

Research and Workplace Innovation Program

Funding occupational health research and innovative workplace solutions



2012 ANNUAL REPORT



President's Message



“The hallmark of the Research and Workplace Innovation Program (RWIP) is helping to create safer Manitoba workplaces through scientific research and workplace innovation. Each year, the Workers Compensation Board of Manitoba (WCB) invests up to \$1 million in funding projects under the program. The benefits over the last four years have been impressive. The wide range of projects has helped create safer workplaces, assisted workers in recovering from injuries and returning to work, and expanded the understanding of healthcare professionals about occupational illness and treatment options. RWIP is a valuable program that helps foster a culture of safety and health for all Manitoba employers and workers.”

– **Winston Maharaj**

President and CEO, Workers Compensation Board of Manitoba

The Research and Workplace Innovation Program

The WCB is committed to promoting safe and healthy workplaces, providing compassionate and supportive compensation services for workers and employers, and helping injured workers in Manitoba recover and return to meaningful work as soon as it is safe to do so.

The WCB established the RWIP to promote and fund scientific research, workplace innovation projects and knowledge transfer related to the prevention of occupational injuries and diseases and to the safe return to work of injured and ill workers. In 2012, the program marked its fourth year of funding projects.

The RWIP makes available \$1 million each year through two streams of funding:

- workplace-based innovation projects that lead to improvements in workplace health and safety and foster successful rehabilitation and safe return to productive and meaningful work
- high-quality scientific research on significant issues related to workers compensation.

Workplace Innovation Funding

The objectives of workplace innovation funding are to support and fund 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
- 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

The objectives of funding scientific research are to support 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
- expand Manitoba's research capacity in occupational health and safety and issues related to workers compensation.

Under the RWIP, the WCB may issue a Request for Proposals (RFP) when a specific initiative or research topic is identified; it may partner with other workers compensation authorities, research agencies or third parties to pursue shared priorities, issues and goals related to workers compensation; and it may provide special funding approved by the Board of Directors for other initiatives that are within the terms of reference of this program.

The RWIP replaced the Community Initiatives and Research Program in 2009. Over the last four years, a total of 29 projects were supported through RWIP funding. Seven of the approved projects were workplace innovations, 14 were scientific research studies, four were partnerships and four were RFPs. The table below shows the number of projects funded from 2009 to 2012.

RWIP APPROVED PROJECTS 2009 TO 2012						
Funding Stream	2009	2010	2011	2012	Total Number	Percentage of Total
Workplace Innovation	2	1	3	1	7	24%
Scientific Research	2	4	4	4	14	48%
Partnerships	0	1	2	1	4	14%
Requests for Proposals	1	2	0	1	4	14%
Total Projects Funded	5	8	9	7	29	100%

New Grants Awarded in 2012

Workplace Innovation

INNOVATING CASTING EXCELLENCE

Kimberly Gretschmann, Standard Manufacturers Services Ltd.

\$94,957

Workers in a foundry are at high risk of burns and scalding from molten metal. To prevent burn injuries, Standard Manufacturers Services Ltd. (SMS) will begin utilizing a robotic arm to pour molten aluminium. The robotic arm will eliminate the need for SMS's foundry workers to pour molten aluminium directly and will reduce their risk of sustaining burn injuries.

With RWIP funding, SMS will hire consultants to develop integrated safety systems to support advanced robotic technology in the foundry and to test and validate safe work procedures at the different stages of the installation of the robotic equipment. The project's activities include: modifying equipment to incorporate safe work procedures, analyzing hazards within the modified production activities and training workers to work safely in the foundry's modified production processes.

The project is expected to reduce the number of burn injuries among SMS's foundry workers by approximately 50 per cent. It will also demonstrate the efficacy of robotic technology in the prevention of burn and musculoskeletal injuries and will create sustainable safety practices in SMS's foundry.

SMS will participate in the 2013 Innovation Insights program sponsored by Canadian Manufacturers and Exporters. The company will showcase safer foundry production processes to other manufacturers in this sector and promote knowledge transfer locally at a one-day open house and seminar in 2013. Upon completion of the project, SMS will develop a video and supplementary training materials to document the project's successes and best practices resulting from the use of robotics.



“Our objective is to decrease the burn and musculoskeletal injuries in our foundry by 50 per cent or more through adoption of technology and integrating it into our existing architecture. Casting houses are traditionally labour intensive and are a workplace where engineering design and safe work procedures are critical to worker safety. Application training, testing, validation, safe work procedures and training manual development will ensure the safe and successful integration of robotic automation into our workplace.”

– **Kimberly Gretschmann**

Left to right: Crystal Johnston, Kimberly Blanchette, Dean Jennings, Hideki Gebken, Kimberly Gretschmann, Glenn McKnight and Jeremy Thiessen

Scientific Research

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

Long term claims have a significant and profound effect on all aspects of an injured worker's life. There is also a heavy cost burden to the workers compensation system, employers and society as a whole. Reducing the burden of these injuries is challenging because of incomplete understanding of the treatment methods that can reduce the incidence and duration of long term claims.

This study will undertake a comparative analysis of claims data for injury severity among young and older workers and those in high-risk occupations in Manitoba, British Columbia and Ontario. The study will create comparable groups of injured workers in the three study provinces; analyze trends and variations in claim rates for long duration and serious injury claims; and identify the key drivers of the claims rate. The study will also include an analysis of policies that influence the length of a long term claim and will include analyses specific to Manitoba. The researchers will develop and publish a compendium of findings when the study is completed.

The study's results will identify the drivers of severe work-related injuries with long duration, develop practical solutions to resolve persistent problems associated with these claims and contribute towards informed policy-making and best practices for these claims.



“This project, using compensation data from multiple Canadian provinces, will enable us to explore the drivers of long duration and severe work injuries. The results of this project will assist the WCB and other compensation boards to improve recovery from these injuries.”

– **Christopher McLeod and Mieke Koehoorn**

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

Some work-related medical problems can be treated in several different ways, each with its unique advantages and disadvantages. Clinicians face ambiguity and disagreement about the best approaches for managing back, neck and shoulder pain and the best treatment for each patient.

The purpose of this project is to conduct a scoping review of currently available clinical decision support (CDS) tools for musculoskeletal injuries and regional pain disorders. A scoping review is a type of research methodology that rigorously collects, synthesizes, appraises and presents findings from existing research on a topic and is especially relevant when an area of study is emerging or diverse. This scoping review will examine a broad range of healthcare and computer-based CDS tools, related algorithms, care pathways, guidelines, rules and models. The project's results will include an evaluation and synthesis of the effectiveness of available CDS tools, recommendations for interventions, an inventory of available tools and a summary of currently used terminology and key concepts. The project will also establish the foundation for future research and reporting on CDS tools.

The findings from the scoping review will assist clinicians in selecting the most effective treatment for musculoskeletal injuries, remove the ambiguity and disagreement associated with various treatment methods and provide the right treatment at the right time based on empirical evidence.



“With computer technology advancing quickly, clinical decision support tools are becoming more popular with healthcare providers to help select the best available treatments. Our team will review available literature on these tools and make recommendations for their use to help improve the care of injured workers – getting the right treatments at the right time.”

– Douglas Gross

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
\$99,959

The proportion of seniors in Manitoba's population is increasing more rapidly than all other age groups. As a result of retirement, the skilled trade workforce is expected to experience a shortage of workers over the next decade. The loss of senior workers due to retirement and associated labour shortages may put younger workers at risk due to increased hours of work and subsequent overexertion, which some studies have shown to be a significant predictor for time loss injuries. This study will explore retiring workers' attitudes, intentions, and behaviours with respect to sharing safety-related knowledge. It will also examine younger workers' attitudes, behaviours and receptivity to the shared knowledge. The study's findings will improve understanding of safety knowledge sharing between retiring workers and younger workers, illustrate new approaches towards creating a stronger organizational safety climate and potentially reduce the amount of injuries in workplaces.

The information on intergenerational 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.



"This project explores how employees of all ages learn and share knowledge about workplace safety. Safety training is important, but not necessarily bound in the heads of individual employees: safety is accomplished by interacting, circulated through 'doing' in a particular context, and embodied in the practice of working."

– Nick Turner

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

Greg Mason, Prairie Research Associates Inc.

\$179,500

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 or fatality. The purpose of this study is to gain a better understanding of the full cost of workplace injuries, occupational illness and fatalities to workers and their families, employers and Manitoba's economy over the last five years.

The study is structured around three different approaches to data collection: an analysis of WCB claims and injury data, a survey of a sample of WCB injured workers and their families, and qualitative interviews with a subset of injured workers. The multi-modal study design will enable the researchers to provide a more comprehensive estimate and valuation of economic costs. It will also identify changes in the quality of life of injured workers and illustrate the range of indirect and non-economic costs experienced by injured workers and their families when a workplace injury, illness or fatality occurs.

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

This study will add to the WCB's knowledge of the full cost of a workplace injury by establishing tangible values for unaccounted costs and demonstrating the impact of an injury on the worker, the family, the employer and Manitoba's economy. It will also provide information that will be utilized for the WCB's management of its benefits and injury prevention programs.



"Many of the costs associated with illness and injuries are incurred by workers and families in ways that do not appear in the direct costs registered by employers, the claims paid by WCB or even the costs to the healthcare system. This study will attempt to examine those often large indirect costs to reveal the full benefit of making Manitoba workplaces safer."

– **Greg Mason**

Left to right: Mark Lenton, Matthew Bullen, Lynne Doyle, Bob Spelchak, Greg Mason and Andrew Buchel

Partnership Agreement

CLAIMS SUPPRESSION IN MANITOBA

Workplace Safety and Insurance Board of Ontario

The WCB is partnering with the Workplace Safety and Insurance Board of Ontario to have Manitoba data included in a study on claims suppression. The study examines the prevalence of claim suppression, whether there are any links between suppression and employer incentive programs, and the profile of workers and employers in workplaces where claims have gone unreported. *Prism Economics and Analysis*, a consultancy firm in Ontario, will undertake the study. This study will be valuable to the WCB because a comprehensive investigation of claims suppression has yet to be completed in Manitoba.

The study's results will provide the WCB with a global review of the causation, magnitude and profile of claims suppression in Manitoba as well as the nature and severity of unreported injuries. The study's information and evidence will allow the WCB to develop strategies and business practices to address concerns related to claims suppression.

Request for Proposals

SAFETY CLIMATE SURVEY TOOL

As part of its consulting services with employers through its Partners in Prevention program, the WCB currently administers a survey to gather information from workers, supervisors and leaders to assess the safety climate of a workplace. In 2013, the WCB will issue a Request for Proposals to develop a new survey tool to assess the safety climate of a workplace. The new survey tool will strengthen the WCB's Partners in Prevention program by streamlining data collection, diagnosing safety issues in individual workplaces, surveying a variety of industries and enabling the comparative analysis of workplace safety. The information collected from the new survey tool will also be used to generate easy-to-understand reports on safety assessments and recommend changes to employers and industry partners that will improve the safety climate of surveyed workplaces.

Projects Completed in 2012



A PILOT PROJECT IN SECLUSION AND RESTRAINT-FREE MENTAL HEALTH SERVICES: FOSTERING PRACTICE CHANGE AND CULTURAL SHIFT IN THE MANAGEMENT OF HIGH-RISK VIOLENT PATIENTS WHILE ENHANCING PATIENT AND STAFF SAFETY

Dawn Bollman, Adult Mental Health Program, Psychiatric Intensive Care Unit, Health Sciences Centre Winnipeg

\$150,200 awarded in 2010

The Health Sciences Centre Winnipeg (HSC) completed the “*Six Core Strategies for Reducing Seclusion and Restraint Use*” pilot training program at the Psychiatric Intensive Care Unit (PY3-South). This program applied alternative mechanisms to prevent and control patient aggression and included more involvement by the patient with regard to planning his or her treatment.

Results from the pilot project show that there were no injuries sustained by staff for a period of 13 months after the project’s inception. This result is a landmark in the history of staff injuries in PY3-South. The evaluation of the project’s other outcomes shows that episodes of seclusion decreased by 51.6 per cent, duration of seclusion by 83.6 per cent and the administration of various Intramuscular Medications (I.M.s) decreased by 15 to 22 per cent between April 2011 and March 2012 (the intervention period for this pilot project). The pilot project demonstrates that the use of the *Six Core Strategies for Reducing Seclusion and Restraint Use* significantly reduces the number of seclusions, the duration of seclusion, the I.M.s administered and the risks of injury to staff.

As a result of the success of this pilot project, the HSC is planning to extend this strategy to six other departments.

A report and PowerPoint presentation are available at <http://www.wcb.mb.ca/research-and-workplace-innovation-projects>.

“Creating and maintaining a culture of safety and health for all Manitobans is a multifaceted endeavour. The RWIP plays an important role in funding research and programming that benefits employers and workers. From funding research that helps shape return to work programs for injured workers, to supporting a healthcare project that helps prevent injuries through innovative best practices, we all benefit when fewer workers are injured at work.”

– **Michael Werier**

Chairperson, Workers Compensation Board of Manitoba

ECONOMIC EVALUATION SOFTWARE FOR MANITOBA WORKPLACES

Emile Tompa, Institute for Work and Health

\$69,453 awarded in 2009

The Health and Safety Smart Planner is a software tool designed to calculate the costs and benefits of workplace health and safety initiatives and the cost of incidents. The software has three sections and is supported by a series of nine video tutorials that guide the user through the software. The Smart Planner features a list of information that should be collected prior to calculating the cost of an incident or intervention, pop-up buttons that explain each field for data entry, a database to store and update company information, a summary sheet for planning, and decision-making files that may be customized by the user. The Smart Planner is customized for small and medium-sized businesses in Manitoba's manufacturing and retail sectors but the tool is flexible enough for use in other industry sectors. The software is an easy way to calculate the cost of an incident or an intervention because it breaks up complex topics into several easy-to-follow steps. A user does not need special knowledge, training, or a background in economics to use the software which can be downloaded free of charge.

The Smart Planner supports the creation of safer workplaces and is particularly useful in workplaces that do not have sophisticated return to work and disability management programs. By estimating the cost of an intervention, the Smart Planner can help workplaces make changes that could lead to a reduction of lost time for workers due to workplace injuries.

The Health and Safety Smart Planner, instructional videos and calculator are available at <http://safemanitoba.com/health-and-safety-smart-planner>. The video and resources have been downloaded and viewed numerous times.

OCCUPATIONAL EXPOSURE PREVENTION AND THE CO-OCCURRENCE OF WORK-RELATED SKIN AND RESPIRATORY SYMPTOMS AND DISEASE

Linn Holness, Centre for Research Expertise in Occupational Disease, University of Toronto

\$142,064 awarded in 2008 under the Community Initiatives and Research Program

Workers can be exposed to chemicals through their skin or respiratory system that may result in disease in one system or both. This study explored the relationship between routes of exposure and disease outcomes in the skin and respiratory systems among workers exposed to chemicals. A cross-sectional study of 225 workers seeking treatment for occupational skin or lung disease was completed with patients in Toronto and Winnipeg. The study's findings show that 19 per cent of subjects reported concurrent skin and respiratory symptoms that were work-related. Concurrent symptoms were more common in subjects with skin conditions (22 per cent) compared to subjects with respiratory conditions (10 per cent). When asked about prevention practices, 44 per cent reported having education on personal protective equipment (PPE) for the skin and 89 per cent used gloves at work. For those subjects with respiratory symptoms, 39 per cent used a respirator at work and about half reported that they had no education on PPE. The use of gloves was more common than the use of respirators among the study's subjects.

When investigating the differences between workers with concurrent symptoms and those with either skin conditions or respiratory symptoms, the analysis showed that subjects with a history of eczema were at higher risk of concurrent symptoms. Subjects who were from larger workplaces or wore respirators at work or reported to be current smokers were also more likely to report concurrent skin and respiratory symptoms.

The study established that there is an association between occupational asthma and contact dermatitis. The new knowledge and evidence gained from this study will influence treatment choices for workers suffering from occupational asthma. Based on the evidence, the study recommends that occupational health and safety professionals provide better education on work-related diseases, consider all potential routes of exposure to hazardous agents and recognize that occupational exposures do not occur in isolation.

The researchers have shared the new knowledge and evidence gained from this study in peer-reviewed conference presentations and journal articles. These citations are available in the final report for this study.

The report is available at
<http://safemanitoba.com/occupational-exposure-prevention-and-co-occurrence-work-related-skin-and-respiratory-symptoms-and>.

Projects in Progress

COMPARISON OF USAGE OF OPIOID MEDICATIONS BY WORKERS COMPENSATION CLAIMANTS 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. The purpose of this study is to describe and compare opioid usage and prescribing patterns between WCB claimants and other Manitobans. The extraction of data from the WCB's database is complete and the analysis with comparable data from the Manitoba Population Health Research Data Repository is in progress.

The analysis of opioid usage and prescribing patterns will contribute to a stronger understanding of the use of opioids in the treatment and recovery of workplace injuries, illnesses and diseases. The results of the study will provide medical practitioners with relevant data to guide their treatment decisions.

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 is to incorporate occupational exposure data stored by Workplace Safety and Health (WSH) into the Canadian Workplace Exposure Database (CWED). The CWED is a centralized database that houses data on known, probable and possible workplace environmental carcinogen exposures from a variety of sources in Canada.

The project team has hired an occupational hygienist and a data entry clerk, created data abstraction protocols and converted the retrieved data from WSH's files into formats that are compatible with the CWED's database. They have identified and examined on-site operational and archived files from WSH and have extracted data from these files to complete 63 hygiene reports and 6,000 observations. Quality checks of the data collected, statistical analysis of data and report generation is in progress.

The knowledge transfer component of the project's results is scheduled for the first part of 2013. Information on occupational exposures and occupational cancer will be presented to policymakers with proposals for the development of prevention programs. The project will also generate digitized data and software tools for Manitoba.

MUSCULOSKELETAL INJURY PREVENTION PROJECT FOR HOME CARE PROGRAM

Charlene Robert, Interlake-Eastern Regional Health Authority (Change in name of the grant recipient's organization is a result of the reorganization of Manitoba's regional health authorities)

\$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 in the process of implementing a new training program for safe transfer and client-handling procedures for all home care workers in the region. The new training program is an adaptation of the current Musculoskeletal Injury Prevention (MSIP) program for home care workers. The project will start in January 2013 and will include the purchase of licensing rights to use the Safe Moves Injury Prevention program, consultations with the team from the Safe Client Handling Injury Prevention Program implemented in 2008, and discussions with the Provincial Health Workplace Injury Reduction Advisory Committee.

As of May 30, 2012, the Interlake Regional Health Authority (IRHA) merged with the North Eastman Health Association to form the Interlake-Eastern Regional Health Authority. This proposal applies to the geographical area comprising the former IRHA. The amalgamation will not affect the scope of the project.

OCCUPATIONAL EXPOSURE TO CARCINOGENS IN THE AEROSPACE INDUSTRY

Doug Wylie, Winnipeg Air Testing

\$67,000 awarded in 2011

Studies show that exposure to several materials used in the aerospace industry increases workers' risk of cancer. This project is undertaking an evaluation of the potential risks to cancer-causing exposures among approximately 200 workers employed in six aerospace companies. The project began in May 2012 and initial start-up activities included consulting with worksites in the aerospace industry and arranging for testing of survey results. Aerospace companies for this study include Boeing Canada Operations Ltd., Standard Aero, Magellan Aerospace, Cormer Aerospace and Advanced Composite Structures. These companies and their employees will be tested for air and dermal exposures from metal working fluids, metals, solvents and mineral oils.

This project will offer practical, shop-floor solutions to improve health and safety in the participating workplaces. The study's outcomes will be transferable to other workplaces where there are similar exposures to hazardous materials.

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

Back injuries are an area of concern for the WCB and its stakeholders. This study is undertaking a systematic review to investigate prognostic factors that may explain time away from work for periods ranging from six to 12 weeks, and from 12 weeks to a year, among workers who suffer from acute and chronic low back pain. Full screening of the selected research items was completed in September 2012. The quality of relevant articles is currently being appraised and data extraction and data analysis will be undertaken following this appraisal.

This review will identify high-risk patients, predict the factors that can be influenced by interventions and determine whether these factors change over time. This systematic review expands on an earlier project that studied prognostic factors for return to work among workers with low back pain where the duration of sick leave was less than six weeks. The research knowledge resulting from the review of prognostic factors during the sub-acute and chronic phases of low back pain will be synthesized with the findings from the earlier review. This will be used to develop a handbook for practitioners involved in the return to work process.

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

The grant recipients are currently developing two training modules for firefighters using serious games technology. The first module will introduce a posture-tracking technology that will modify firefighters' lifting techniques. The second will test cognitive skills, performance and decision-making under conditions of increasing thermal strain. The study team has obtained support from Winnipeg Fire Services to test the new technology. This study will also assess risks associated with firefighting tasks in emergency scenarios and evaluate the modules to ensure that they meet the training needs of firefighters.

Serious games are interactive computer or media games applied to teaching and training. The research 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.

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) is developing a series of web-based applications on farm safety procedures accessible to mobile devices, tablets and laptops. The development of a website that will host these safety applications is in progress. Interviews with farmers to assess their knowledge of safety procedures and gauge their learning needs have been completed. The CEW will use the information gathered from these interviews to develop the applications for farm safety procedures. They have sent an online survey to various agencies, post-secondary institutions and farms to gather information on technology knowledge, utilization of technology by farm populations as well as farm safety.

In 2013, the CEW will undertake consultations with farmers to identify appropriate mobile learning approaches and digital technologies that will provide new ways to identify hazards and manage risks. They will use this information to develop risk assessment tools that will help farmers understand, identify and manage hazards as well as to conduct job hazard analyses on their farms and worksites.

WORKING WITH INDIVIDUALS WITH INTELLECTUAL DISABILITIES; INJURIES AND CHALLENGING BEHAVIOUR

Beverley Temple, Faculty of Nursing, University of Manitoba

\$133,041 awarded in 2011

Many individuals with an intellectual disability or developmental disability (ID/DD) display unpredictable, aggressive behaviour that can cause injury to caregivers. The main goal of this study is to obtain a deeper understanding and comprehensive descriptions of workplace injuries at St. Amant that are caused by client aggression. St. Amant is a residence and comprehensive resource centre for Manitobans with developmental disabilities and autism.

The study has completed a retrospective audit of injury reports for the period June 1, 2011 to May 31, 2012, interviewed managers on the training provided to caregivers, reviewed the procedures for incident reporting and followed up with caregivers to get their feedback on how the injury could have been prevented. The study will continue to collect injury data for another 12 months to validate the information collected earlier and will undertake statistical analysis of the relationship between the types of injuries sustained by caregivers and the training that was provided. The final phase of the study will be the development of scenarios using the data collected from incident reports and interviews with managerial and frontline staff. These scenarios will be used to improve training and to develop practical strategies for trainers and caregivers at St. Amant who work with ID/DD clients.

WORKPLACE SAFETY AND HEALTH TRAINING MATERIALS FOR GERMAN AND SPANISH SPEAKING WORKERS

Yvette Milner, On-Site Safety and Health Management Solutions

\$68,500 awarded in 2011

Kroeker Farms Limited is a large family-owned farm in southern Manitoba that seasonally employs immigrant workers whose first language is either Low German or Spanish. The purpose of this project is to conduct a training needs analysis and develop and deliver safety training modules to Kroeker Farms and its employees. The training modules will be translated into Low German and Spanish.

The project began with a review of Kroeker Farms' safety program. The review identified several gaps in Kroeker Farms' workplace health and safety program and identified a need for 10 new safety training modules. Phase II of the project is in progress and three training modules have been completed: (i) Ergonomics for farm workers, (ii) Working around agricultural machinery and equipment and (iii) Forklift safety. These modules are ready to be translated and posted online with voice-overs in English, Spanish and Low German. Phase III will focus on delivering the training modules to safety committees and managers in Winkler and Portage La Prairie, with final delivery of the training to all employees prior to the end of the farming season.

The prevention of workplace injuries in the agricultural sector is a priority for WSH and the WCB. The project's resources will be shared with other employers in the agricultural sector who have workers whose first language is Low German or Spanish.

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 the College.

The goal of the program is to promote workplace safety and occupational health, build capacity for qualified health and safety officers and provide greater access to occupational health and safety training in Manitoba. The amount of funding initially approved has been increased to accommodate a review, update and enhancement to the existing curriculum which is to be undertaken by RRC prior to developing and offering the program through distance delivery. Updates to the existing OHS curriculum are almost complete and work on the distance delivery modules is in progress.

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.

RANDOMIZED STUDY OF NON-OPERATIVE MANAGEMENT VERSUS SURGICAL INTERVENTION AMONG WCB PATIENTS WITH SMALL ROTATOR CUFF TEARS; EFFECT UPON TIME TO CLAIM CLOSURE IN TWO PRAIRIE CENTRES

David M. Sheps, University of Alberta and Peter MacDonald, University of Manitoba

\$126,500 awarded in 2010

Many workers incur injuries due to rotator cuff tears that cause shoulder pain, disability and discomfort and result in their inability to work. This study is examining the differences in rehabilitation outcomes between two groups of injured workers with rotator cuff tears to determine whether their recovery will be expedited by surgical interventions or by non-operative treatments. The overall goal is to determine if immediate surgery results in timelier return to work and symptom resolution, compared to non-operative management.

The information from this study will provide evidence for improving the medical management of rotator cuff injuries and demonstrate the effectiveness of treatment modalities for safe and timely return to work of injured workers.

RETURN TO WORK FOLLOWING TOTAL KNEE REPLACEMENT IN WORKING INDIVIDUALS

Martin Petrak, Orthopaedic Innovation Centre Inc.

The Orthopaedic Innovation Centre Inc. agreed to accept the WCB's funding on behalf of Eric Bohm and Thomas Turgeon, Concordia Joint Replacement Group, University of Manitoba, and be responsible for completion of the project.

\$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 completed 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.

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. This study is investigating the differences in work disability outcomes between rural and urban healthcare workers, injury prevention and return to work programs. It will also develop decision-making tools for prevention of work disability specific to rural healthcare employers and workers. Work is ongoing to complete the number of interviews and group discussions required in the study's design. The project team has begun transcribing and analyzing the interviews/group discussions and analyzing data using claims data from the WCB. The findings will provide information that will assist in the ongoing improvement of disability management services for workers and employers in this sector.

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

An earlier study surveyed young workers' responses to workplace injuries as well as their exposure to dangerous work and hazards in the workplace. The findings have been incorporated into the WCB's SAFE Work social marketing campaigns. This second study is investigating the way young workers' safety attitudes, safety behaviours and workplace injuries change over time and whether the responsibility for safety is a stable attitude or varies between jobs. The recruitment of subjects for the study and information gathering on parental attitudes, quality of supervision and type of work performed is in progress. 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.

FARM SAFETY PROGRAM

Yvonne Rideout, Keystone Agricultural Producers Inc.
\$188,000 awarded in 2009

Keystone Agricultural Producers Inc. (KAP) is a leader in farm safety and is dedicated to spearheading farm safety through its network of producers in the agricultural sector. KAP is piloting a project to provide safety and health education to farmers and farm workers in the agricultural sector. KAP is utilizing the services of a Farm Safety Specialist to undertake safety assessments on participating farms and provide one-on-one consultation on occupational health services to farmers and farm workers. The one-on-one service delivery is being tailored to fit the various sub-sectors of this industry and address the specific safety needs of individual agricultural producers. The project's goal is to improve the safety of farms, reduce the risks of injury to farmers and farm workers and spearhead farm prevention initiatives in this sector.

The Farm Safety Specialist has completed safety assessments on 18 farms. Follow-up visits to assess the implementation of the safety improvements are in progress. The Farm Safety Specialist has collaborated with WSH to roll out a health and safety program for potato farmers, and with Safety Services Manitoba to deliver a safety action plan to Manitoba Pork. These activities are expected to generate interest and recruit a larger number of agricultural producers to participate in the pilot project.

This pilot project is expected to be completed in the first quarter of 2013. KAP will utilize the results of the safety assessments and one-on-one consultations to create awareness and demonstrate to the farming community the value of farm safety programs.

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

Musculoskeletal injuries represent a large proportion of WCB claims. This study is investigating the relationship among beliefs, expectations for recovery, depression, pain-related anxiety and coping in workers who are seeking treatment for recent musculoskeletal injuries. The recruitment of participants and data collection from subjects attending primary healthcare facilities and physical therapy clinics in Alberta is in progress. Subjects for the study are English-speaking adults (aged 18 to 65) who have a recent (within the past month) musculoskeletal injury for which they are seeking treatment.

This study is an important step in understanding 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.

SAFE WORK FOR AN AGING WORKFORCE: SMALL BUSINESS INTERVENTION AND EVALUATION PROJECT

Andrew Dolhy, Andrew Dolhy Ergonomics Ltd.

\$119,500 awarded in 2008 under the Community Initiatives and Research Program

The WCB's injury statistics show that older workers have a higher incidence of musculoskeletal injuries. The goals of this project are to increase awareness among small businesses of the health and safety issues related to older workers and review ergonomic standards in small businesses. Forty small businesses in the construction, manufacturing, service and business sectors were selected for an occupational health and safety risk assessment that included ergonomic assessments. The project team identified nine issues common to older workers in each selected site including: vision, hearing, lifting, work capacity, work design, cognition, environment, use of chemicals and job accommodations. The analysis of workplace hazards, the application of ergonomic standards and the implementation of health and safety improvements have been completed. The analysis of findings and the compilation of individual case studies into a reference manual are in progress.

When completed, the project's findings and the reference manual will be used to promote work accommodations for older workers employed in businesses in Manitoba.

Requests for Proposals (RFP)

A Plan and Design for the Future State of Industry-based Illness and Injury Prevention

The RFP for this project was issued in May 2011. MNP was awarded the bid and work on this project is in progress.

Development of a Network of Organizations and Distribution of a Video Introducing the WCB

The RFP for this project was issued in June 2011. The Centre for Education and Work was awarded the bid and work on this project is in progress.

Shoulder Surgery Study

The RFP for this study was not issued. The study was conducted using internal WCB resources.

Research and Workplace Innovation Program

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