

RESEARCH AND WORKPLACE INNOVATION PROGRAM (RWIP)

2021 Report on Projects

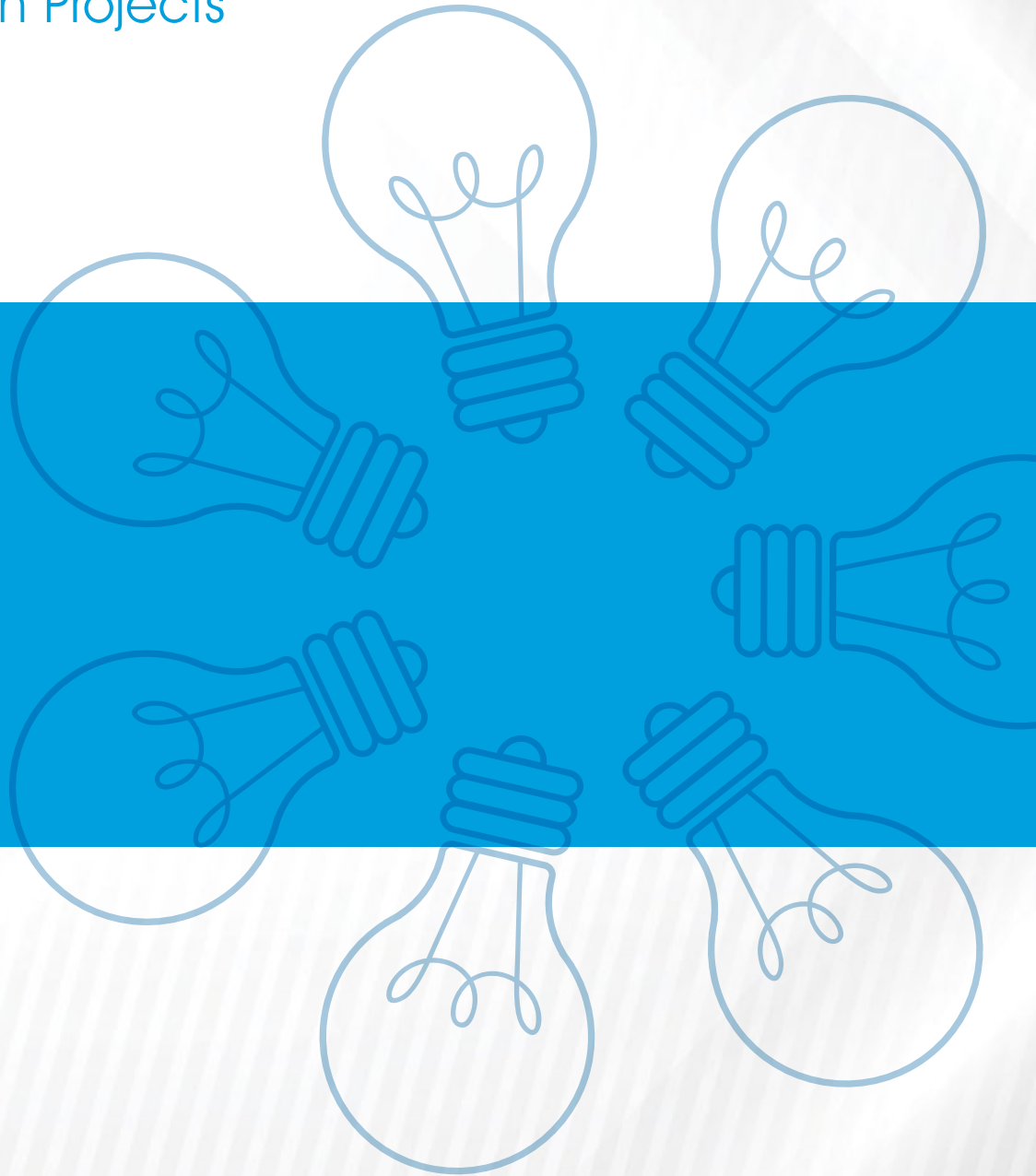


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OVERVIEW OF REPORT

This Report provides an update on the activities of the Research and Workplace Innovation Program (RWIP) in 2021. The Report is organized into three sections:

- New Grants Awarded
- Completed Projects
- RWIP Approved Projects 2009 to 2021 (Appendix A).

The RWIP offers grants on an annual and competitive basis to support high quality projects on the prevention of workplace injury and illness, improving workplace health and safety, and the safe and productive return-to-work of injured or ill workers. Funding is awarded under two core funding streams:

- Training and Education
- Workplace Innovation.

Established in 2009, the RWIP makes available \$600 thousand dollars in funding each year. Eighty-nine (89) projects were funded over the past thirteen (13) years. Appendix A shows Approved RWIP Projects from 2009 to 2021.



NEW GRANTS AWARDED IN 2021

TRAINING AND EDUCATION

ADVANCED NONVIOLENT CRISIS INTERVENTION

Lindsey Sigvaldason,
Eden Mental Health Centre

\$49,293

Eden Mental Health Centre is an accredited Acute Care Psychiatric Hospital, with aims to ensure all staff are prepared to best support patients in need of specialized intervention during expressions of anger and hostility.

For this project, the Nurse educator (trainer) will take the Nonviolent Intervention with Advanced Physical Skills course through The Crisis Prevention Institute (CPI). The trainer will then train all current staff who engage in patient interaction at Eden Mental Health, all new hires, and provide recertification of this five day program.

The training will provide staff with the skills required to promote and engage in safe interaction with potentially harmful individuals, to defuse potentially violent situations and prepare for physical intervention.

VR TO BRING SAFETY AWARENESS ON THE SAFE USE OF CHAINSAWS

Carol Paul,
*Manitoba Construction
Sector Council*

\$75,000

The Manitoba Construction Sector Council (MCSC) and its industry/association partners have identified an opportunity to provide virtual reality training on the proper use of chainsaws. This training is geared to Indigenous, northern and remote communities, safety associations, unions and newcomer agencies, and can also be offered in forestry and construction industry settings, secondary and post-secondary educational institutions. The project's training will complement existing safety awareness, and other non-virtual training programs and will align with provincial Regulatory codes.

The project proposes that virtual reality training simulations will be particularly appealing to a broad demographic of users, allowing individuals to practice frequently and in a safe manner. Participants will learn to identify hazard scenarios, proper equipment maintenance, and safe storage of chainsaws.



MANITOBA AGING WORKFORCE HEALTH AND SAFETY INITIATIVE (MAWHSI)

Sudhir Sandhu,
Manitoba Building Trades

\$150,500

The Manitoba Aging Workforce Health and Safety Initiative (MAWHSI) is developing an older worker e-learning resource centre to address a gap in educational resources.

The objective of this project is to assist older workers, employers, human resource professionals, safety and health practitioners and other stakeholders in maintaining a safe and healthy aging Manitoba workforce. This will be accomplished by contributing to the understanding of best practices, including return-to-work programs, and by developing educational and awareness resources for the unique safety and health needs of older workers.

WORKPLACE INNOVATION

DEVELOPMENT OF AN MSI CHECKLIST AND CASE STUDIES FOR UNCONTROLLED ENVIRONMENTS

Andrew Dolhy,
A Dolhy Ergonomics Inc.

\$126,700

This project's proposal discussed that musculoskeletal injuries (MSIs) account for a significant proportion of WCB lost time claims and costs, and that while ergonomic assessment tools are well documented for traditional workstations, manufacturing workplaces and repetitive tasks, there is a challenge to find ways to assess and control ergonomic risks in jobs with uncontrolled environments and non-repetitive work.

The project's objectives are to improve on the 2017 RWIP funded Manufacturing Ergonomic Risk Evaluation Tool (MERET) to incorporate the ease of assessing work in uncontrolled environments and with non-repetitive work. While validating the new MERET in a variety of workplaces, the assessment and mitigation of problem jobs will be documented in the form of case studies. Quantifiable benefits will be documented and the safety culture stretched in those workplaces that participated in the project.

The project will produce an excel-based assessment tool which will incorporate uncontrolled environment and non-repetitive work issues and develop a case study resource of 40 before and after ergonomic problem jobs.



PROJECTS COMPLETED IN 2021

The following projects were completed during 2021.

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

Dr. Allen Kraut and
Dr. Leigh Anne Shafer,
University of Manitoba

\$23,158 awarded in 2014

This project explored the impact of the WCB's Opioid Medication policy by comparing usage and physician prescribing practices before and after the policy's introduction, between WCB claimants and other Manitobans. It built on similar work done by the researchers before the introduction of the WCB's policy in 2011. The study identified the total amount of opioids prescribed per person per year, determined if the WCB's policy has led to a decrease in opioid usage, identified the proportion of WCB recipients prescribed high dose opioids greater than 120 morphine equivalents (ME) a day, and compared the continued use of opioids among these study populations before and after the policy's introduction.

The project linked WCB claims data from 2006-2016 (13,155 claims, 11,905 individuals) to the provincial health records and compared the opioid use amongst this group to 478,606 individuals age 18-65. Linear regression was performed to examine the change over time in number of individuals being prescribed opioids for various durations and dosages for both the WCB and Manitoba population.

WCB claimants totaled 2.5% of Manitoba resident's age 18-65 prescribed opioids for non-cancer pain. After the introduction of the opioid use policy amongst the WCB population in November 2011, the number of people prescribed opioids declined 49.4% in the WCB group, while increasing 10.8% in the province as a whole.

The project results showed that opioid management programs organized by a compensation board can lead to a substantial reduction in the prescription of opioid medications to a WCB client population including individuals who were prescribed higher doses of these medications when compared to general trend in the community.



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

Dr. Philip Bigelow,
University of Waterloo

Dr. Jim Dickey,
Western University

\$127,098 awarded in 2014

The objective of this study was to reduce fatigue, low back pain and disability, and improve the safety of truck drivers in Manitoba by encouraging the adoption of technology that reduced whole body vibration (WBV) exposure.

Phase I of the study focused on gathering evidence on the vibration transmission characteristics of commonly purchased seats and included assessments of discomfort experienced by drivers.

Phase II of the study focused on facilitation of the transfer of knowledge and the investigation of decision making processes within trucking companies regarding the adoption of an ergonomic innovation. This phase of the study included a workshop on WBV, low back pain, seat ergonomics, seat selection and creating a business case for reducing WBV.

A total of 23 truck drivers from Winnipeg-based trucking companies completed all aspects of the field data collection including in-cab measurements of WBV and the completion of interviews and surveys. Visual representations of road segments by WBV level were developed that showed which roads made the biggest contribution to drivers' overall daily vibration exposure. Amplitudes of Z-axis exposures were highest for jobsite and rural roads but overall drivers' WBV exposures did not exceed the ISO 2631-1 Health Guidance Caution Zone.

Interviews with truck drivers found they were generally not overly concerned about vibration exposures. Although a number of drivers in the Manitoba field study and drivers recruited at truck stops reported musculoskeletal pain and discomfort none attributed this to WBV. Most felt the pain was part of the job and due to prolonged sitting, lifting, or aging. Most drivers had trucks less than 5 years old and reported that the existing seats were comfortable. Although stakeholders were interested in learning more about WBV and truck driver's health we were unable to provide evidence that would support a business case for adoption especially for small and mid-sized carriers.

The laboratory findings provided evidence that the electromagnetically active seating was effective in reducing Z-axis WBV in truck drivers. There were no significant reductions in exposures for the electromagnetically active seating in the X and Y-axis exposures.



NORTH FORGE TECHNOLOGY EXCHANGE AND BIT SPACE DEVELOPMENT VR SAFETY ORIENTATION EXPERIENCE

Marney Stapley,
North Forge
Technology Exchange

\$100,000 awarded in 2019

North Forge Technology Exchange developed a course delivery method using new methods for safety training using virtual reality technology. The course provides an understanding of the potential hazards associated with the use of high risk equipment as well as the safety precautions required to prevent hazards from occurring. The blended online/virtual reality format intends to standardize safety training, allowing greater access to training in rural and remote locations, increasing access for refresher training, improving retention through the use of different teaching strategies and providing opportunity for repetition. The training material has been developed as an open source project and will be shared with the Safety Industry.

The completed application and scenes for the project were selected based on North Forge's critical job analysis and the risk factors by equipment. A considerable amount of time was spent pilot testing and gathering feedback and ongoing adjustments were made during the pilot testing process. Feedback from the pilot testing was used to make final adjustments to the application.

A total of 15 people completed pilot testing. One person had difficulty navigating the course but adjustments were made to improve the navigation with a hotspot option that changed the direction faced when entering the simulation.

A VR Safety team member will be responsible for editing the content to keep it current on high-risk equipment hazards going forward, adding safety updates and addressing user feedback. North Forge employees will continue to manage the administration, and coordinate ongoing support and maintenance.



INDUSTRY-BASED SAFETY ASSOCIATIONS (IBSP), PHASE 2

MNP LLP

\$190,373 awarded in 2014

Manitoba's Five-Year Plan (2014 to 2018) for Workplace Injury Illness and Prevention (the Plan) recognized the important role of industry-based safety programs in strengthening workplace safety and health practices. The Plan committed to support existing IBSPs and to the establishment of new IBSPs. Phase 1 consisted of an assessment of the resource and financial needs of existing and prospective IBSP associations. Phase 2 engaged consulting firm MNP LLP to support the implementation of three new IBSPs and consisted of the following: assisting IBSP leadership with the overall business and service delivery models; prioritizing of services and staffing requirements; strengthening relationships with other organizations; and industry engagement.

Seven industries and associated IBSPs were identified for Phase 2 of the project. Three industries launched successful IBSPs with Phase 2 support: Manitoba Trucking (RPM), Manitoba Motor Dealers (S2SA), and Canadian Manufacturers and Exporters (Made Safe). Work critical to the success of the IBSPs included board governance policy work, strategic planning, program development and assistance in hiring management staff.

Governance support, strategic planning and assistance in hiring a Safety Program Director was made available to Safe Workers of Tomorrow (SWOT) and Agriculture (Keystone Agriculture Producers). These additional supports helped strengthen the workplace safety and health programs provided to their members or client groups.

A need for an IBSP in the Healthcare sector was identified, but development of the program was delayed due a lack of resources. In 2021, SAFE Work partnered with the Healthcare industry to pilot a healthcare IBSP. The expansion continued into 2022 and has resulted in the formation of the healthcare IBSP, the Manitoba Association for Safety in Healthcare, or MASH.



APPENDIX A – RWIP APPROVED PROJECTS 2009 TO 2021

FUNDING STREAM	NUMBER OF PROJECTS	ORIGINAL APPROVED FUNDING	COMPLETED	CANCELLED	NEW PROJECTS APPROVED IN 2021	IN PROGRESS	REVISED FUNDING*
Workplace Innovation	25	\$2,979,441	18	1	1	5	\$2,639,702
Scientific Research	36	\$5,362,785	22	1	0	13	\$5,126,826
Training and Education	15	\$1,677,390	9	0	3	3	\$1,667,592
Partnerships	5	\$545,605	5	0	0	0	\$525,889
Special Funding	3	\$568,190	3	0	0	0	\$458,563
Request for Proposals	5	\$324,875	4	1	0	0	\$359,710
Totals:	89	\$11,458,286	61	3	4	21	\$10,778,282

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





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