current training, rather than spend on additional training.”

*Left to right: Dr. Charmayne Dubé, Dr. Beverley Temple, Dr. Toby Martin, Lisa Demczuk
Not pictured: Jennifer Kilimnik*

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

Dr. Allen Kraut and Leigh Anne Shafer, University of Manitoba; Colette Raymond, Manitoba Centre for Health Policy
\$54,470

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 will compare opioid usage and physician prescribing practices between injured workers receiving WCB benefits and other Manitobans, before and after the policy's introduction. It will build 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. The study's report, Proportion of Opioid Use Due to Compensated Workers' Compensation Claims in Manitoba, Canada, may be accessed at <http://www.wcb.mb.ca/comparison-of-usage-of-opioid-medications-by-workers-compensation-claimants-and-other-manitobans> or <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-morphone, and trans-dermal fentanyl.



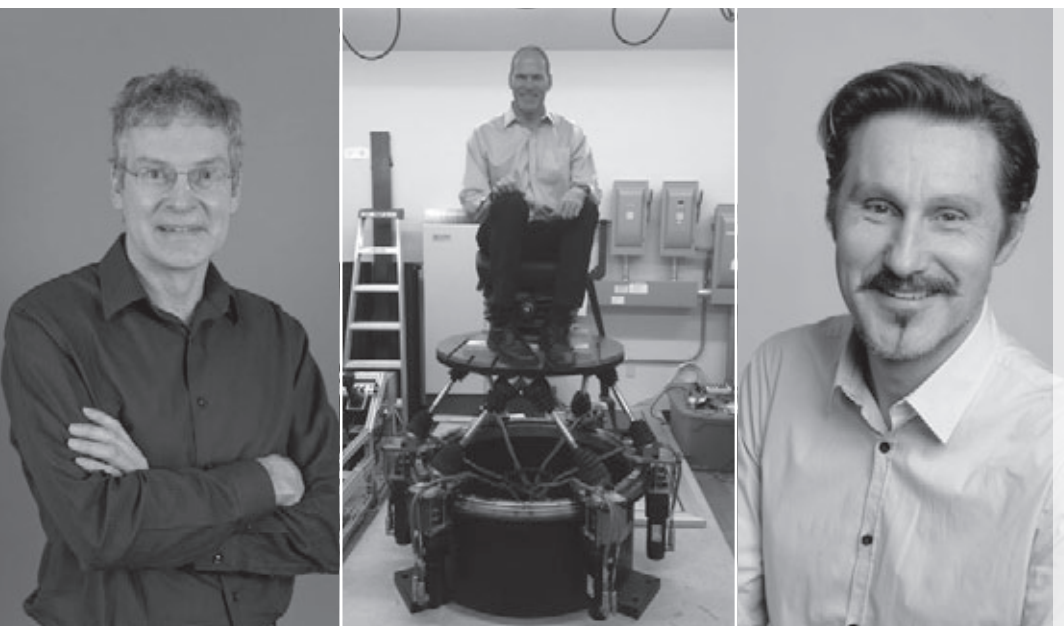
Left to right: Dr. Allen Kraut, Leigh Anne Schafer

"The WCB opioid policy was introduced to help ensure that opioid medications are used appropriately in Manitoba. This project will assist in determining whether the policy is meeting its goals."

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

With the support of Bison Transportation, a major carrier in Manitoba, and the Manitoba Trucking Association, this study will investigate 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 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 researchers anticipate that the findings from the study will provide additional evidence to support workplace accommodations during the return to work process.



Left to right: Phillip Bigelow, Jim Dickey, Emile Tompa

Truck drivers play a vital role in the economies of Manitoba and Canada yet are an underserved occupational group that is at high risk of injury, occupational disease, and musculoskeletal disorders. Truck drivers are continuously exposed to vibration which leads to low back pain, back injury, disability, as well as fatigue that increases collision risk.

Special Funding

INDUSTRY-BASED SAFETY ASSOCIATIONS, PHASE TWO

SAFE Work Manitoba

\$300,000

Manitoba's Five-Year Plan for Workplace Injury and Illness Prevention (the Plan) recognizes the important role of industry-based safety associations in strengthening workplace safety and health practices and commits 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 the commitments of the *Plan* and respond to stakeholder interests, SAFE Work Manitoba has launched a two-phase project for the development of industry-based safety associations. Phase One consists of an assessment of the resource and financial needs of existing and prospective associations. After a competitive process, consulting firm MNP LLP has been engaged to assist with providing safety association support for Phase One of this project. Phase Two of the project will involve the formation and implementation of new industry-based safety associations based on the outcomes of Phase One.



“Safety associations play a key role in industry by providing training, safety program support, and certification, specifically tailored to the unique needs of the members they represent,” says Jamie Hall, Chief Operating Officer for SAFE Work Manitoba. “SAFE Work Manitoba is proud to be strong partners with the existing safety associations and is excited to support the development of new industry safety associations.”

Jamie Hall

Projects Completed in 2014



ON-LINE OCCUPATIONAL HEALTH AND SAFETY MANAGEMENT SYSTEM FOR THE MANITOBA RETAIL SECTOR

Andrew Klukas, Integrated Training Management Inc.
\$23,500 awarded in 2013

Integrated Training Management Inc., in partnership with Mac's Convenience Stores, completed the development of a software program for occupational health and safety for Manitoba's convenience store sector. The on-line tool and program guide takes the user through several checkpoints to ensure that the store is applying industry best practices to keep employees safe. The checkpoints include store visibility, surveillance cameras, signage, controlling access to store premises and cash, personal security (for late night retail), suspect and vehicle identification, personal emergency transmitter test log, and other safety features.

More than 700 convenience and gas retailers in Manitoba will benefit from this software program as it will enable them to provide consistent occupational health and safety training to new workers on their entry into the workforce. This on-line training tool will support improved safety standards across Manitoba's convenience store sector and will in the long term result in safer workplaces for workers as well as the public in the convenience store sector. The completed on-line tool and program guide will be promoted through the Western Convenience Stores Association website. The project's resources can be accessed at: www.thewcsa.com

"The core of WCB's mission is providing workers and employers valued services for injury prevention, compensation, and a quick return to health and meaningful work. The RWIP program is a great example of this, and plays a major role in reducing the number of 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 work-related health issues, the RWIP program provides significant value to workers and employers."

– **Michael Werier**

Chairperson, Workers Compensation Board of Manitoba

CLAIM SUPPRESSION IN MANITOBA

Prism Economics and Analysis

\$100,000 awarded in 2012

The WCB of Manitoba engaged *Prism Economics and Analysis*, a consultancy firm in Ontario, to undertake a study on claim suppression within the Manitoba workers compensation system. The purpose of this study was to examine evidence on the incidence of claim suppression and factors that may be associated with claim suppression. This study has provided valuable information to the WCB as it is the first study to undertake a comprehensive investigation of claims suppression in Manitoba. The study acknowledges that claim suppression is difficult to observe but determined that claim suppression is a material and germane factor in Manitoba. Evidence from the study suggests overt claim suppression occurs in approximately six per cent of workplace injuries, which represents approximately 1,000 claims per year, and, that 30.1 per cent of workers who experienced a work-related injury may not have claimed workers compensation benefits when the injury involved more than five days of lost working time. The report highlighted several factors of claim suppression including lack of knowledge of entitlement rights and preference of many workers to opt for readily available alternatives such as employer benefit plans, sick leave plan, or Manitoba Health. Findings from this study are being used to support and develop initiatives to target claim suppression in the workplace, including a new compliance framework, a review of administrative penalties, a comprehensive review of the assessment rate model, and public awareness campaigns about the importance of reporting injuries.

The study's report, *Claim Suppression in the Manitoba Workers Compensation System: Research Report*, can be accessed at: <http://www.wcb.mb.ca/claim-suppression-in-the-manitoba-workers-compensation-system-research-report>

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

Allen Kraut, Faculty of Medicine, University of Manitoba

\$83,854 awarded in 2011

Opioid medications are sometimes used to treat non-cancer pain among WCB injured workers as these medications can effectively control and relieve pain. The objectives of this research were to determine what proportion of opioids for non-cancer pain was used by the general population and by injured workers receiving WCB benefits. The study also intended to determine if there was an association between higher dosages prescribed to patients and their status as injured workers receiving WCB benefits. The study showed that over the period from 1998 to 2010, 3.8 per cent of the total opioid dosage of medication prescribed in the study population was prescribed to injured workers. The analysis also showed that injured workers were more likely to be prescribed over 120 morphine equivalents per day (ME/D). The study concluded that injured workers account for a small, but significant amount of the total opioids prescribed in Manitoba and that this group is at increased risk of being prescribed over 120 ME/D. The findings of this study will be shared with the WCB's doctors.

The research team applied for and were approved funding for a follow-up study under the 2014 RWIP call for applications. The follow-up study will focus on opioid usage and physician prescribing practices before and after the introduction the WCB's opioid medication policy introduced in 2011. The study's report, *Proportion of Opioid Use Due to Compensated Workers' Compensation Claims in Manitoba, Canada*, may be accessed at: <http://www.wcb.mb.ca/comparison-of-usage-of-opioid-medications-by-workers-compensation-claimants-and-other-manitobans> or <http://onlinelibrary.wiley.com/doi/10.1002/ajim.22374/pdf>

DEVELOPMENT OF A PROVINCIAL WORKPLACE EXPOSURE DATABASE FOR MANITOBA

Hugh W. Davies, School of Population and Public Health, University of British Columbia

\$88,466 awarded in 2011

The goal of this project was to incorporate occupational exposure data stored by the Workplace Safety and Health (WSH) Branch of Manitoba Labour and Immigration into the Canadian Workplace Exposure Database (CWED). CWED was established by CAREX Canada as a centralized database to house data on known, probable and possible workplace environmental carcinogen exposures from a variety of sources in Canada. The project's data mining was completed and almost 22,000 occupational exposure measurements were digitized, cleaned, coded and successfully transferred to the CWED. The abstracted data covered the period 1953 to 2012.

The study's analysis of the exposure data showed that 90 per cent of the exposure measurements were in the mining and manufacturing sectors. There were fewer exposure measurements collected for crystalline silica, pesticides, carbon monoxide, and diesel engine exhaust. The study noted that the single largest substance monitored was dust which was largely in the mining sector and that common carcinogens such as benzene and silica were far less likely to be tested. It also noted a gap in the collection of measurements for diesel exhaust and polycyclic aromatic hydrocarbons throughout the study period.

The CWED database will improve the tracking of occupational exposures in Manitoba and provide better estimates of carcinogen hazards at the provincial level. The data in its new formats will be useful to Workplace Safety and Health and SAFE Work Manitoba in the development of injury prevention policies and practices related to carcinogen exposures in Manitoba. The study's report, *Development of a Provincial Exposure Data Base for Manitoba*, may be accessed at: <http://www.wcb.mb.ca/development-of-a-provincial-workplace-exposure-database-for-manitoba>

OCCUPATIONAL EXPOSURE TO CARCINOGENS IN THE AEROSPACE INDUSTRY

Doug Wylie, Winnipeg Air Testing

\$67,000 awarded in 2011

This project identified and evaluated the potential risks of cancer-causing exposures among workers employed in aerospace companies in Manitoba. Boeing Canada Operations Ltd., Standard Aero, Magellan Aerospace, Enduron, Cormer Aerospace, and Advanced Composite Structures participated in the project. Samples of known cancer-causing agents were collected for airborne, on-surfaces, and skin exposures and tested to detect the presence of metals, acids, fumes, organic solvents, and radiation. The study found that the aerospace industry in Manitoba has gone to great lengths to either eliminate or reduce workers' exposure to carcinogens. The tests showed that the majority of airborne and surface samples had low concentrations of carcinogens which were generally well below the allowable exposure for each tested chemical.

The project's findings were shared with the aerospace industry in Manitoba and with the participating aerospace companies. The report may be accessed at: <http://www.wcb.mb.ca/exposures-to-carcinogens-in-the-aerospace-industry>

PROGNOSTIC FACTORS FOR TIME AWAY FROM WORK IN WORKERS WITH CHRONIC LOW BACK PAIN

Ivan Steenstra, Institute for Work and Health

\$119,332 awarded in 2011

This systematic review was undertaken to identify factors that predict return to work (RTW) in the sub-acute and chronic stages of work disability related to low back pain (LBP). The literature on prognosis was systematically reviewed. 5027 references were retrieved and 78 relevant studies selected. The study showed that recovery expectations and physical demands were associated with RTW in all phases of work disability. There was strong evidence that functional status and pain in the sub-acute phase had no effect on RTW and moderate evidence for a negative effect in the chronic phase. There was mixed evidence for the effect of gender on RTW between phases and insufficient evidence on the importance of psychological factors on RTW in the sub-acute and chronic phases of work disability related to LBP.

Preliminary findings of this review were discussed in two workshops in Winnipeg and the audio recorded content analyzed. The synthesis of research evidence and information from the workshops will be used to develop a handbook for practitioners involved in the return to work process. The study's preliminary report may be accessed at: <http://www.wcb.mb.ca/systematic-review-of-prognostic-factors-for-return-to-work-in-workers-with-sub-acute-and-chronic-low>

TECHNOLOGIES AND SAFETY: MAKING FARMS SAFER

Robin R. Millar, Centre for Education and Work

\$200,000 awarded in 2011

The Centre for Education and Work (CEW) successfully completed the design and development of the Safe Farms App. The Safe Farms App is an easy-to-use web-based tool for creating a safe work procedure (SWP) for a farm. In the course of implementing the project CEW found that many farms did not have SWPs or standard operating procedures. The focus of the project was revised from a risk assessment tool originally planned for the project to a tool for SWPs. The project also created samples of SWPs to help farmers get started on their safe work plans and printable job aids to post in key areas around the farm. CEW shared information about the Safe Farms App and the project's resources via an e-newsletter circulated to the farming community in Manitoba.

The safety app can be accessed free of charge at: <http://safefarms.ca/>

The project's report can be accessed at: <http://www.wcb.mb.ca/research-and-workplace-innovation-projects>

WORKING WITH INDIVIDUALS WITH INTELLECTUAL DISABILITIES, INJURIES, AND CHALLENGING BEHAVIOUR

Beverley Temple, Faculty of Nursing, University of Manitoba

\$133,041 awarded in 2011

This study aimed to obtain a greater understanding of the experiences of St. Amant staff in managing challenging behaviour and their perspectives on using training when managing challenging situations. The findings showed that different work contexts create very different risks for injury and that support workers were most successful when there was a good relationship with the client. The study found that while frontline workers received training there was no systematic follow-up to ensure that training was understood or implemented effectively. The results of a staff survey showed that one third of frontline workers indicated they could have done something differently to prevent the injury and more than one third said they did not know how to prevent the injury.

Managers found it difficult to manage risks from aggressive client behaviour, match training to the needs of the worker and client, and debrief with support worker and client when an incident occurred. The analysis of injuries showed that nearly half of the injuries among frontline workers were bruises and scratches largely to the upper body as well as head and neck injuries. Fifty-one per cent of frontline workers reported that they did not seek medical attention when injured and thirty-one per cent reported they used first aid.

This study identified the need for interventions to address gaps in the transfer of knowledge between training and the practical application of training. The research team applied for and were approved for funding for a follow-up study to develop practical interventions that would improve the support of frontline workers by managers and supervisors under the 2014 RWIP call for applications.

The findings from this study have been presented at several local, national and international conferences. The project's report can be accessed at: <http://www.wcb.mb.ca/working-with-individuals-with-intellectual-disabilities-injuries-and-challenging-behaviour>

UNDERSTANDING AND MEASURING WORK DISABILITY IN RURAL AND URBAN HEALTHCARE WORKERS IN MANITOBA

Margaret N. Friesen, School of Medical Rehabilitation, University of Manitoba
\$199,500 awarded in 2010

There is a general perception in the healthcare sector that injured workers in rural areas have difficulty accessing disability management services, injury prevention, and return to work programs. This study investigated the differences in work disability outcomes between rural and urban healthcare workers. The sample of urban healthcare workers was drawn from the Brandon Regional Health Authority (RHA) while Central RHA provided the sample for the rural complement of healthcare workers.

The study showed that rural healthcare injured workers were more likely to be older, female, earn less, and have more prolonged claim duration than their counterparts in urban areas. The findings also showed that the incidence of time loss claims in Brandon RHA was higher than the incidence of time loss claims in Central RHA which had proportionately more no time loss claims. The time loss claims in Central RHA had proportionately higher medical costs, higher compensation costs, and higher overall total dollar costs than Brandon RHA.

The study also examined injury prevention and return to work policies and programs and found no differences between these RHAs. However, the study reported that due to the scarcity of healthcare workers in rural areas, rural healthcare facilities were challenged to replace or accommodate an injured worker. The study also noted that workplace supports from managers and co-workers for an injured worker in Central RHA was significantly stronger than in Brandon RHA reflecting the different culture of rural workplaces.

The comparison of work disability outcomes between rural and urban healthcare workers will inform the development of policies and practices to advance injury prevention and disability management services in the healthcare sector.

The findings from this study are reported in two reports, a quantitative report and a qualitative report, which can be accessed at:

http://www.wcb.mb.ca/sites/default/files/files/Quantitative%20Report%20FINAL_1ls.pdf

http://www.wcb.mb.ca/sites/default/files/files/Qualitative%20Report%20FINAL_1ls.pdf

HOW DO EXPECTATIONS, COPING, AND DEPRESSION IMPACT ON RECOVERY AFTER A MUSCULOSKELETAL INJURY?

Linda J. Carroll, Department of Public Health Sciences, University of Alberta

\$119,685 awarded in 2009

This study examined the inter-relationships among pain disability, fear avoidance, depression, and expectations of recovery. The participants for this study were adults who had a recent musculoskeletal condition for which they were seeking physical therapy treatment. Participants completed a baseline questionnaire and were mailed follow-up questionnaires at six weeks, three months, and six months later. The questionnaires surveyed attitudes to pain, depression, coping, fear avoidance, pain disability, and expectations of recovery. The study found correlations across the psychological measures of depression, passive coping, and fear avoidance. There were strong associations between pain disability and depression. The associations between fear avoidance and depression, coping, and pain disability all became stronger over time, as did the associations between pain disability and pain intensity.

The findings of this study will enhance understanding of the role of personal expectations, coping mechanisms, and depression in injury response and recovery. The study's results will assist the WCB to better understand the factors impacting recovery from musculoskeletal injuries that may lead to more timely interventions and more effective case management services and strategies. The project's report may be accessed at: <http://www.wcb.mb.ca/research-and-workplace-innovation-projects>

Projects in Progress

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 (HCPs) in an injured worker's return to work (RTW). The healthcare providers for this study are general medical practitioners and family doctors who engage in the RTW process in multiple ways. This is 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. The researchers have completed the policy and document analysis, selected case studies for analysis across the jurisdictions, and identified potential survey participants. The researchers are currently doing an in-depth analysis of medical certification forms from each jurisdiction.

The study's outcomes will include an inventory of tools and programs that facilitate HCP engagement in the RTW process. The findings will shed light on HCPs' challenges with planning RTW, identify a range of approaches and processes that could improve the involvement of HCPs in the RTW process, as well as the rate at which injured workers return to work. This is a timely study and will involve safe return to work planning and include the injured workers' perception about their medical prognosis and functional capabilities.

ENHANCING SECLUSION AND RESTRAINT-FREE MENTAL HEALTH SERVICES: PROMOTING EMPLOYEE SAFETY THROUGH CULTURAL CHANGE, TRAUMA-INFORMED CARE, AND THE USE OF INNOVATIVE STRATEGIES FOR VIOLENCE PREVENTION AND MANAGEMENT

Debbie Frechette and Mental Health Program, Health Sciences Centre, and Lisa Knechtel, Adult Mental Health Program, Health Sciences Centre
\$175,200 awarded in 2013

The implementation of the Six Core Strategies for Reducing Seclusion and Restraint Use (SCS) program is in progress at five in-patient units at the Health Sciences Centre (HSC), Victoria General Hospital, St. Boniface Hospital, Grace General Hospital, and Seven Oaks General Hospital. This program is providing instruction in alternatives to the use of seclusion and restraint when caring for aggressive patients using the following strategies: leadership and organizational change; the use of data to inform practice; development of the workforce; full inclusion of the patient and his or her family; making changes to the environment of care and use of sensory modulation; and rigorous debriefing after events in which seclusion and restraint might have been used.

The SCS program was introduced to one of the mental health units at the HSC with RWIP funding in 2010. The pilot project was completed in 2012 with outstanding results.

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 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 building work. The development of the model is underway and five contractors have been recruited to participate in this study.

There is limited information on workers with disabilities in the construction sector. This study will provide information regarding people with disabilities and their accommodation and re-employment in construction workplaces. It is a unique study and will identify gaps in legislation, in the culture and disability management practices of employers in the construction sector, their compliance with re-employment obligations, return to work, and recommendations for disability management. The study will also provide information and data to assist construction firms with their re-employment and accommodation obligations, paving the way for improvements in disability management in this sector.

FARM SAFETY CURRICULUM DEVELOPMENT AND PILOT COURSE DELIVERY

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

\$100,000 awarded in 2013

The University of Manitoba's School of Agriculture and the Department of Animal Science is developing customized safety plans for producers and businesses in the agricultural sector. The study team has re-designed the structure and curricular materials of the introductory course on farm safety into distance delivery formats and obtained approval for the syllabus of the Advanced Farm Safety Course from Manitoba Agriculture Food and Rural Development. The project team in consultation with Keystone Agriculture Producers, Manitoba Canola Growers Association, and SAFE Farms Manitoba has additionally developed the outline of a day-long safety workshop that will be offered to producers in the agriculture sector. The distance delivery format and training courses offered by the School of Agriculture will potentially reach young farmers and new entrants into the agricultural workforce and will be an investment in the future health and safety of this sector.

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

Robin Millar, Centre for Education and Work

\$200,000 awarded in 2013

The development of the safety e-book app is well underway. The content of several chapters has been developed with the technical experts for this project. This app is being customized to the iPad Textbook which has capability features to embed video, interactive charts, graphs, and text to allow for a natural flow of information. A significant project goal is to train 60 workers to use the e-book at the selected work sites. The project promotes the application of new technology in occupational health and safety and e-learning, which recent research has shown is an effective way to impart knowledge to young workers and workers with English as an additional language.

MANITOBA ABORIGINAL HEALTH AND SAFETY INITIATIVE (MAHSI)

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

\$195,000 awarded in 2013

Aboriginal workers are identified as a vulnerable group of workers who are at increased risk of workplace injury and illness. The project is developing resources that will be easy to access and customized to reflect Aboriginal practices, history, and traditions. Preliminary work on this project started in January 2014, and the Northern Manitoba Sector Council (NMSC) and the Manitoba Aboriginal Health and Safety Initiative (MAHSI) are in the process of reviewing the health and safety curriculum for the project's learning modules. MAHSI's On-line Learning Centre will build capacity for effective health and safety training for Manitoba's rapidly growing Aboriginal workforce.

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

This project intends to reach students and young individuals who are the next generation of farmers in Manitoba to transfer knowledge on health and safety for farms and other workplaces in the agricultural sector. The project team has developed 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 working on the development of safe operating procedures 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, Food and Rural Initiatives 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.

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 and Health; Steven Passmore and Leslie Johnson, University of Manitoba

\$196,000 awarded in 2013

This project will combine two research methods to produce a tool that will obtain the latest research evidence in the field of occupational health and safety. The project is well underway and a stakeholder advisory council has been set up comprising business, labour, government, and the WCB. The research team held an information and education session on the Contextualized Health Research Synthesis Program developed at the Newfoundland and Labrador Centre for Applied Health Research, and Systematic Review Techniques pioneered by the Institute for Work and Health for the stakeholder advisory council. The research team is in the process of working out the practical application of the blended methodology. This study will customize the results for Manitoba and will contribute towards evidence-based policy development. The synthesized research framework and methodology will be published in a handbook for end-users.

TO CREATE INDICATORS AND TOOLS FOR SUPERVISORS TO USE AT THE JOB SITE IN IDENTIFYING POTENTIAL MUSCULOSKELETAL INJURIES (MSIs) ASSOCIATED WITH DRYWALL INSTALLATIONS

Ihor Barwinsky, Gypsum Drywall Interiors Ltd.

\$10,120 awarded in 2013

Drywall tasks are physically demanding and repetitive. This project applies analytical approaches and biomechanical principles similar to those used for athletic and performance training to analyze the risk of injury to drywall installers. The project team has identified six worksites at which to observe and record the working habits and techniques of drywall installers. The sites are: Taché Hall, University of Manitoba; Polo Park Zellers Renovation; Polo Park H & M Renovation; Canadian Mennonite University Library; Destination Maternity and Rothesay Apartments. Using the Coach's Eye video analysis software, several tasks were recorded and shared with workers. The final project resources will include a training video and posters to display correct job movements in drywall installation. The resources will assist supervisors to recognize when a worker is at risk of becoming injured and take steps to prevent an injury from happening. The project demonstrates an innovative approach to injury prevention and the findings will be readily transferable to other drywall installers in Manitoba.

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 III, Institute for Work and Health; and Allen Kraut, University of Manitoba

\$199,246 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 data mining phase of this study has been completed. The research team is currently undertaking data validation, cleaning of data sets and comparable descriptive analyses for each province. When completed, this work will pave the way for the analysis of the trends, variations and drivers of long-term claims, as well as identify best practices across the three provinces.

CLINICAL DECISION SUPPORT TOOLS FOR MANAGING DISABLING MUSCULOSKELETAL DISORDERS

Douglas Gross, University of Alberta; Ivan Steenstra, Institute for Work and Health; William S. Shaw, Liberty Mutual Research Institute; Nicola Shaw, Algoma University; and Kelly Williams-Whitt, University of Lethbridge

\$88,085 awarded in 2012

The development of Clinical Decision Support (CDS) tools is a new and rapidly growing area of research with the potential to assist healthcare practitioners to decide on the best treatment for each patient. This study is conducting a scoping review of currently available CDS tools which assist practitioners in the treatment of musculoskeletal injuries and regional pain disorders. The researchers are working on an inventory of available CDS tools as well as on key concepts and definitions for future reporting in this area. Preliminary results of the scoping review have been presented this year in Manitoba and in Hong Kong. The next steps will be evaluation of the effectiveness and utility of the available tools and the development of recommendations for future research and development. 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 findings from the scoping review will assist clinicians to select the most effective treatment for musculoskeletal injuries and provide the right treatment at the right time based on empirical evidence.

INNOVATING CASTING EXCELLENCE

Kimberly Gretschmann, Standard Manufacturers Services Ltd.

\$94,957 awarded in 2012

Workers in a foundry are at high risk of burns and scalding from molten metal. To reduce the risk of sustaining burn injuries among the workers in the foundry, Standard Manufacturers Services Ltd. (SMS) has incorporated a robotic arm into its production process. This project is in the process of developing safe work procedures around the use of the robotic arm, undertaking a hazard analysis of tasks for modified production activities and training workers to work safely in the foundry's modified production processes. Several molds were tested for safety using the robotic application and safe work procedures for new product development using robotics have been completed. Work is in progress to develop a training manual for foundry workers and a video of the project's successes. The safety improvements resulting from this project are expected to reduce the number of burn injuries among SMS's foundry workers, demonstrate the efficacy of robotic technology in prevention of burn and musculoskeletal injuries and create sustainable safety practices in SMS's foundry.

SAFETY CLIMATE SURVEY TOOL

Prairie Research Associates (PRA) Inc.

\$52,880 awarded in 2012

This Request for Proposals was issued in 2013. After a competitive process, Prairie Research Associates (PRA) Inc. was awarded the contract to undertake a review of the Safety Climate Tool used by the WCB to gather information from workers, supervisors, and leaders to assess the safety climate of a workplace. A literature review of the safety climate and culture has been completed and 29 questions were selected for testing in two focus groups comprising 20 participants from different industries. Based on feedback from the focus groups, the Safety Climate Tool was revised and tested in two workplaces, Weststeel and Manitoba Harvest. The survey will also be piloted in three other workplaces. The new survey tool will streamline data collection, diagnose safety issues in individual workplaces, and compare the safety performance of workplaces surveyed.

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. Qualitative interviews are slated in early 2015, with trainees at the Northern Alberta Institute of Technology and Red River College, Manitoba. 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.

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

Greg Mason, Prairie Research Associates (PRA) 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 is exploring the full cost of workplace injuries and occupational illnesses to workers and their families, employers and the Manitoba economy for the last five years. The researchers are applying 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 when a workplace injury occurs. PRA has developed a series of case studies on types of costs incurred by those injured at work. These case studies were used to develop a survey for current and past WCB injured workers. PRA launched the survey in August 2014, which by year end was approximately two-thirds complete. The researchers expect to survey approximately 2,000 injured workers. After the survey concludes, analyses of the findings will follow in the months to come.

Studies which estimate the full range of economic and social costs of workplace injuries and fatalities vary greatly in scope and intent. There are few Canadian studies and none in Manitoba. This study will establish tangible values for unaccounted costs resulting from a workplace injury and provide information that will be used by the WCB in communicating the value of injury prevention and return to work programs in the workplace.

MUSCULOSKELETAL INJURY PREVENTION PROJECT FOR HOME CARE PROGRAM

Charlene Robert, Interlake-Eastern Regional Health Authority (The Interlake Regional Health Authority was merged with the North Eastman Health Association to form the Interlake-Eastern Regional Health Authority in May 2012.)

\$182,618 awarded in 2011

Ergonomic hazards in the workplace are a leading cause of musculoskeletal injuries among healthcare workers who provide home care services. The Interlake-Eastern Regional Health Authority (IERHA) is implementing a new training program for safe transfer and client-handling procedures for all home care workers in the region. The new training program will be an adaptation of the current Musculoskeletal Injury Prevention (MSIP) program for home care workers. The project team held several consultations with teams from other healthcare regions that are working on Safe Patient Handling Procedures. They are also working with IERHA Education Coordinators to implement the MSIP for the region. The development of new policies for Home Care MSIP and a manual which includes all safe work procedures, education forms, and literature regarding MSIP is currently underway. The merging of the Interlake Regional Health Authority with the North Eastman Health Association to form the Interlake-Eastern Regional Health Authority will not affect the scope of the project.

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 Stephen Passmore, Spine Biomechanics and Human Neurophysiology, School of Medical Rehabilitation, Faculty of Medicine, University of Manitoba

\$199,167 awarded in 2011

This study is developing two training modules for firefighters using serious games technology. Serious games technology is an interactive software used in teaching and training. The first training module, Game One, is a low back lifting game and the second training module, Game Two, is a cognitive decision-making and evaluation game. Preliminary work for simple movements for Game One was successful and work is ongoing to capture more complex movements in the game play. Work is also ongoing to capture in video format lifting tasks and create biomechanical lab simulations of the top five lifting tasks for Game One. Statistical analysis of data collected from a survey of 20 firefighters on the effects of heat stress has been completed for Game Two and a preliminary version for this game developed. The researchers anticipate testing the preliminary versions of Game One and Game Two with 10 firefighters in early 2015. The knowledge resulting from this study will be converted into practical training applications that will be utilized for the prevention and reduction of work-related injuries among firefighters in Manitoba.

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 (OHS) Certificate program offered by RRC. Updates to the existing OHS curriculum are ready for submission to RRC's Senior Academic Committee for approval. When approved, a number of the OHS courses will be converted into formats for distance delivery. 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.

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

RETURN TO WORK FOLLOWING TOTAL KNEE REPLACEMENT IN WORKING INDIVIDUALS

Martin Petrak, Orthopaedic Innovation Centre Inc.

\$197,250 awarded in 2010

With improvements in the design of total knee replacement (TKR), knee surgery has expanded to include younger, more active patients for whom return to work is an important surgical outcome. This study is investigating the effect of TKR on an individual's ability to return to work and factors that may affect return to work. Questionnaires for the study are complete and information gathering among the study's subjects is in progress. The findings will enhance decision-making about modified work, resumption of employment, and employment expectations in patients with arthritis of the knee.

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 behaviour. The current study will include 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.

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