

Research and Workplace Innovation Program

Funding occupational health research and innovative workplace solutions



2013 ANNUAL REPORT



President's Message



“The WCB, through the Research and Workplace Innovation Program (RWIP), helps its partners in the community create innovative projects that reduce workplace injuries and illnesses and help injured workers recover and return to productive and meaningful work. Over the years, the program has produced many substantial benefits while expanding the understanding of healthcare professionals about occupational illness and treatment options. The projects supported through the program contribute to a strong culture of safety and health in Manitoba.”

– **Winston Maharaj**

President and CEO, Workers Compensation Board of Manitoba

The Research and Workplace Innovation Program

The Workers Compensation Board of Manitoba (WCB) is committed to insuring and supporting safe and healthy workplaces, putting workers at the centre of all we do and providing them with valued services for injury prevention, compensation, and return to health and work while maintaining system integrity.

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 the safe return to work of injured and ill workers. 2013 marks the fifth year of the program.

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

RWIP 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.

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

In 2009, RWIP replaced the Community Initiatives and Research Program. Over the last five years, a total of 39 projects were approved for funding. Thirteen projects were workplace innovations, 17 were scientific research studies, five were partnerships and four were RFPs. The table below shows the number of projects funded from 2009 to 2013.

RWIP APPROVED PROJECTS 2009 TO 2013							
Funding Stream	2009	2010	2011	2012	2013	Total Number	Percentage of Total
Workplace Innovation	2	1	3	1	6	13	33%
Scientific Research	2	4	4	4	3	17	44%
Partnerships	0	1	2	1	1	5	13%
Request for Proposals	1	2	0	1	0	4	10%
Total Projects Funded	5	8	9	7	10	39	100%

New Grants Awarded in 2013

Workplace Innovation

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, Mental Health Program, Health Sciences Centre and Lisa Knechtel, Adult Mental Health Program, Health Sciences Centre

\$175,200

This project will expand the use of the Six Core Strategies for Reducing Seclusion and Restraint Use (SCS) program to five in-patient units at the Health Sciences Centre's (HSC) Mental Health program. This program teaches alternatives to the use of seclusion and restraint when caring for aggressive patients. The six core strategies are: 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. The final report from the pilot project can be accessed via the WCB and SAFE Work websites at http://safemanitoba.com/sites/default/files/files/PSycHealth%20Seclusion%20Reduction%20to%20WCB_04-03.ppt.



“Through implementation of the Six Core Strategies for Seclusion Reduction, an evidence-based and innovative workplace education program, staff will gain enhanced clinical skills and tools to facilitate the promotion of recovery-oriented, trauma-informed mental healthcare based on the principles of patient self-determination, choice, and hope. Using the least restrictive treatment interventions possible and encouraging active patient participation in care planning, patient and staff safety will be enhanced and collaborative and trusting relationships among patients, their families, and staff will be fostered.”

– **Debbie Frechette and Lisa Knechtel**

*Back row, left to right: Andrea Funk, Stephanie Benson, Lisa Knechtel, Leo O'Rourke, Judy Ramore, Linda Perrin, Doris Dong
Front row, left to right: Bonita Fanzega, Billie Lavallee, Debbie Frechette, Isabelle Jarrin, Deb Melanson*

INTERACTIVE SAFETY E-BOOK: TAKING IT DIRECT TO THE LEARNER*Robin Millar, Centre for Education and Work*

\$200,000

The Centre for Education and Work (CEW) will research, develop, pilot and evaluate the effectiveness of a safety e-book app. This app will be tailored for the iPad Textbook which has capability features to embed video, interactive charts, graphs and text to allow for a natural flow of information. It will be designed to provide workplaces with an easier approach to access knowledge on occupational health and safety, reduce the need for trained instructors on-site and reduce training time for workers. The safety e-book will promote an informal learning strategy and support study groups at a workplace.

The app will be piloted in three workplaces and sixty workers will be trained to use the e-book at the selected work sites. CEW researchers will monitor this learning approach and use the information collected to improve the e-book learning format. The project's resources will include a self-directed training strategy, as well as reporting and self-assessment mechanisms for evaluating the success of the training. The researchers plan to evaluate and report on the new e-learning approach using small informal groups at the workplace compared to traditional classroom teaching.

The e-book will enable workers to self-report on safety behaviours, recognize and identify hazards and independently conduct informal job hazard analysis. 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.



“The Centre for Education and Work is beginning a new project to research, develop, pilot and evaluate the effectiveness of a safety e-book made available through iPad and other similar devices. Once the e-book has been developed, we will design and pilot a study strategy for employees to follow to enable them to work through the book without an instructor.”

– Robin Millar

Left to right: John Luxford, Rachael Hosein, Alex Degirolamo, Suzanne Winterflood, Jeri Marchinko, Robin Millar, Mirja Cole and Katy Winterflood

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

In partnership with the Northern Manitoba Sector Council (NMSC), the Manitoba Aboriginal Health and Safety Initiative (MAHSI) will assist and support employers to improve the health and safety of Aboriginal workers in Manitoba by developing an on-line centre dedicated to Aboriginal workplace health and safety.

The MAHSI On-line Learning Centre and its resources will provide users with new and innovative custom developed training resources. This will build capacity for employers and other user groups to provide effective health and safety training for Manitoba's rapidly growing Aboriginal workforce. The resources will be accessible, easy to use, customized to be culturally appropriate and reflect Aboriginal practices, history and traditions.

This project will help provide employers with on-line training resources to keep Manitoba's Aboriginal workforce safe and healthy. The project targets Aboriginal workers who are thought to be at increased risk of workplace injury and illness, has a Northern as well as rural and urban focus, and will develop resources that will be used in Manitoba's northern colleges, for vocational training.



“The need to communicate workplace safety culture to Aboriginal workers in a way that they can identify with is essential for Manitoba workplaces. The unique and creative aspect of MAHSI will be the incorporation of Aboriginal cultural content in the development and delivery of health and safety training.”

– **Marileen Bartlett**

Left to right: Heather McCormick, Ralph Brown, Bill Bumstead

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

Andrew Klukas, Integrated Training Management Inc.

\$23,500

In partnership with Mac's Convenience Stores, Integrated Training Management Inc. will develop a software program for occupational health and safety focusing on robbery and violence prevention for Manitoba's convenience store sector. It will specifically target smaller retailers and employees who work alone. The project will develop an on-line self-audit checklist that includes a short risk assessment to determine best practices for the safety of the work environment. The on-line tool will enable store owners or managers to review action items and implement best practices. It will also provide users with links to information available on the Western Convenience Stores Association website. The project will be piloted at two or three Manitoba stores. The completed on-line tool will be released to the Western Convenience Stores Association to support improved safety standards across Manitoba's convenience store industry.

There are over 700 convenience and gas retailers in Manitoba, typically employing young workers and other new entrants into the workforce. Working alone is a common practice. The project offers an opportunity for new workers to be introduced to and trained in health and safety practices on entry into the workforce.



“Small business owners often struggle to balance competing demands and priorities. This program will make it possible for small retailers to meet the industry's highest standards and ensure safe workplaces for both employees and the public. It will give them the edge they need to manage safety as well as the larger chains do.”

– **Andrew Klukas**

Left to right: Rob Trowbridge, Kim Trowbridge, Andrew Klukas, Mike Barter

SAFE FARM PLANS FOR GLENLEA RESEARCH STATION AND FARM

Michele Rogalsky and Lorrie Koroscil, School of Agriculture, University of Manitoba
\$200,000

The University of Manitoba's School of Agriculture and the Department of Animal Science will use the Glenlea Research Station and Farm to develop customized safety plans for hog, dairy, cattle and poultry producers as well as for feed mills, field crops, agri-research and agri-tourism businesses. The 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. The safety plans will be made available to School of Agriculture students, farmers and farm organizations.

The project targets students and young individuals who are the next generation of farmers in Manitoba and will reach them early with occupational health and safety knowledge and instill in them the importance of creating safety plans for farms and other workplaces in the agricultural sector.



“Working with the Glenlea farm staff, our project team will gain practical experience in developing farm safety plans for many different types of enterprises. These plans will then be made available to post-secondary agriculture students and Manitoba farmers and will serve as resources and case studies for the school’s future Farm Safety Training courses.”

– Michele Rogalsky

*Back row, left to right: Guy Robbins, Aimé Chaput, Don Chaput, Al Neveux
Front row, left to right: Lorrie Koroscil, Thea Green, Barry Peril, Michele Rogalsky*

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

Ihor Barwinsky, Gypsum Drywall Interiors Ltd.

\$7,420

This project will apply computer imaging and video technology to analyze and correct work movements among the 140 drywall installers employed by Gypsum Drywall Interiors Ltd. Electronic information and video footage will be analyzed by consultants in occupational health and ergonomics to develop training materials for the project. Site supervisors will be trained on the proper positioning of joints, sequence of movements, posture, neck hyper-extension and joint alignment. The project will produce a training video and posters to display correct job movements in drywall installation.

The project demonstrates an innovative approach to injury prevention and the findings will be readily transferable to other drywall installers in Manitoba.



“Quite often a motivated worker will not slow down or change movement patterns until it’s too late. We need the supervisor or foreman to recognize when a worker is on the cusp of becoming injured and to take steps that allow the worker to regain his or her strength, and in doing so prevent an injury from happening.”

– **Ihor Barwinsky**

Scientific Research

SYNTHESIZING OCCUPATIONAL HEALTH AND SAFETY KNOWLEDGE FOR LOCAL STAKEHOLDERS

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

\$196,000

This study will enhance the utilization of current knowledge about the causation, prevention, and treatment of occupational injuries and diseases. The study will integrate two established evidence-based scientific research methodologies to produce a new approach for the synthesis of information on occupational health and safety (OH&S). The Contextualized Health Research Synthesis Program (CHRSP) developed at the Newfoundland and Labrador Centre for Applied Health Research, and Systematic Review Techniques pioneered by the Institute for Work & Health will be used to review, abstract, analyze and synthesize OH&S research from existing studies.

The results will be customized for Manitoba. Manitoba stakeholders will be involved in all aspects of the study from topic selection to dissemination of key findings. A Stakeholder Advisory Panel comprised of business, labour, government and the WCB will be established to facilitate consultation during the course of the study.

Health and safety professionals, employers, ergonomists, physicians, and those designing and implementing interventions need to know about the latest scientific evidence on what works in OH&S in order to take effective action to prevent workplace injuries. A growing volume of information is available to users of occupational health and medical literature but individual health professionals, service providers, and policy makers have limited time and capacity to locate, assess, and synthesize this literature.

This style of research has been previously undertaken in the health sciences sector but not specifically for OH&S. The results will create meaningful improvements about causation, prevention, and treatment of occupational injuries and diseases. It will also contribute towards evidence-based policy-development and benefit OH&S stakeholders in Manitoba as well as other provinces. The synthesized research framework and methodology for OH&S will be published in a handbook for end-users.



“This project will combine the expertise and methods of two research units – one in St. John’s and one in Toronto – to produce a tool that can help compensation boards and policy makers in various provinces (Manitoba to begin with) to collaborate with researchers to learn about the latest research evidence on key questions identified by them and their stakeholders and to understand how it applies to their specific decisionmaking context. We are really looking forward to this innovative and highly practical work.”

– **Stephen Bornstein**

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

Mohamed Issa, University of Manitoba

\$71,035

This study will develop a model that will measure and evaluate disability management and forecast the future safety performance of construction firms. The study will focus on general contractors specializing in building work. Five contractors in Manitoba will be recruited for the study. The project has the support of the Construction Safety Association of Manitoba and the Winnipeg Construction Association.

The study's design will utilize maturity modeling techniques and identify leading and lagging indicators to measure disability management in the selected construction firms relative to their safety performance. It will also review policies and practices, define processes and describe behaviours related to disability management in the selected construction firms. The data collection will include the number of injuries, the cost of claims, premiums paid for workers compensation and results of safety audits.

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.



"This research aims to develop a tool to be used by construction firms to evaluate the maturity of their disability management practices and investigate the relationship between these practices and their disability and safety performance. This is to facilitate the integration of disabled workers in the workplace and provide them with a safer and more accommodating environment."

– **Mohamed Issa**

Left to right: Mohamed Issa, Rhoda Quaigrain, Jimmy Winter

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
\$174,252

This study will investigate the role of healthcare providers (HCPs) – specifically, general medical practitioners and family doctors – in an injured worker’s return to work (RTW) and address issues regarding the influence of HCPs in an injured worker’s recovery, rehabilitation and RTW. HCPs engage in the RTW process in multiple ways. They provide evaluations on a worker’s functional capacity and impairment and recommend appropriate treatments. Their advice impacts claim management practices, recovery and RTW of workers in all workers compensation jurisdictions.

The study will be conducted in Manitoba, British Columbia, Ontario and Newfoundland. The study’s outcomes will include an inventory of tools, programs and information used to facilitate HCP engagement in the RTW process for injured workers. The study will review case studies, interview senior policy makers on the RTW process, and analyze experiences of HCPs with the RTW process in the four jurisdictions selected for this study. The study’s results will 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 worker’s perception about their medical prognosis and functional capabilities. The study’s findings will shed light on HCPs’ challenges with RTW planning, will likely result in better communication tools for HCPs and more cooperative and successful RTW.



“The key issues addressed in this study have to do with how we can facilitate healthcare provider engagement in the return to work process. Based on healthcare providers’ own experiences and through the examination of practices in various jurisdictions, our study will identify a range of approaches and processes that can help healthcare providers return injured workers to appropriate, safe and meaningful employment.”

– Agnieszka Kosny

Partnership Agreement

FARM SAFETY CURRICULUM DEVELOPMENT AND PILOT COURSE DELIVERY

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

\$100,000

This project will develop and deliver Farm Safety training and develop the Introduction to Farm Safety course offered by the School of Agriculture for distance delivery. The course in distance delivery format will be piloted among ten students and farmers. The School of Agriculture will host a one-day introductory workshop in Farm Safety for farmers in three rural communities and develop an advanced Farm Safety course for Agriculture diploma students and Manitoba farmers.

This project will reach young farmers when they are students. The training curriculum offered in distance delivery format will promote safety learning over the long term and will be an investment for the future because of the potential to reach young farmers and new entrants into the agricultural workforce in rural locations.



“This funding will allow the School of Agriculture to expand its Farm Safety training to post-secondary students and to provide training to Manitoba farmers across the province. Introductory and advanced courses and workshops will be developed and delivered on campus, in agricultural communities and using independent study, on-site and blended models.”

– **Lorrie Koroscil**

Left to right: Thea Green, Lorrie Koroscil, Michele Rogalsky

Projects Completed in 2013



A PLAN AND DESIGN FOR THE FUTURE STATE OF INDUSTRY-BASED ILLNESS AND INJURY PREVENTION

MNP LLP

\$170,200 awarded in 2011

The RFP for this project was issued in May 2011 and MNP LLP was awarded the bid. MNP LLP conducted best practice research, undertook stakeholder engagement, a workplace survey, focus groups and interviews and requested written submissions from a cross section of stakeholders. A Stakeholder Advisory Committee was established to help guide the consultation effort, as well as to help apply the result of the consultation and other research in the design of a Future State Model. The report on the Future State Model for Industry-Focused Prevention of Workplace Injury and Illness was completed in April 2013. The report provides recommendations for the objectives, principles, roles and governance of workplace injury prevention going forward.

The report can be accessed via the WCB and SAFE Work websites at http://www.wcb.mb.ca/sites/default/files/files/Future%20State%20Model%20Final%20Report%20%2023%20Apr%202013_1_1.pdf.

“The RWIP funds workplace safety innovations and scientific research which will ultimately produce many benefits for employers and workers across the province. This helps employers by potentially reducing the business costs of workplace injuries and illnesses and benefits workers at the same time by helping to keep them safe.”

– **Michael Werier**

Chairperson, Workers Compensation Board of Manitoba

DEVELOPMENT OF A NETWORK OF ORGANIZATIONS AND DISTRIBUTION OF A VIDEO INTRODUCING THE WCB

Robin Millar, Centre for Education and Work

\$86,755 awarded in 2011

Many newcomers to Manitoba are unfamiliar with the workers compensation system, the role of the WCB and of their rights and responsibilities with respect to workplace illnesses and injuries. In June 2011, the WCB issued a Request for Proposals for the development of a video that would enhance awareness and understanding of the workers compensation system amongst newcomers and immigrant workers throughout Manitoba. The video was to present the workers compensation system in a way that is appropriate to the language abilities and cultural backgrounds of newcomers and immigrant workers.

The project is complete and a video was released in 2013. The video and a facilitator guide has been made available to organizations that are already active in the immigrant community, including provincial government departments, not-for-profit organizations, ethnic associations and informal community groups that respond and provide services to newcomers and immigrants to the Province of Manitoba.

The videos can be accessed via the WCB and SAFE Work websites at <http://www.wcb.mb.ca/call-the-wcb-video>.

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

Located in southern Manitoba, Kroeker Farms employs a mix of workers from the local communities and immigrant workers who speak English as an additional language. Approximately 30 per cent of the workers speak the Low German dialect or Spanish as their first language.

Six training modules were developed in PowerPoint and CD formats and modified for on-line delivery using software from the Articulate suite of programs. These modules have English, Low German and Spanish voice-overs. The training modules are: Forklift Safety, Ergonomics for Farm Workers, Working Around Moving Equipment, Workplace Hazardous Materials Information System, Hazards on the Farm and Incident/Injury Reporting. These modules incorporate safety policies, safe work procedures and work tasks specific to Kroeker Farms.

The training materials are available on request.

FARM SAFETY PROGRAM

Yvonne Rideout, Keystone Agricultural Producers Inc.

\$188,000 awarded in 2009

The Farm Safety Program provided individualized education and reviewed the safety of 39 farms throughout Manitoba from September 2010 to August 2013. These services were offered by a farm safety specialist who, in one-on-one sessions with farmers, identified hazards on the farm, provided a risk assessment and informed the farmer about safety responsibilities set out in The Manitoba Workplace Safety and Health Act and Regulations. The farm safety specialist scheduled follow up visits with farmers, but the response to the follow-up was low. The farm specialist reported that the majority of farms did not routinely identify risks or potential hazards on the farm and there were gaps in the delivery of farm safety education programs.

The report can be accessed via the WCB and SAFE Work websites at http://www.wcb.mb.ca/sites/default/files/files/KAP-final%20report_1.pdf.

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 were 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 and compiled into a reference manual.

The report can be accessed via the WCB and SAFE Work websites at <http://www.wcb.mb.ca/sites/default/files/files/Safe%20Work%20for%20An%20Aging%20Workforce%20-%20Report.pdf>.

Projects in Progress

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. There is also a heavy cost burden to employers, the workers compensation system and society as a whole. Reducing the burden of these injuries continues to be challenging, partly because there is an incomplete understanding of the treatment modalities that can be used to reduce the incidence and duration of long term claims.

The collection of data from Manitoba, British Columbia and Ontario is complete and the analysis of data is underway.

When completed, this study will create comparable cohorts of injured workers who have sustained severe work-related injuries, identify the drivers for these claims and provide a trend analysis of claim rates in three WCB jurisdictions. The results will also improve the case management of injured workers who have sustained severe work-related injuries, develop best practices associated with these claims and inform policy-making.

CLAIMS SUPPRESSION IN MANITOBA

Prism Economics and Analysis

\$100,000 awarded in 2012

The WCB of Manitoba partnered with Prism Economics and Analysis, a consultancy firm in Ontario, to undertake a study on claims suppression within the Manitoba workers compensation system. The report was submitted in 2013 and is under review by the WCB.

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 injuries of unreported claims. The findings from this study will also allow the WCB to develop strategies and business practices to address concerns related to claims suppression.

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 that have been designed to assist practitioners in the treatment of musculoskeletal injuries and regional pain disorders.

Currently, the researchers are developing the inventory of currently available CDS tools, summarizing key concepts and terms to provide a good foundation for future reporting in this new area. 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 and is especially relevant when an area of study is emerging or diverse. 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) is utilizing a robotic arm to pour molten aluminum into molds. The project includes modifying equipment to incorporate safe work procedures, undertaking hazard analysis of tasks for modified production activities and training workers to work safely in the foundry's modified production processes. Phase I of the project is near completion during which several molds have been tested for safety using the robotic application. The results to date have been encouraging.

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.

On completion of the project, SMS will develop supplementary training materials and a video to document the project's successes, safety operating procedures and best practices resulting from the use of robotics.

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 awarded in 2012

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 work force is expected to experience a shortage of workers over the next decade. The loss of senior workers due to retirement may put younger workers at risk due to increased hours of work and subsequent over-exertion, which some studies have shown to be a significant predictor for time loss injuries.

Using a multi-modal design, this study will explore the attitudes of retiring workers, their intentions, and behaviours with respect to sharing safety-related knowledge. The study will be examining the attitudes, behaviours and receptivity of younger workers to the shared knowledge.

The study's findings will improve understanding of safety knowledge behaviours among retiring workers and younger workers, illustrate new approaches towards creating a stronger organizational safety climate and potentially reduce the amount 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 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. The purpose of this study is to gain a better understanding of the full cost of workplace injuries and occupational illnesses to workers and their families, employers and Manitoba's economy for the last five years. The study's design is multi-modal, involving the analysis of WCB claims and injury data; a survey of a sample of WCB injured workers and their families; and interviews with a sub-set of injured workers. The multi-modal design will enable the researchers to provide a more comprehensive estimate and valuation of economic costs, changes in injured workers' quality of life 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. The collection of data is in progress.

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 add to the WCB's knowledge regarding the full cost of a workplace injury as it will establish tangible values for un-accounted costs to demonstrate the impacts of an injury on the worker, the family, the employer and to Manitoba's economy. It will also provide information that will be utilized for the WCB's management of its benefits and injury prevention programs.

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 as these medications can effectively control and relieve pain. 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 data files from the WCB have been successfully linked with files in the Manitoba Centre for Health Policy (MCHP) database. The analysis of comparable data is in progress and preliminary results have been shared with the WCB.

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 & Health (WSH) and Manitoba Labour and Immigration into the Canadian Workplace Exposure Database (CWED). CWED was established by CAREX Canada and is a centralized database that houses data on known, probable and possible workplace environmental carcinogen exposures from a variety of sources in Canada.

The process to extract, clean and review data for the project is complete. A review of the data to identify gaps, as well as a statistical analysis are underway.

Information on occupational exposures and occupational cancer will be presented to policy makers 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 (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 is an adaptation of the current Musculoskeletal Injury Prevention (MSIP) program for home care workers. The project started in January 2013 and the project team held several consultations with teams from other healthcare regions that are working on Safe Patient Handling Procedures. The project team is also working with IERHA Education Coordinators to implement the MSIP for the region.

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.

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 four aerospace companies. The project began in May 2012 and samples of exposure levels and testing of these samples have been completed in selected worksites in the aerospace industry. Since then, 160 workers have also been tested for exposure to metal working fluids, metals, solvents and mineral oils. The analysis of these is underway.

The aerospace companies for this study include Boeing Canada Operations Ltd., Standard Aero, Magellan Aerospace, Enduron, Cormer Aerospace and Advanced Composite Structures.

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 factors that may predict 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. This review will identify high-risk patients, determine the factors that can be influenced by interventions and establish 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 team completed a full screening of the selected research items and currently, 73 relevant studies have been appraised for their quality. The extraction, analysis and meta-analysis of data are underway. Preliminary findings will be presented to the WCB and its stakeholders in the spring of 2014.

The 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 project has been divided into two parallel games: a low back lifting game and a cognitive decision making and evaluation game.

The researchers observed firefighters during active drills, routine fire-hall activities, active fire suppression tasks and post-fire clean-up and equipment maintenance in order to digitally video-image and characterize the tasks performed their development of the low back lifting game. The observed images and video capture have been transferred to the game developer. Focus group interviews have been conducted with firefighters to determine the types of complex decisions typically made at the scene of a fire.

Focus group interviews with subject matter experts have been conducted in developing the cognitive decision making game. Computer software has been purchased to collect data and analysis of complex decision making processes. Pilot testing of potential changes in the subjects' core temperature while exercising is underway. The testing in a thermo-neutral environment is to determine increases in the core temperature of subjects lifting differing workloads while wearing protective clothing

The study has the support of Winnipeg Fire Services. Serious games are interactive computer or media games applied to teaching and training. 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.

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. CEW 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.

The on-line tool and farm safety app pilot has been developed.

WORKING WITH INDIVIDUALS WITH INTELLECTUAL DISABILITIES; INJURIES AND CHALLENGING BEHAVIOUR

Beverley Temple, Faculty of Nursing, University of Manitoba

\$133,041 awarded in 2011

Some individuals with an intellectual disability or developmental disability (ID/DD) display unpredictable, aggressive behaviour that can cause injury to their 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 about the training that is 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 data generation portion of the prospective study for this research has been completed. The injury data from the St. Amant database will be merged with the study's dataset and further statistical analysis will be conducted.

The final phase of the study is in progress as the researchers are developing scenarios using the data collected from incident reports and interviews with managerial and frontline staff. These scenarios will be used to improve training and the development of practical strategies for trainers and caregivers at St. Amant who work with ID/DD clients.

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 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.

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 CUSS 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

The purpose of this study was to examine 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. This project has been cancelled due to difficulties encountered in conducting the study as originally designed.

RETURN TO WORK FOLLOWING TOTAL KNEE REPLACEMENT IN WORKING INDIVIDUALS

Martin Petrak, Orthopaedic Innovation Centre Inc. The Orthopaedic Innovation Centre Inc. is managing the WCB's funding on behalf of Eric Bohm and Thomas Turgeon, Concordia Joint Replacement Group, University of Manitoba, and is 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 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.

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. The researchers have completed the collection of quantitative data required to examine the impact of rurality on work disability outcomes of healthcare workers. Analysis of this portion of data is complete and preliminary findings have been reported to the WCB.

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

In 2007, 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 program. This second study is investigating the way young workers' safety attitudes, safety behaviours and workplace injuries change over time and whether the feeling of responsibility for safety is a stable attitude or varies between jobs. The study has been divided into several components which includes a further analysis of the data collected in 2007, specifically the impact of the predictor, "Voice" (expressing ideas about how to improve safety) on injuries. 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.

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.

This study, which is nearing completion, will help enhance 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.

Requests for Proposals (RFP)

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. 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 from the surveys will be used to improve the safety climate of workplaces.

The RFP was issued in July 2013. PRA Inc. was awarded the bid.

Research and Workplace Innovation Program

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For more information on the Research and Workplace Innovation Program, visit www.wcb.mb.ca.