



UBC CENTRE FOR
HEALTH SERVICES AND
POLICY RESEARCH

WorkSafeBC-CHSPR Research Partnership

Annual Report: 2009-2010

November 2010



a place of mind

The WorkSafeBC-CHSPR Research Partnership
Annual Report: 2009-2010 was produced by:

Centre for Health Services and Policy Research
University of British Columbia
#201 – 2206 East Mall (LPC)
Vancouver, BC V6T 1Z3
Phone: 604-822-4969
Email: enquire@chspr.ubc.ca

You can download this publication from our website, at www.chspr.ubc.ca

How to cite this report: WorkSafeBC-CHSPR Research
Partnership. (2010). WorkSafeBC-CHSPR Research
Partnership Annual Report: 2009-2010. Vancouver,
Centre for Health Services and Policy Research, University of
British Columbia.



Contents

- 4 About the WorkSafeBC-CHSPR Partnership**
- 5 Executive Summary**
- 6 Work-related lung disease and cancer**
- 8 Workplace injuries**
- 9 Leaders in the use of linked occupational health data**
- 10 Celebrating Trainees**
- 11 New Projects**
- 12 Partnerships and Knowledge Translation**



About the WorkSafeBC-CHSPR Partnership

This research partnership between WorkSafeBC (the Workers' Compensation Board of BC) and the UBC Centre for Health Services and Policy Research (CHSPR) aims to address current and emerging issues of work-related health in British Columbia. The Partnership conducts research that provides a unique and comprehensive portrait of the health and well being of workers, and helps support evidence-informed decision-making in the area of occupational health.

For more information about the WorkSafeBC-CHSPR Partnership, please visit <http://www.chspr.ubc.ca/research/worksafebc>.

Our partners

UBC Centre for Health Services and Policy Research

As leaders of independent, policy relevant research and graduate training, CHSPR is dedicated to fostering visionary research within a collaborative and innovative research environment. CHSPR's work engages and informs health policy and issues that matter to Canadians.

For more information about CHSPR, please visit <http://www.chspr.ubc.ca>

Population Data BC

Population Data BC is a multi-university, nationally active and recognised data and education resource facilitating interdisciplinary research and teaching on the determinants of human health, well-being and development. While respecting and adhering to legislation and protocols governing access to sensitive information and protecting individual privacy, our work strives to ensure that:

- Researchers have timely access to data and training.
- Researchers have access to data that address research questions on human health, well-being and development.
- Research using these data informs policy-making and leads to healthier communities.

For more information on Population Data BC, please visit <http://www.popdata.bc.ca>





Executive summary

Over the past year, the WorkSafeBC-CHSPR Partnership team has been continuing to develop cutting-edge and policy-relevant research on work-related health in British Columbia.

By combining WorkSafeBC data with the population-wide data available through Population Data BC, we are gaining important insights into the health, social, and economic effects of work-related illness and injury.

Our activities in the past year have focused primarily on three broad research areas: work-related lung disease and cancer, work-related injuries, and the access, development, and linkage of administrative data for research purposes.

This year has also brought considerable success to our trainees, who have published their Partnership-supported research in international journals, and have won awards at national conferences. In addition, we have been very active translating the results of our research to a variety of stakeholders through workshops, meetings, and the news media.

We look forward to future research and outreach activities, including new projects on occupational cancer, occupational disease surveillance, and expanded research opportunities using WorkSafeBC's new Claims Management Solutions (CMS). We aim to increase research, data development, and knowledge translation activities that are highly responsive to current and emerging policy needs.



Staff and faculty of the WorkSafeBC-CHSPR Partnership

Work-related lung disease and cancer

The Partnership has continued its research to investigate the prevalence, diagnosis, and surveillance of mesothelioma and asbestosis in BC. Our research in the last year has provided evidence to help improve the surveillance and compensation of work-related lung problems.

Examining the burden of asbestos-related disease in BC

Previous analyses conducted by Partnership researchers showed that single health databases in BC do not identify all new cases of asbestosis, and that as a result, the true burden of asbestosis and other asbestos-related disease in this province is likely underestimated.

We conducted a review of case-control and cohort studies that examined the association between occupational asbestos exposure and lung cancer. These studies suggest that between 10% and 12% of all lung cancers in British Columbia, or 2.8 to 4.5 cases of lung cancer for each case of mesothelioma, may be attributable to asbestos exposure. Each year, between 180 and 305 lung cancer cases in BC may be due to occupational asbestos exposure.

Knowledge Translation and Exchange: Workshop on asbestos-related disease

This year, our outreach activities around asbestos-related disease increased significantly. We were awarded funding from the Canadian Institutes of Health Research to host a workshop on asbestos-related diseases in British Columbia.

“A very good mix of people: I liked hearing the varying perspectives of medical, workers’ compensation, legal, and labour representatives”

Comment from a participant in the workshop

The workshop, held in May 2010, brought together more than 40 people representing workers and their families, labour unions, employers, researchers, physicians, legal experts, and WorkSafeBC to exchange knowledge and ideas around asbestos-related disease. The workshop was very productive in terms of sharing Partnership research results with a range of knowledge users. In addition, we were able to strengthen relationships between the research community and other stakeholders interested in asbestos-related disease.

Invited speakers included Tracy Ford, who lost her father Dave to mesothelioma in 2008. The personal experiences she shared with the group regarding compensation and medical care highlighted key areas in which services could be improved for families dealing with asbestos-related disease. Workshop participants developed priorities for action in response to the materials presented at the workshop, and a number of these ideas have prompted follow-up initiatives by Partnership researchers, WorkSafeBC, and advocacy groups. For example, WorkSafeBC is now providing designated staff to help workers and their families with compensation questions, while Partnership researchers have submitted a number of research proposals that investigate issues raised at the workshop.

The final report from the workshop is available on our website, <http://www.chspr.ubc.ca/research/worksafebc>



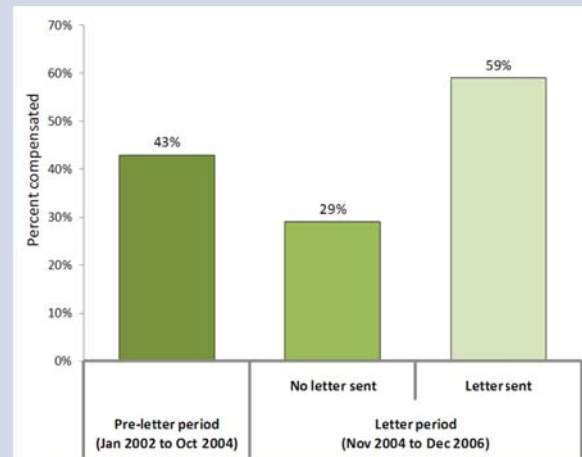
Increasing awareness of mesothelioma as a compensable disease

Our evaluation of a notification system for physicians of newly diagnosed mesothelioma patients showed that raising awareness of mesothelioma as a compensable disease does help to increase compensation rates. Our evaluation has also uncovered some areas in which the notification system could be refined, and we are actively collaborating with WorkSafeBC and the BC Cancer Agency to make these improvements. We will continue to monitor the impact of the notification system on future compensation rates for mesothelioma.

We have also been pursuing other ways of raising awareness among physicians and workers about the work-relatedness of mesothelioma: besides publishing the results of our mesothelioma research in the peer-reviewed journal *Occupational and Environmental Medicine*, we have recently submitted an article to the *Canadian Journal of Public Health*, in an attempt to raise awareness of this issue more widely among physicians. We also continue to actively collaborate with asbestos advocacy groups (e.g., the AREA fund) to share our research results with workers, former workers, and their families.

In addition, we recently submitted a grant proposal to WorkSafeBC that, if funded, will allow us to investigate why individuals do or do not seek workers' compensation benefits after a mesothelioma diagnosis. This project proposes to use in-depth interviews to learn about compensation-related decisions directly from affected individuals.

Comparison of compensation rate for diagnosed mesothelioma cases, by letter status, 2002-2006



Physicians of newly diagnosed mesothelioma patients are now sent a letter to encourage them to discuss workers' compensation with their patient. We found that compensation rates rose from 49% in the pre-letter period to 59% in the post-letter period, for those physicians that were sent a letter. Our current work aims to improve the intervention system.

Workplace injuries

Our analysis of work-related injury trends in BC has examined a range of factors associated with injuries, from working hours to certification programs. Our results demonstrate a need for increased injury prevention initiatives among high-risk industries and populations.

Does certification reduce the risk of tree-faller injuries?

Manual tree fallers have the highest serious injury rate in British Columbia. This project is evaluating the faller certification program, implemented in 2002, that consists of classroom and on-the-job training. Our analyses completed to date have shown that, overall, the rate of injuries among tree-fallers appears to be declining since 2003. Future analyses will investigate the effect of certification on this rate.

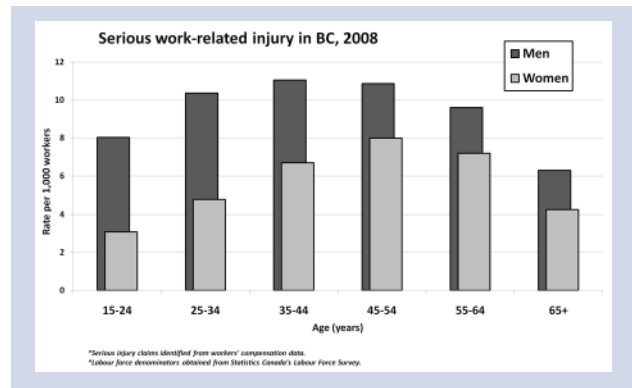
Shiftwork and injuries

By investigating the relationship between shiftwork and injuries, we are able to learn more about the underlying causes of injury among workers whose sleep patterns may be disrupted by their work schedules. This study examines the relationship between shiftwork and workers' compensation claims. Our results show that women are increasingly engaging in night and rotating shift work, and that they are more likely to be injured in night shiftwork than men. This suggests that occupational health and safety policies and programs focused on women working shift may help reduce the risk of injuries. A paper on this topic, written by PhD

Candidate Imelda Wong with Chris McLeod and Paul Demers, was published in the *Scandinavian Journal of Work, Environment & Health* in October 2010.

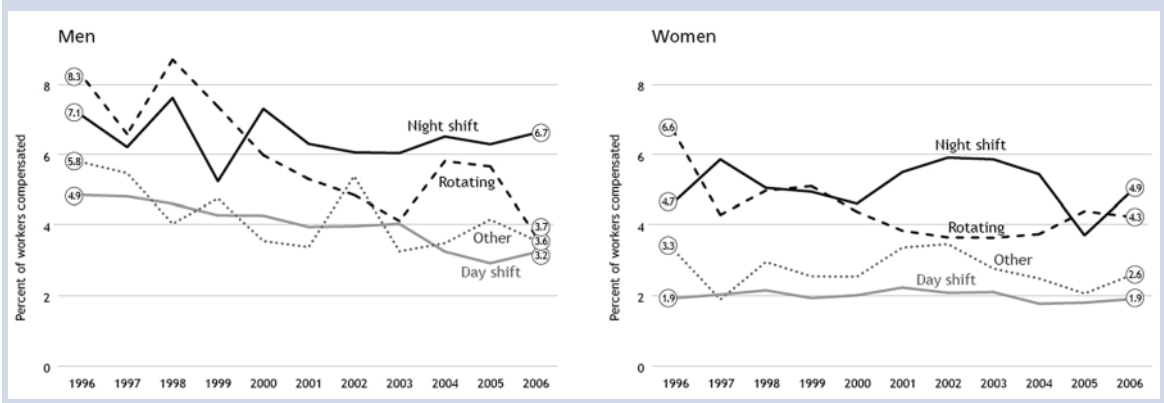
Serious injuries and fatalities among BC workers

This project examines the rates and distribution of serious injuries and fatalities among BC workers, taking advantage of the new serious injury rate measure developed by WorkSafeBC that is based on a combination of the type of injury, claim duration and health care costs.



Our preliminary results up to 2008 show that men had higher rates of serious injury compared to women, and that rates varied across age groups. Descriptive results also show that falls were the most common mechanism of serious injury among older women, and that these injuries most often resulted in fractures.

Trend in workers' injury compensation rate by shift type and gender





Leaders in the use of linked occupational health data

Using routinely collected data for research allows us to investigate important occupational health-related questions in a cost-effective and timely manner.

As the identified leader in providing WorkSafeBC data expertise and guidance to the research community and to Population Data BC, the Partnership has been successful in identifying new datasets and new variables to include in Population Data BC's holdings. The current focus of the Partnership's data development work is bridging the new and old WorkSafeBC data systems in these holdings. The Partnership's past data development work has also led to the recent inclusion of firm-level data in Population Data BC's holdings. This inclusion will enable the Partnership to further explore the effect of firm-level factors on injury and disease rates and to evaluate the effectiveness of firm-level interventions (for example, experience rating, inspections and citations) in reducing work injuries.

Further expansion of Population Data BC's holdings will facilitate policy relevant studies based within British Columbia as well as studies focused on inter-provincial comparisons. For example, the use of firm level data is helping the Partnership use WorkSafeBC's new serious injury indicator in research. We are actively collaborating with various research teams outside of BC to advance the use of BC data for research.

In a special supplement to the *Canadian Journal of Public Health* released in 2009, we co-authored an article on the value of data-driven occupational health and safety research, and provided examples of how this research has had a positive influence on policy making and practice.

Partnership research highlighted by BC's Information and Privacy Commissioner

British Columbia's Information and Privacy Commissioner, Elizabeth Denham, cited our research on asbestos-related disease as part of a recent article that highlighted the importance of access to information for research purposes.



"Research and Right to Know" OIPC Article (13-Sept-2010)

Celebrating Trainees



CHSPR Trainees (L to R): Jonathan Fan, Imelda Wong, Kim McLeod, and Dan Sarkany (missing: Tracy Kirkham).

The Partnership works with trainees interested in policy-relevant occupational health issues. Over the past year, our trainees have excelled in their ability to share their research with a wide audience:

- Jonathan Fan, CHSPR staff and trainee, was the lead author on a paper investigating what influences return to work following work-related knee surgery. The article was published in the *Scandinavian Journal of Work, Environment & Health*
- Dan Sarkany, who is investigating the impact of certification programs on tree-faller injuries for his MSc thesis, won a “Best Student Paper” award at the 2010 Canadian Association for Research on Work and Health Conference for his presentation: Injury rates and certification in the manual tree falling occupation. He also received an honorable mention award at the Northwest Occupational Health Conference, held Oct. 14-15 in Portland, Oregon.
- Tracy Kirkham, PhD candidate, was first author on the paper “Surveillance of mesothelioma and workers’ compensation in British Columbia, Canada,” which was published in *Occupational and Environmental Medicine*. The journal article was described in a recent article in Vancouver’s *Georgia Straight* newspaper.
- Imelda Wong, PhD candidate, led the publication of a paper on the relationship between shiftwork and occupational injuries that was published in the *Scandinavian Journal of Work, Environment & Health*. The paper was selected as the issue’s “Editor’s Pick” and thus is freely available on the internet. In addition, it received extensive national and international media coverage by outlets such as *The Vancouver Sun*, *Canada AM*, and Thompson-Reuters.



New Projects

The Partnership has a number of new initiatives planned for 2011. We are extending our occupational disease surveillance research to examine the incidence and prevalence of cancers and respiratory conditions that may be related to wood dust exposure. A “high risk” occupation cohort will be derived from industry and occupation information contained in WorkSafeBC claims data and linked to the cancer registry and other health databases to determine if there is a higher risk of disease in workers known to be occupationally exposed to wood. We also recently submitted a CIHR grant that would enable us to expand this surveillance methodology to a wide range of occupational diseases and injuries.

We are also actively working with WorkSafeBC to develop research projects that build on and use new data derived from WorkSafeBC’s new Claims Management Solutions (CMS). For example, newly available information on time of injury, shift-type and job tenure will enable us to examine how risk of injury varies by time of day, shift work and for recently hired workers.

We are currently negotiating a 5-year extension of the Partnership that will facilitate a long-term commitment by UBC researchers to develop an expanded and policy-responsive research agenda. We plan to provide rigorous and scientific evaluation of WorkSafeBC policies and programs and position the Partnership as a national leader of research in occupational health and compensation policy.



Mieke Koehoorn, Faculty Lead



Chris McLeod, CHSPR Associate

Partnerships and Knowledge Exchange

The WorkSafeBC-CHSPR Partnership team is committed to ensuring that the results of its research activities are relevant and available to researchers, practitioners, and occupational health policy makers. We are engaged in active collaborations with organizations whose missions are compatible with ours, such as the Institute for Work and Health, the Canadian Association for Health Services and Policy Research, the Workers' Compensation Research Working Group, and Simon Fraser University's Faculty of Health Sciences. In the past year, we have given presentations at numerous national and international conferences, and have been actively involved in publishing results in the peer-reviewed literature. We also transform many of our publications into brief, easy-to-read research briefs that are accessible via our website and are distributed nationally to a mailing list of academics, policy makers, union leaders, and others interested in work and health.

We actively engage stakeholders in provincial agencies and non-profit organizations. We hold quarterly meetings with representatives of WorkSafeBC, meet frequently with partners at the BC Cancer Agency, and participate in educational events such as the WorkSafeBC Research Day. We also provide training opportunities to students interested in pursuing research on policy-relevant occupational health issues.

A full list of our activities in the past year is found below.

Knowledge Exchange Activities

Peer-Reviewed Articles and Reports

1. Wong I, McLeod CB, Demers P. Shiftwork trends and risk for worker injury in Canada. *Scandinavian Journal of Work, Environment & Health* (2010). MS# 145/10. Published Online First: 4 October 2010. http://www.sjweh.fi/show_abstract.php?abstract_id=3124
2. Kirkham T, Koehoorn M, McLeod C, Demers P. Surveillance of mesothelioma and workers' compensation in British Columbia, Canada. *Occupational and Environmental Medicine* (2010). Published Online First: 27 September 2010. doi:10.1136/oem.2009.048629. <http://oem.bmj.com/content/early/2010/09/03/oem.2009.048629.full>.
3. Fan J, McLeod C, Koehoorn M. Sociodemographic, clinical, and work characteristics associated with partial, full, or no return to work following work-related knee surgery. *Scandinavian Journal of Work, Environment & Health*, 2010;36(4):332-338. http://www.chspr.ubc.ca/files/publications/2010/wsbc/rb_surgical_outcomes.pdf.
4. Smith P, Stock S, McLeod C, Koehoorn M, Marchand A, Mustard C. Research opportunities using administrative databases and existing surveys for new knowledge in occupational health and safety in Canada, Quebec, Ontario and British Columbia. *Canadian Journal of Public Health*, 2009;101(Suppl.1):S46-52. http://www.chspr.ubc.ca/files/publications/2010/wsbc/rb_admin-data.pdf.
5. Kling R, McLeod C, Koehoorn M. Sleep problems and workplace injuries in Canada. *Sleep*, 2010;33(5):611-618. <http://www.journalsleep.org/ViewAbstract.aspx?pid=27783>.
6. Koehoorn M, McLeod C, Fan J, Barer M, Côté P, Hogg-Johnson S, McGrail K. Does surgical setting or wait-time incentive improve return to work following knee surgery among injured workers? Final report to WorkSafeBC. Richmond (BC): 2009 Nov. (Peer reviewed).
7. Takaro T, McLeod C, Xu F, Koehoorn M, and Demers P. Beryllium disease in British Columbian workers: a pilot surveillance project using linked health administrative data. Final report to WorkSafeBC. Richmond (BC): 2009 Nov. (Peer reviewed).
8. Gan W, Demers PA, McLeod C, Koehoorn M. Population-based asbestosis surveillance in British Columbia. *Occupational and Environmental Medicine*, 2009;66(11):766-771. <http://oem.bmj.com/>



content/66/11/766.full.

Submitted/Under Review

1. McLeod C, Koehoorn M, Tamburic L, Demers P. Evaluation of a physician letter to increase awareness of workers' compensation benefits for individuals with mesothelioma. Submitted to *Canadian Journal of Public Health*.
2. Koehoorn M, Fan J, Barer M, McGrail K, Hogg-Johnson S, Côté P, McLeod C. Musculoskeletal surgery outcomes by surgical setting and expedited status in British Columbia. Submitted to *Health Care Policy*.

In Preparation

1. Demers P, McLeod C, Tamburic L, McLeod K, Koehoorn M. The burden of asbestos-related disease in British Columbia. Manuscript in preparation
2. McLeod C, Mooney D, Xu F, Peters C, Koehoorn M, Demers P. Geographic variation of pneumoconiosis in British Columbia. Manuscript in preparation
3. Koehoorn M, Tamburic L, Lynd L, Kennedy S, McLeod C. Population-based surveillance for work-related asthma using administrative data. Manuscript in preparation to submit to the *Scandinavian Journal of Work, Environment & Health*.
4. Fan J, McLeod C, Koehoorn M. Descriptive epidemiology of serious work-related injuries in British Columbia. Manuscript in preparation to submit to *Injury Prevention*.

Conference Presentations (oral)

1. Sarkany D, McLeod C, Davis HW, Lyons KC, Koehoorn M. Injury rates and the British Columbia faller training standard. Northwest Occupational Health Conference; 2010 October 13-15; Portland, OR. (Selected as one of the top-three submissions).
2. Demers P, McLeod C, Peters C, Xu F, Koehoorn M. Time trends for asbestosis, silicosis, and coal workers' pneumoconiosis in British Columbia. Canadian Association for Research on Work and

- Health Conference; 2010 May 28-29; Toronto, ON. http://carwh2010.iwh.on.ca/sites/carwh2010.iwh.on.ca/files/presentations/demers-timetrends-carwh2010_1.pdf.
3. McLeod C, Koehoorn M, Tamburic L, Demers P. Evaluation of a physician letter to increase awareness of workers' compensation benefits for individuals with mesothelioma. Canadian Association for Research on Work and Health Conference; 2010 May 28-29; Toronto, ON. <http://carwh2010.iwh.on.ca/program/sat/1400/symposium/183>.
4. McLeod C, Mooney D, Xu F, Koehoorn M, Peters C, Demers P. Geographic variation of pneumoconioses in BC. Canadian Association for Research on Work and Health Conference; 2010 May 28-29; Toronto, ON. <http://carwh2010.iwh.on.ca/program/fri/1330/6/222>.
5. McLeod K. Assessing the burden of asbestos-related lung cancer in British Columbia. Canadian Association for Research on Work and Health Conference; 2010 May 28-29; Toronto, ON.
6. Sarkany D, McLeod C, Davies HW, Lyons KC, Koehoorn M. Injury rates and certification in the manual tree falling occupation. Canadian Association for Research on Work and Health Conference; 2010 May 28-29; Toronto, ON. (Selected as one of top-three student submissions).
7. Wong IS, McLeod CB, Demers PA. Shiftwork trends and risk of injury among Canadian workers. Canadian Association for Research on Work and Health Conference; 2010 May 28-29; Toronto, ON. <http://carwh2010.iwh.on.ca/program/fri/1330/5/63>.
8. Demers P, Koehoorn M, McLeod C, et al. The burden of asbestos-related disease in British Columbia: a one-day workshop. CIHR-funded. 2010 May 14; Vancouver, BC.
9. Demers P, Wong I, McLeod C. The prevalence of shift work in Canada. Scientific Symposium: The health effects of shift work; 2010 Apr 12; Toronto, ON. <http://www.iwh.on.ca/shift-work-symposium/demers>.

10. Mustard C, Chambers A, Smith P, McLeod C. Shift work and worker injury. Scientific Symposium: The health effects of shift work; 2010 Apr 12; Toronto, ON. <http://www.iwh.on.ca/shift-work-symposium/mustard>.
11. Koehoorn M, Demers P, McLeod C. WorkSafeBC-CHSPR Research Partnership: current and future research projects. WorkSafeBC Research Day; 2009 Nov 20; Richmond, BC.
12. McLeod C, Koehoorn M, Fan J, Barer M, Côté P, Hogg-Johnson S, McGrail K. Investigating outcomes for musculoskeletal surgeries among injured workers in British Columbia, Canada. Workers' Compensation Research Working Group; 2009 Nov 5-6; Boston, MA.

Conference Presentations (poster)

1. Fan J, McLeod C, Koehoorn M. Trends in serious work-related injuries in British Columbia. Canadian Association for Research on Work & Health 2010 Conference; 2010 May; Toronto, ON.
2. McLeod C, Fan J, Koehoorn M. Serious injuries among high risk industries and occupations in British Columbia, Canada. 21st International Conference on Epidemiology in Occupational Health. Occupational and Environmental Medicine (in press); April 20-25, 2010; Taipei, Taiwan.
3. Fan JK, McLeod CB, Koehoon M. Sociodemographic, clinical, and work characteristics associated with partial, full, or no return to work following work-related knee surgery. BC Environmental & Occupational Health Research Network Scientific Exchange and AGM; 2009 Nov 20; Vancouver, BC. http://www.bceohrn.ca/files/images/Poster_Abstracts_Booklet_1.pdf.



Photo credits: Photos in this report are taken from the Flickr Creative Commons pool. Thanks to photographers Maximilian Lindhé, Michael McCullough, Belkus, Mic Agbayani, and untrained eye. Photos of Partnership researchers by Martin Dee. All other images courtesy of Partnership researchers.

Advancing world-class health services and policy research, training and data resources on issues that matter to Canadians

UBC Centre for Health Services and Policy Research
The University of British Columbia
201-2206 East Mall
Vancouver, B.C. Canada V6T 1Z3

Tel: 604.822.4969
Fax: 604.822.5690
Email: enquire@chspr.ubc.ca

www.chspr.ubc.ca