

FINDING SOLUTIONS 1999

A WCB GRANT PROGRAM FOR RESEARCH AND TRAINING TO IMPROVE THE WORKPLACE



Finding Solutions, the Workers' Compensation Board's grant program, provides financial assistance to support early identification and prevention of workplace risks, research methods for reducing risks, evaluation of post-injury rehabilitation strategies, or promotion of effective education on health and safety risks.

With the advice of the 1999 WCB Grants and Awards Advisory Committee – comprising employer

representatives Maurice Fernandes (Canada Post Corporation) and Eric Skowronek (B.C. Maritime Employers' Association), and worker representatives Lee Loftus (International Association of Heat and Frost Insulators & Asbestos Workers) and Lynn Bueckert (B.C. Federation of Labour) – the senior executive of the WCB approved funding for 12 new projects in 1999.

WorkSafe

 WORKERS'
COMPENSATION
BOARD
OF BRITISH
COLUMBIA

1999 GRANTS

"Theatrical fogs and smokes produce an aerosol that can be inhaled by those in the vicinity. Research is needed to understand health risks that workers in film and theatre face."

— Dr. Kay Teschke, UBC

EVALUATING PARAMEDICS' EQUIPMENT AND PROCEDURES TO CONTROL THE RISK OF MUSCULOSKELETAL INJURIES

Agency: Ambulance Paramedics of B.C. (CUPE Local 873)

Representative: Donald Cragg

Approved funding: \$49,500

Reference number: 99FS-14

The physical nature of a paramedic's job, combined with the specialized equipment used, creates unique risks of musculoskeletal injuries (MSIs). This project will evaluate the merit and effectiveness of re-engineering the main stretcher and patient compartment of ambulances to control the risk of MSIs. The risk of ergonomic problems in the context of equipment and vehicle design will also be studied, and a preliminary evaluation of practical, engineered solutions developed.

EXAMINING THE EXPOSURES AND HEALTH RISKS OF THEATRICAL FOGS AND SMOKES

Agency: SHAPE (Safety and Health in Arts, Production and Entertainment)

Representative: Rob Jackes

Approved funding: \$100,000 (over two years)

Reference number: 99FS-18

Personnel employed in the motion picture, television, theatrical, and music industries often work in the environment of visual special effects, termed "theatrical fogs and smokes." There is uncertainty about the full range of chemicals used, the levels of exposures, their health effects, and how to control exposures. This study will survey visual effects technicians, measure exposures, analyze the chemicals present, assess the symptoms of exposed workers, evaluate a user-friendly monitoring device, and make recommendations about control measures based on results of the study.

PROVIDING EMERGENCY DRILL TRAINING FOR FISHERMEN

Agency: United Fishermen and Allied Workers' Union

Representative: Jim Blair

Approved funding: \$44,610 (over two years)

Reference number: 99FS-07

To decrease the number of fatalities and injuries to workers in the fishing industry, emergency drill training is necessary. Through this project, WCB emergency drill videos and related safety information will be distributed to workers in the fishing industry. The videos will be split into small-boat and big-boat versions to allow workers using each gear type to focus on their needs. A half-day Marine Emergency Drills course will also be presented.

EXAMINING POST-TRAUMATIC STRESS DISORDER (PTSD) IN THE WORKPLACE

Agency: Department of Psychiatry, UBC

Representative: Dr. Harry Karlinsky

Approved funding: \$50,000

Reference number: 99FS-62

A post traumatic stress disorder typically includes the intrusive mental re-experiencing of an extremely traumatic event, with anxiety and avoidance of stimuli associated with the trauma. A large majority of research on PTSD has been in a military context with very little research done on workplace events. This study examines the features of workplace PTSD, including the precipitating event, symptoms, results of treatment, return to work, and related experiences, in support of early identification, treatment, and prediction of outcomes.





PREVENTING SEXUAL ASSAULT AND HARASSMENT IN THE AGRICULTURAL SECTOR

Agency: Penticton and Area Women's Centre Society

Representative: Wendy Rogers

Approved funding: \$18,062

Reference number: 99FS-86

Sexual assault and harassment of women who are seasonal workers in the agriculture sector has been identified as a growing concern. This project will implement an outreach program of education and discussion to raise awareness and prevent sexual assaults and harassment in the workplace.

PROMOTING AWARENESS AND UNDERSTANDING OF CRITICAL INCIDENT AND POST-TRAUMATIC STRESS AMONG PARAMEDICS

Agency: Ambulance Paramedics of B.C., CUPE Local 873

Representative: John Strohmaier

Approved funding: \$43,000

Reference number: 99FS-52

Critical incident stress (CIS) and post-traumatic stress disorder (PTSD) can affect ambulance paramedics as they continually respond to traumatic situations. An educational video and research paper will be produced and distributed to ambulance stations throughout B.C. explaining, with peer interviews, the causes and effects of CIS/PTSD, how to get help, and successful treatment.

INVESTIGATING RISK FACTORS FOR MUSCULOSKELETAL DISORDERS AMONG HEALTH CARE WORKERS

Agency: Institute for Work and Health

Representative: Terrence Sullivan

Approved funding: \$49,210

Reference number: 99FS-25

Among health care workers, musculoskeletal injuries (MSIs) are the main source of disability. This project will investigate the influence of organizational factors such as time pressures, workload levels, social support, and control over work decisions on MSIs. The health and economic burden of MSIs will also be described using health care costs and utilization data. Findings will provide a comprehensive profile of risk factors for the development, implementation, and evaluation of prevention strategies.

PRODUCING DISABILITY MANAGEMENT COURSE MATERIALS FOR DISTANCE EDUCATION

Agency: British Columbia Institute of Technology

Representative: Lars Larsson

Approved funding: \$22,000

Reference number: 99FS-80

An introductory disability management course was successfully presented at BCIT in the 1999 winter term. The course has since been repeated in Prince George. However, people in smaller communities, where a classroom format would not be feasible, have asked for this course in a distance education or correspondence format. This project will convert the course into correspondence and digital (CD-ROM) formats, for access throughout B.C.

"To successfully reintroduce injured workers back into the workforce, educating people about disability management is essential. We want to be able to reach everybody in the province."

– Lars Larsson, BCIT



REDUCING MUSCULOSKELETAL INJURIES FOR SONOGRAPHERS

Agency: Simon Fraser University
Representative: Dr. Theodore Milner
Approved funding: \$49,300
Reference number: 99FS-69

The incidence of musculoskeletal injuries in diagnostic medical sonographers is high. This project will develop interventions to reduce MSIs among sonographers, and in similar work, carry out a controlled trial of the interventions, and make recommendations to ultrasound manufacturers about modifications to reduce MSIs.

CREATING TEST STANDARDS FOR BIOAEROSOLS TO EVALUATE INDOOR AIR QUALITY

Agency: Department of Pathology, UBC in collaboration with the Provincial Laboratory of the British Columbia Centre for Disease Control, the Occupational Hygiene Programme at UBC, and the B.C. Ministry of Health, Public and Preventive Health Division
Representative: Dr. Gwen Stephens
Approved funding: \$100,000 (over two years)
Reference number: 99FS-64

The concern about a link between human illness and microbial indoor air pollution has been expressed by workers, school boards, governments, and the public. Standardized procedures are necessary to compare environments and to assess health effects. This project develops the necessary methods to measure reliably airborne micro-organisms in the indoor environment.

DEVELOPING OCCUPATIONAL HEALTH AND SAFETY RESOURCES FOR POST-SECONDARY TRADES TRAINING PROGRAMS

Agency: British Columbia Institute of Technology
Representative: Kathleen Bell
Approved funding: \$28,500
Reference number: 99FS-79

BCIT has identified a need to strengthen the occupational health and safety (OH&S) elements of post-secondary trades training in a way that contributes to continuing OH&S learning, integrates with the needs of industry, and fosters an ongoing workplace safety culture. The project includes a comprehensive needs analysis among stakeholders, identification of necessary OH&S competencies, and the production of intervention resources needed to bridge training gaps identified by the needs and competencies analyses.

MEASURING HEALTH RISKS TO CONSTRUCTION WORKERS WHO ENGAGE IN REMEDIAL ACTIVITY IN MOULD-INFESTED BUILDINGS

Agency: United Brotherhood of Carpenters and Joiners of America, Local 1995
Representative: Bill Duncan
Approved funding: \$55,085 (over two years)
Reference number: 99FS-19

A large number of buildings in B.C.'s Lower Mainland have suffered water penetration in wall cavities and other parts. This has led to extensive mould growth, and exposure of workers to biologically active fungi and moulds. Workers' exposure to inhaled fungi and dust, and their respiratory health, will be measured. Control measures and personal protective equipment capable of limiting exposures will be recommended.

"We expect that the data generated by this research will be instrumental in reducing the risk of workplace exposure to toxic microbial substances."

– Bill Duncan,
United Brotherhood of
Carpenters and Joiners
of America, Local 1995

UPDATES ON PREVIOUSLY FUNDED PROJECTS



REDUCING REPETITIVE INJURIES FOR LAUNDRY/LINEN WORKERS IN HEALTH CARE

Agency: Cumberland Regional Hospital Laundry

Representative: Mike O'Brien

Funding: \$51,429

Reference number: 98FS-07

Laundry/linen workers in health care facilities have a high rate of repetitive injuries associated with processing large volumes of linen. This project is establishing and evaluating corrective measures to reduce repetitive injuries within the laundry department. Researchers are examining physical plant layouts, equipment operations, and processing procedures. Return-to-work protocols for injured workers are also being developed.

ANALYSING PHYSICAL DEMANDS TO ENHANCE INJURED WORKERS' RETURN-TO-WORK OPPORTUNITIES

Agency: City of Burnaby

Representative: Lana Ho

Funding: \$45,000

Reference number: 98FS-31

Researchers are conducting physical demand analyses of jobs in several municipalities that show a high rate of injury. This project will recommend preventive measures and training to be developed. Employers will be able to use these findings in conjunction with health care professionals to identify suitable work, and assist in improving modified and/or light duties for injured workers. The findings will also help promote early identification and prevention of workplace hazards, and facilitate education and training specific to the hazards identified.

PRODUCING DIVE ACCIDENT PREVENTION VIDEOS FOR OCCUPATIONAL DIVERS

Agency: Canadian Diving Group

Representative: Geoff Greenwell

Funding: \$43,500

Reference number: 98FS-13

Despite the introduction of the new health and safety standard that stipulates "all divers shall have dive accident management training," there is a lack of suitable educational material to provide the means to satisfy the regulatory requirement. This project is producing and distributing two professional videos: one video focuses on scuba issues, and the other is aimed at occupational surface-supplied diving operations.

PREVENTING WORKPLACE VIOLENCE AND HARASSMENT OF COMMUNITY CARE WORKERS

Agency: Capital Health Region, Primary/Community Care

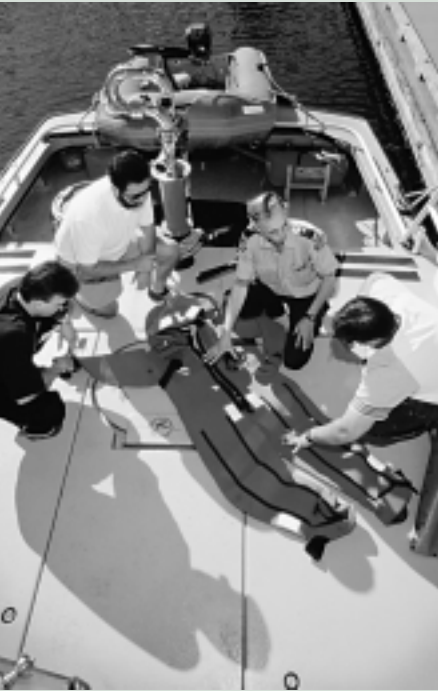
Representative: Julianne Sanguins

Funding: \$10,000

Reference number: 98FS-65

Community care workers regularly encounter workplace violence and harassment. This project is developing and delivering a training module to community care workers of the Capital Health Region.





EVALUATING A DIVING COMPUTER FOR OCCUPATIONAL DIVERS

Agency: Canadian Diving Group

Representative: Andy Nemier

Funding: \$25,000

Reference number: 98FS-14

Traditionally, occupational divers use a manual tabular method of calculating decompression timings. This method does not accurately reflect the varied dive profiles routinely practised. Consequently, many divers ignore the tables, compromising their safety and significantly increasing the risk of inadequate decompression. This study is evaluating the viability of using a wrist computer as a tool for decompression calculation. A successful evaluation would mark a world first for B.C., as it would be the first jurisdiction to validate a wrist-mounted occupational dive computer.

PRODUCING FISHING VESSEL STABILITY TRAINING MATERIALS

Agency: Universal Marine Consultants (West Coast) Ltd.

Representative: Murdoch Matheson

Funding: \$50,000

Reference number: 98FS-40

Workers on fishing vessels run the risk of foundering or capsizing while they load at sea. Current stability information is often highly technical. This project is instructing fishers in the principles of fishing vessel stability and the threats to stability that they may encounter. A scale model fishing vessel, designed to permit demonstration of stability hazards, is being used as an educational device. A training video is also in production.

OTHER PROJECTS IN PROGRESS:

- ▶ Investigating strategies to reduce violence to health care workers in emergency departments (98FS-17)
- ▶ Reducing musculoskeletal disorders among newspaper and commercial printing workers (98FS-33)
- ▶ Investigating vocational rehabilitation methodologies for brain-injured workers (98FS-41)
- ▶ Developing and evaluating portable lift and transfer devices for home care workers (98FS-47)
- ▶ Training forest workers in cable yarding techniques (98FS-34)

"For every worker killed in a work-related accident, there are one or two dozen accidents where workers are injured and require medical treatment, several hundred accidents where workers receive minor injuries that don't require medical treatment, and well over a thousand near-miss incidents."

– WCB report, *Lost Lives: Work-related deaths in B.C.*

RESEARCH REPORTS NOW AVAILABLE

Through the WCB's Grants and Awards program, we continue to make significant progress in understanding the causes and factors contributing to occupational injury and disease."

- Roberta Ellis,
Vice President,
Prevention Division, WCB



DEVELOPING COMMUNICABLE DISEASE AND NEEDLE-STICK PREVENTION TRAINING FOR POLICE RECRUITS

Agency: Justice Institute of British Columbia
Representative: Sandra Cairns
Funding: \$10,000
Reference number: 98FS-32

This study developed and provided communicable disease and needle-stick prevention training to police recruits. A curriculum was developed for further training use in police departments.

TRAINING HEALTH CARE WORKERS IN LONG-TERM CARE FACILITIES

Agency: Tillicum and Veterans Care Society
Representative: Gloria Parker
Funding: \$21,483
Reference number: 97FS-27

This study developed a training program to assist nurse and care aides in conducting lifts and transfers of long-term care clients with dementia. *Back to the Future*, a staff training manual, and related instructional and evaluation materials were produced.

PREVENTING MUSCULOSKELETAL INJURIES THROUGH A JOB DEMAND ANALYSIS

Agency: Greater Victoria School District #61
Representative: Brian Mallory
Recommended funding: \$32,000
Reference number: 97FS-08

This study conducted a job demand analysis for staff in the Greater Victoria School district in an effort to reduce the incidence and severity of musculoskeletal injuries. The analysis included physical and cognitive components to develop standard templates for quantifying job duties and to assist in identifying risk factors.

Interventions were developed based on a comparison of job descriptions against relevant ergonomic standards and guidelines to identify risks and develop proactive interventions.

ANALYSING THE EFFECT OF METAL AND CHEMICAL EXPOSURES ON MALE REPRODUCTIVE HEALTH IN SMELTER WORKERS

Agency: UBC, Occupational and Environmental Health
Representative: Dr. Chris van Netten
Funding: \$68,232
Reference number: 1150-20 U 1994

This study evaluated the concentration and relationships among 50 elements in the blood, urine, and semen of workers in jobs with various exposures at a lead smelter.

OTHER REPORTS NOW AVAILABLE

- ▶ Identifying the elements of successful safety programs (1170-20 U 1998)
- ▶ Predicting trends for industry growth, employment, and injury compensation claims in nine B.C. industries (440-20)
- ▶ Studying the use of assistive devices to enhance employability for disabled workers (96FS-01)
- ▶ Developing record links to analyse the incidence and prevalence of worker injury and outcomes in B.C.

These reports are available through the WCB Library at 604 231-8450, or the Films and Posters Section at 604 276-3068, toll free at 1 800 661-2112, local 3068, or fax 604 279-7406.

ONGOING RESEARCH AND DEVELOPMENT

EDUCATING TOMORROW'S HEALTH AND SAFETY EXPERTS

The WCB has supported BCIT student scholarships in occupational health and safety since 1988. In 1999, occupational health and safety students William Dirksen, Clayton Fredin, David Hopp, and Dawn Ianson were awarded entrance scholarships of \$1000 each.

RESEARCHING WORK-RELATED CANCERS

The WCB has supported the BC Cancer Agency's research on work-related cancer since 1982, funding projects such as an analysis of cancer risk by industry; a study on detecting occupational cancer risks; and the geographic distribution of cancer rates. In 1999, the WCB continued its partnership with the BCCA by providing \$271,000 from the 5-year, \$1.2-million grant awarded in 1997.

During 1999, funding for the BCCA enabled a significant amount of progress which included the completion of a system for coding death registrations, an analysis to determine whether pulp and paper workers have increased risks of developing specific cancers, identification of occupational exposures that are associated with ovarian cancer, the improvement and extension of a job exposure matrix (JEM) system for the detection of carcinogens in the pulp and paper industry and the agriculture industry, development of an Intranet site for the Occupational Oncology Research Program to collect and generate cancer-related data, and a study to determine the possibility of identifying men at high risk for bladder cancer from exposure to polycyclic hydrocarbons.

FOR MORE INFORMATION

Contact the Prevention Division at 604 276-3100, or toll free in B.C. at 1 888 621-SAFE (7233) for more information on research at the Workers' Compensation Board.



*1998 grant recipients
and Advisory Committee*