



ANNUAL REPORT 04/01/2010 - 03/31/2011



OUR MISSION

To create an internationally recognized centre, distributed across British Columbia, that is dedicated to research and knowledge exchange on substance use, harm reduction and addiction.

OUR VALUES

Collaborative relationships

Independent research

Ethics, social equity and justice

Reducing risk and increasing protection

Harm reduction

Informed public debate

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Message from the Chair

As Chair of the Advisory Council to the Centre for Addictions Research of BC (CARBC), it is my distinct pleasure again to offer overview remarks on the incredible work undertaken by the Centre scientists, students and staff over the past year and the ongoing activities and exciting plans for the coming years.

I wish to draw your attention to several highlights for CARBC in 2010/2011.

We are delighted to see the recruitment of two great new faculty members as CARBC scientists, Dr. Bernie Pauly from the School of Nursing at UVic, and, from the University of Calgary, Dr. Chris Auld, in Economics. The number of graduate students under supervision by CARBC faculty continues to grow, with 22 graduate students working closely with faculty at the latest count. I can also happily mention the CARBC scholarship given to support the Social Dimensions of Health research program which closely links with, and is supported by, CARBC faculty.

Despite economic uncertainties domestically and worldwide, Centre faculty and research partners obtained \$3.3 million in new funding this past year. This breaks down into (a) \$1,689,416 from national and international peer-reviewed grant competitions, (b) \$176,974 from BC grant competitions, and (c) \$1,465,025 from contract research. These numbers testify to the vibrant intellectual work the Centre undertakes.

Such research grants enable the Centre to produce rigorous and relevant analysis which, in turn, can influence public policy. Recent examples of policy impacts by CARBC are on the homelessness front in Victoria and the province more generally; development of low-risk drinking guidelines for Canadians; new services for vulnerable women who are pregnant or have young families; and adjustments to pricing and tax policies in British Columbia and other jurisdictions. In addition, Centre personnel are actively engaged in working with policymakers and service providers in many areas related to substance use.

Overall, this is a most impressive record of applied analysis and university engagement in policy and practice areas of great consequence.

Michael J. Prince, MPA, PhD Lansdowne Professor of Social Policy, Chair

Message from the Director

I am happy to introduce this fifth and final annual report which reports activities undertaken by CARBC scientists, staff and associates during our first five-year tenure as a University of Victoria research centre. As usual, we have organized our material around the four key result areas identified in our 2006-2010 Strategic Plan, namely: (i) building capacity for research, (ii) conducting high-quality research, (iii) disseminating research findings, and (iv) knowledge exchange activities to support improved policy and practice.

I would also like to take this opportunity to thank our independent review committee for their valuable report and endorsement of our collective work these past five years. The committee was chaired by Dr. Robert Mann, a Senior

Scientist with the Centre for Addiction and Mental Health in Ontario, and also comprised Dr. Lorraine Midanik, an eminent alcohol researcher and outgoing Dean of Social Work with the University of California, Berkeley campus, and Dr. Gweneth Doane, Associate Dean of Interdisciplinary Graduate Studies, University of Victoria. The committee concluded that CARBC had "met or exceeded" all expectations of a University research centre as well as those laid out in our Strategic Plan.

On the basis of the independent review, a number of specific recommendations were made to the University Senate by Vice President of Research, Dr. Howard Brunt, which included: seeking additional space to house the growing staff of the Centre; developing an external fundraising campaign; increasing our involvement in graduate training and integration with university departments; and increasing further University of Victoria faculty working in areas related to substance use and addiction. I am happy to report that we are working actively on all of these fronts and that additional space has been granted for our operations immediately adjacent to our present offices at the Technology Enterprise Facility, 2300 McKenzie Avenue. I am also happy to report that the Board of Governors approved our continuing research status up to the end of 2015. A new Strategic Plan for this period has been developed and is available on our website.

Once more, I wish to express our collective thanks for the support of the University, our tremendous Advisory Board, funders, stakeholders and many collaborators in British Columbia, Canada and further afield.

On a very sad note, I would like to acknowledge the passing of Professor Alan Marlatt earlier this year who served as a member of our Advisory Board since our inception in 2003. Alan was internationally renowned and regarded as a true leader in the field of addictions and substance use policy who made substantive intellectual and practical contributions. We will miss his wisdom, humour and warmth. His ideas on relapse prevention, harm reduction and humane responses to people with substance use problems will live on through his many students and admirers.

Tim Stockwell, PhD Director, CARBC

OUR PEOPLE AND PARTNERS

Directors and Faculty

Dr Tim Stockwell Director (Psychology)

Dr Scott Macdonald Assistant Director for Research (Health Information Science)

Mr Dan Reist Assistant Director for Knowledge

Dr John Anderson Scientist (Community Medicine/ Education)

Dr Chris Auld Scientist (Economics)

Exchange

Dr Cecilia Benoit Scientist (Sociology)

Dr Cheryl Cherpitel Scientist (Nursing)

Dr Mikael Jansson Scientist (Sociology)

Dr Bernie Pauly Scientist (Nursing)

Dr Jinhui Zhao Scientist and Senior Data Analyst

Dr Scott Macdonald





Dr John Anderson



Dr Chris Auld



Dr Cecilia Benoit



Dr Cheryl Cherpitel



Dr Mikael Jansson





Staff (Victoria)

Ms Emma Carter Administrator

Mr John Dorocicz **IT Support**

Ms Alissa Greer Research Assistant

Mr Andrew Ivsins Research Assistant

Ms Jiesu Luo Research Assistant (to September 2010)

Ms Nicole Jackson Co-op Student to January 2011 and Research Assistant as of January 2011

Ms Gina Martin Research Associate

Dr Tessa Parkes Research Consultant

Ms Kathleen Perkin Research Coordinator

Ms Jen Theil Assistant to the Director

Ms Kate Vallance Research Associate



Ms Emma Carter



Mr Andrew Ivsins



Ms Alissa Greer



Ms Nicole Jackson



Ms Gina Martin





Ms Jen Theil



Ms Kate Vallance

Staff (Vancouver)

Mr Laverne Douglas **IT Specialist**

Dr Tim Dyck Research Associate

Ms Nicole Pankratz Bodner **Publications Officer**

Ms Bette Reimer Research Associate

Ms Evelyn Souza Information Officer

Ms Cathy Spence Assistant to Mr. Dan Reist



Ms Nicole Pankratz Bodner



Ms Bette Reimer



Ms Evelyn Souza

Advisory Board

Dr Howard Brunt Vice President Research, University of Victoria

Mr Pat Griffin Executive Director, Victoria Youth **Empowerment Society**

Ms Jocelyn Harder Community Representative

Mr Edgar F. Kaiser Jr. Chair & CEO, Kaiser Foundation

Dr Perry Kendall Provincial Health Officer, BC Ministry of Health Services

Mr Philippe Lucas Victoria City Councillor, CARBC Research Affiliate

Dr Norbert Haunerland Associate Vice-President, Research, Simon Fraser University

Dr G. Alan Marlatt Director, Addictive Behaviours Research Centre, University of Washington

Mr Jamie Graham Chief Constable, Victoria Police Department

Ms Jody Paterson Journalist

Dr Michael Prince, Chair Lansdowne Professor of Social Policy, University of Victoria

Dr Eric Single Scientific Advisor, Toronto, Ontario

Dr. Richard Vedan Associate Professor, School of Social Work, University of British Columbia





Ms Jocelyn Harder



Dr Perry Kendall



Mr Philippe Lucas



Mr Jamie Graham

Post-doctoral Fellows

Ms Rachelle Beveridge Department of Sociology & School of Nursing

Dr Cornelia Zeisser Post-doctoral Fellow and Data Analyst



Dr Cornelia Zeisser

Site Directors

Dr Cindy Hardy University of Northern British Columbia, Psychology

Dr Reid Webster

Thompson Rivers University, Psychology/Centre for Excellence in Addictions Research



Dr Cindy Hardy

Collaborating Scientists

Dr Gordon Barnes

Professor, School of Child and Youth Care, University of Victoria

Dr Jeffrey Brubacher

Emergency Physician and Researcher, Vancouver General Hospital

Dr Jane Buxton

Physician Epidemiologist, BC Centre for Disease Control, and Associate Professor, School of Population and Public Health, University of BC

Dr Cameron Duff

Research Lead, Youth Addiction Services, Vancouver Coastal Health, and Clinical Assistant Professor, Department of Health Care and Epidemiology, University of BC

Dr Clay Holroyd

Associate Professor, Department of Psychology, University of Victoria

Dr Bonnie Leadbeater

Co-Director of the BC Child and Youth Health Research Network

Dr David Marsh

30b Clinical Associate Professor, Health Care & Epidemiology, and Psychiatry, Providence Health Centre

Dr Eric Roth

Professor, Department of Anthropology, University of Victoria

Dr Amy Salmon

Coordinator, Sheway, Vancouver Coastal Health

Dr Gerald Thomas

Canadian Centre on Substance Abuse



Dr Gordon Barnes



Dr Jane Buxton



Dr Clay Holroyd



Dr Bonnie Leadbeater



Dr David Marsh



Dr Eric Roth



Dr Amy Salmon



Dr Gerald Thomas

Research Affiliates

Katherine Andersen-Schokalsky

Psychiatrist, Vancouver Island Health Authority, and Seven Oaks Tertiary Care Facility, Victoria, BC

Dr Robinder Bedi

Assistant Professor, Department of Educational Psychology, University of Victoria

Dr Susan Boyd

Professor, Studies in Policy and Practice, University of Victoria

Dr David Brown

Research Scientist and Senior Project Manager, Mental Health and Addictions Services, Provincial Health Services Authority

Mr Philippe Lucas

Victoria City Councillor, CARBC Research Affiliate

Mr Dean Nicholson

Administrator/Counsellor, East Kootenay Addiction Services

Dr Ingrid Pacey

Psychiatrist, Private Practice, Vancouver, BC

Dr Diane Rothon

Physician, former Chief Coroner of BC

Dr. Erica Woodin

Assistant Professor, Department of Psychology, University of Victoria

Graduate Students

Travis Baker

Department of Psychology, University of Victoria

Lynne Belle-Isle

Department of Sociology & School of Nursing, University of Victoria

Kristina Brache

Department of Psychology, University of Victoria

Connie Carter

Department of Sociology, University of Victoria

Lauren Casey

Department of Sociology, University of Victoria

Michelle Coghlan

Department of Sociology, University of Victoria

Andrew Ivsins

Department of Sociology, University of Victoria

Miranda Kelly

Public Health & Epidemiology, University of BC

Alvaro Leal

School of Health Information Sciences, University of Victoria

Jiesu Luo

Department of Educational Psychology & Leadership Studies, University of Victoria (to September 2010)

Anna Maruyama

School of Health Information Sciences, University of Victoria

Warren Michelow

Department of Health Care and Epidemiology, University of BC



Lvnne Belle-Isle



Kristina Brache



Connie Carter





Andrew lysins



Trudy Norman



Lisa Ordell

Trudy Norman

Department of Interdisciplinary in Nursing and Anthropology, University of Victoria

Lisa Ordell

Department of Sociology & School of Nursing, University of Victoria

Rachel Phillips

Department of Sociology, University of Victoria

Lisbet Rygnestad

School of Nursing, University of Victoria

Laurel Sakaluk-Moody

Department of Human Ecology, University of Victoria

Kimberly Sharpe

Social Dimensions of Health Program, University of Victoria

Alina Sotskova

Department of Sociology, University of Victoria

Camille Stengel

Department of Sociology, University of Victoria

Amanuel Tesfamichael

School of Health Information Sciences, University of Victoria

Kara Thompson

Department of Psychology, University of Victoria

Rachel Phillips



Lisbet Rygnestad



Kimberly Sharpe



Camille Stengel



Kara Thompson



Victoria Emberley

Undergraduate Students

Victoria Emberley

Mathematics and Statistics, University of Victoria

Sonya Ishiguro

Biology, University of Victoria

Nichole Williams

Department of Psychology, University of Victoria

COLLABORATING CENTRES

British Columbia:

Centre for Applied Research in Mental Health and Addiction, Simon Fraser University Centre for Social Responsibility, Simon Fraser University

National Institute for Research in Sustainable Community Development, Kwantlen University College

Other Parts of Canada:

Canadian Centre on Substance Abuse, Ottawa

Centre for Addiction and Mental Health, Public Health and Regulatory Policy Division, Toronto

International:

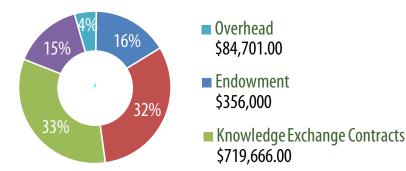
Alcohol and Drug Abuse Research Unit, Medical Research Council, Cape Town, South Africa Alcohol Research Group, National Alcohol Research Center, Berkeley, CA, USA Prevention Research Center, Pacific Institute for Research and Evaluation, Berkeley, CA, USA National Drug Research Institute, Curtin University, Perth, W.A., Australia

Income for 2010/2011

The chart below identifies our major sources of income during the 2010/2011 fiscal year. We were allowed to borrow \$356,000 from the University of Victoria to be paid back once the CARBC endowment fund had recovered from the recession. This has recently been paid back. Total revenue for the fiscal year was \$2,188,779, which represented an increase over the previous year. There was increased funding for both Knowledge Exchange contracts and Grant Competitions from the previous year.

CARBC 09/10 Revenue Summary

- Grant Competitions \$698,746.82
- Research Contracts \$329,665



KEY RESULTS AREA

"To build research infrastructure and capacity across BC for the conduct of research that will increase understanding and support more effective responses to substance use."

HIGHLIGHTS

The past year was both the most challenging and successful from the point of view of accessing financial support. For the second year in a row, we were unable to receive core funding from our CARBC endowment and instead were required to make a repayable loan from the University to cover our operating costs. Furthermore, contract research from government agencies became more competitive. Despite these challenges, collectively CARBC won \$1.87 million in competitive grants and \$1.47 million in contracts, more than in any previous year. We were, however, disappointed to miss out on a major national research contract to implement our BC alcohol and other drug monitoring surveys of high-risk populations in up to 14 cities across Canada. While our bid was scored as almost perfect, we were not awarded the contract on the basis of the technical issue regarding third-party liability insurance provided by the University. Of most importance, the CARBC team grew significantly during the 2010/2011 year, with more faculty, post-doctoral fellows and graduate students engaged in relevant research and knowledge exchange projects. We were extremely fortunate to be able to welcome Drs. Bernie Pauly (Nursing), Jinhui Zhao (Epidemiology) and Chris Auld (Economics) as CARBC Scientists. The number of CARBC graduate students, both at the University of Victoria and other BC universities engaged in substance use related research under the supervision of CARBC faculty, increased to 22 while we were also able to create three post-doctoral fellow positions.







Dr Jinhu Zhao



Dr Chris Auld

Successful applications to funding competitions

Alcohol Outlet Privatization: The British Columbia Experiment.

National Institutes of Alcohol Abuse and Alcoholism, \$105,000 from June 2010 to May 2012

Cannabis and Motor Vehicle Crashes: A Multicentre Culpability Study.

Canadian Institutes of Health Research, \$910,000 from June 2011 to May 2016

Does minimum pricing reduce the burden of disease and injury attributable to alcohol? An evaluation of the public health impact of changes to minimum liquor prices in different Canadian provinces.

Canadian Institutes of Health Research, \$394,686 from April 2010 to March 2013

Drug Impaired Driving: Evaluating the Threat to Traffic Safety. Michael Smith Foundation of Health Research, \$655,000 from July 2011 to June 2019

Evidence and action in public health: Learning from research and practice.

Canadian Institutes of Health Research, \$99,000 from January 2011 to December 2011

Exploring family care work at the end of life.

Canadian Institutes of Health Research, \$10,000 from April 2010 to March 2011

Factors affecting community acceptance of programs aimed at preventing HIV/AIDS associated with injection drug use.

CIHR HIV/AIDS CBR Program - General Catalyst grant. Canadian Institutes of Health Research, \$32,041 from April 2010 to March 2010

Fostering cultural safety in nursing practice with people experiencing problematic substance use.

Michael Smith Foundation for Health Research, \$169,965 from January 2011 to January 2013

Interventions to promote health and healthy equity for pregnant and early parenting women facing substance use and other challenges.

Canadian Institutes of Health Research, \$117,224 from November 2010 to November 2012

Protection for All: Sex Industry Health, Safety, and **Human Rights.**

Canadian Institutes of Health Research, \$50,000 from June 2010 to July 2011

Rapid Evidence Review.

BC Mental Health Society Branch, \$7,009 from August 2010 to October 2010

Reducing health inequities: The contribution of core public health programs in British Columbia. CIHR

Programmatic Grants in Health and Health Equity, \$15,000 from 2010 to 2011.

Responding to HIN1 in the context of the homelessness crisis in Canada.

CIHR, \$99,975 from April 2010 to March 2011.

Contests of vulnerabilities, resiliencies and care among people in the sex industry.

Canadian Institutes of Health Research, \$10,000 from November 2010 to April 2012

Commissioned contracts won

Alcohol aetiologic fractions for Emergency Department populations.

National Drug Research Institute, \$106,000 from May 2010 to March 2011

AME Training and Evaluation.

Ministry of Children and Family Development, \$33,000 from May 2010 to March 2011

BC Alcohol and Other Drug Monitoring Project.

BC Mental Health Foundation, \$50,000 from April 2010 to March 2011

BC Partners.

BC Mental Health Society Branch, \$243,750 from April 2010 to March 2011

Curriculum materials for a drug education program.

Delisle Youth Services, \$20,000 from February 2011 to May 2011

iMinds Supplement.

BC Mental Health Society Branch, \$180,000 from August 2010 to March 2012

Kelty Resource Centre.

BC Mental Health Society Branch, \$2,250 from June 2010 to March 2011

Monitoring harmful substance use in British Columbia.

BC Mental Health Society Branch, \$100,000 from August 2010 until March 2012.

National Awards (2010-2011).

Kaiser Foundation, \$20,000 from September 2010 to March 2011

Preventing Problematic Substance Use.

Ministry of Healthy Living and Sport, \$335,000 from April 2010 to March 2011

Substance Impaired Driving.

Health Canada, \$375,025 from April 2010 to March 2013

Performance Indicators for Key Result Area 1

OBJECTIVE

PERFORMANCE INDICATORS FOR 2010-2011



Achieve increased funding for addictions research in BC.

- New funding received in 2010-11 from applications involving CARBC faculty and students: (a) \$1,689,416 from national and international peer-reviewed grant competitions (\$1,018,306 in 2009-10, \$1,160,903 in 2008-09, \$350,518 in 2007-08, \$473,000 in 2006-07), (b) \$176,974 from BC grant competitions (\$85,000 in 2009-10, \$296,700 in 2008-09, \$118,671 in 2007-08, \$111,000 in 2006-07), and (c) **\$1,465,025** from contract research (\$609,800 in 2009-10, \$255,500 in 2008-09, \$835,850 in 2007-08, \$462,000 in 2006-07)
- Increase funding applications for long-term research programs addressing research areas of high priority in BC.
- Research funding competitions 16 (10 successful, 15 in 2009-10, 11 in 2008-09, 7 in 2007-08)
- Contracts/commissions: **13** (**11** successful, 11 in 2009-10, 8 in 2008-09, 8 in 2007-08)
- Achieve successful collaborations with researchers and community partners.
- 21 new projects with collaborators external to CARBC (11 in 2009-10, 11 in 2008-09, 18 in 2007-08, 17 in 2006-07)
- 8 new researchers with relevant expertise introduced to addictions research (11 in 2009-10, 7 in 2008-09, 2 in 2007-08, 2 in 2006-07)
- Attract and retain high quality researchers from a broad range of disciplines.
- 12 UVic faculty, staff and CARBC site directors with PhD's (11 in 2009-10, 11 in 2008-09, 9 in 2007-08, 9 in 2006-07)
- 3 post-doctoral fellows at CARBC (0 in 2009-10, 0 in 2008-09, 0 in 2007-08, 1 in 2006-07)
- Attract high quality students from a broad range of disciplines.
- 22 graduate students under CARBC supervision working on addictions-related topics (15 in 2009-10, 11 in 2008-09, 12 in 2007-08, 6 in 2006-07)
- Provide training opportunities and programs for the development of additional research skills among CARBC staff, students and

affiliates.

- 8 national/international conferences for junior research staff (19 in 2009-10, 9 in 2008-09, 2 in 2007-08, 2 in 2006-07)
- 9 CARBC research staff attended statistics courses (7 in 2009-10, 5 in 2008-09, 2 in 2007-08, 3 in 2006-07)
- Contributions to 13 graduate research training programs within UVic (6 in 2009-10, 11 in 2008-09, 4 in 2007-08, 4 in 2006-07)
- Contributions to 5 graduate research training programs at other campuses
- Provide mentorship to new and existing researchers across a range of community settings.
- 11 new drug and alcohol researchers working on CARBC projects under supervision (10 in 2009-10, 2 in 2008-09, 5 in 2007-08, 5 in 2006-07)
- Improve access to datasets and platforms for addiction researchers.
- Continued development of a BC-wide alcohol and other drug epidemiological monitoring platform.

Support provincial, national and international research capacity through editorial and peer review activities.

- Peer review of articles submitted to journals and grant proposals.
- CARBC faculty hold 12 editorial positions with Addiction, Drug and Alcohol Review (Australia), Drugs: Education, Prevention and Policy (UK), Canadian Journal of Criminology, Substance Use and Misuse, Visions: BC's Mental Health and Addictions Journal, Substance Abuse: Research and Treatment, Alcohol and Drug Abuse (Poland), Addictions (Spain), Mental Health (Mexico), Journal of Addiction, and Nursing

KEY RESULTS AREA

"To conduct high quality research that increases understanding of substance use and addiction and informs effective responses."

HIGHLIGHTS

There are a number of themes and topics that emerge from the wide range of multidisciplinary collaborative projects undertaken by CARBC faculty and affiliates, ranging from theoretically driven research concerned with the neuroscience bases of addictive behaviors through studies of various kinds of intervention and investigations of the social determinants of substance use and related harms. One strong theme concerns the role of substance use in the health and welfare of pregnant women, mothers and their children. Dr. Cecilia Benoit has been widely recognized and awarded for her work drawing attention to the special needs of pregnant women and mothers of young children among vulnerable populations with high rates of substance use. Her work contributed to substantial new funding and services for these populations in the City of Victoria and Cecilia and colleagues are beginning to undertake evaluations of these new programs. Dr. Cindy Hardy, CARBC Site Director for the University of Northern British Columbia, has also been actively participating in projects designed to prevent fetal alcohol spectrum disorders in rural BC populations. Another theme relates to cannabis use, health and well-being. In 2010/2011, post-doctoral fellow Dr. Connie Zeisser and co-authors published concerning a new survey method for quantifying amounts of cannabis smoked or consumed in different ways in terms of "standard joints" and relating these to social and health harms experienced. CARBC affiliate and Board member Philippe Lucas has also been actively engaged in studies to evaluate impacts of medicinal cannabis use on patterns of other substance use, health and well-being. CARBC affiliate and UBC medical researcher Dr. Jeff Brubacher and colleagues have initiated an investigation into the role of cannabis combined with alcohol on the risk of road crashes. Research on the effects of central nervous system depressant drugs such as alcohol and benzodiazepines in combination with stimulants such as cocaine, amphetamine and "energy drinks" has continued to be undertaken by Drs. Scott Macdonald and Cheryl Cherpitel as well as CARBC graduate student Kristina Brache. The BC Alcohol and Other Drug Monitoring Project has continued to be a fruitful resource for a range of studies evaluating the impacts of different natural policy experiments ranging from the privatization of the BC liquor market, the intermittent adjustments of minimum liquor prices and the provision of needle distribution services. Research into the epidemiology of substance use has also been a major feature, including an international collaboration funded by the US National Institutes for Health exploring methodological and design features of studies purporting to demonstrate health benefits for the consumption of alcohol in moderation, e.g., for the prevention of dementia, stroke, heart disease and a range of other serious conditions. Another emerging theme under the leadership of new CARBC Scientist Dr. Bernie Pauly has been the management of substance use issues among people suffering homelessness. In collaboration with Dr. Tim Stockwell, she also began to explore the effectiveness of managed alcohol programs for individuals in need of supportive housing who also suffer from chronic alcohol dependence.

RESEARCH PRIORITY 1:

SUBSTANCE USE PATTERNS AND RELATED HARMS

CARBC PROJECTS

Alcohol and Cocaine Simultaneous Polysubstance Use: A Qualitative Investigation

Investigators: Brache, K., Stockwell, T. & MacDonald, S.

Funding Body: IMPART Training Fellowship and Michael Smith Foundation for Health Research

Background: This project is a qualitative investigation into the patterns, contexts, functions, harms and risk taking behaviours associated with the simultaneous use of alcohol and cocaine. This Masters project investigates whether the age of initiation of alcohol, tobacco and marijuana each predict simultaneous polysubstance use.

Progress to date: Masters thesis successfully submitted, presentation at international conference, and a journal article accepted for publication.



Kristina Brache, Graduate Student

Is there a "low-risk" drinking level for youth? The harm associated with adolescent drinking patterns

Investigators: Thompson, K. (Masters thesis) & Stockwell, T. (Supervisor)

Funding Body: Michael Smith Foundation for Health Research

Background: Significant proportions of Canadian youth are consuming alcohol above the current low-risk drinking guidelines for adults and are at significant risk of harm. However, little is known about the harms experienced by youth consuming alcohol within the low-risk drinking guidelines. The objective of this study is to contribute to discussions about how great the risk of harm is for youth at different drinking levels, specifically at low frequency and quantity levels, relative to abstainers. Is there a threshold of risk for harm?

Progress to date: Masters thesis submitted, a paper presented at an international conference and now being prepared for submission to a journal.



Kara Thompson, Graduate Student

Alcohol Aetiologic Fractions for Emergency Department Populations

Investigators: Stockwell, T. (PI), Chikritzhs, T., Zeisser, C. & Gardner, C.

Funding Body: National Drug Research Institute

Background: This is a collaborative project with the National Drug Research Institute in Australia. The aim is to estimate the proportion of emergency room attendances for injury outcomes which are causally related to alcohol consumption in economically developed countries like Canada and Australia. Furthermore, a methodology will be developed to support epidemiological monitoring of alcohol and its(?) contribution to ER attendances in different jurisdictions. CARBC's contribution to the project is the conduct of a meta-analysis of well designed studies published in the international literature which quantify the risk relationship between level of drinking and changing risk of injury.

Progress to date: The final report has been completed and a journal paper is under preparation.

BC Alcohol and Other Drug Monitoring Project: Implementation Phase

Investigators: Stockwell, T. (PI), Macdonald, S., Vallance, K., Martens, L., Fisher, K., Ivsins, A., Michelow, W., Puri, A., Rehm, J., Duff, C., Chow, C., Marsh, D., Buxton, J., Tu, A., Saewyc, E., Smith, A., Richard, K., Corrado, R. & Cohen, I.

Funding Body: BC Mental Health Society Branch, BC Ministry of Health, BC Ministry of Healthy Living and Sport, Northern Health Authority and Vancouver Coastal Health

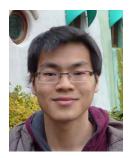
Background: CARBC was awarded a contract from PHSA and Health Canada to pilot a comprehensive alcohol and other drug epidemiological monitoring system for Canada. This is now being fully implemented in BC and elements of the program are also being implemented in other Canadian provinces.

Progress to date: Full implementation of the monitoring system is underway involving multiple data collection components and regular reports on the project website: www.AODmonitoring.ca. A new contract for continuing this work has been negotiated with BC Mental Health and Addiction Services.









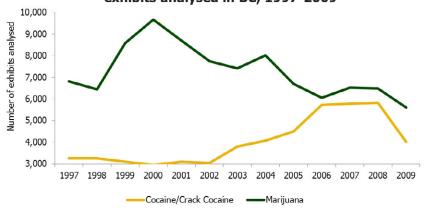
Kate Vallance

Clifton Chow

Andrew Ivsins

Andrew Tu

Number of marijuana and cocaine/crack cocaine exhibits analysed in BC, 1997-2009



Alcohol, Drug Use and Injury in the Emergency Department

Investigators: Cherpitel, C.J. (PI), Brubacher, J., Macdonald, S., Stenstrom, R. & Grafstein, E.

Funding Body: Canadian Institutes of Health Research

Background: This is a study of alcohol and other drug use and injury in two Emergency Departments in Vancouver, BC, funded through the Canadian Institutes of Health Research's New Emerging Team grant.

Progress to date: Data collection and analysis have been completed. The results were used in a funding application, a conference presentation, and are now being prepared for a paper to be submitted shortly for publication.

Alcohol and Energy Drinks: Patterns of Use and Risk Behaviours

Investigators: Brache, K. & Stockwell, T.

Funding Body: Canadian Institutes of Health

Background: In recent years, there has been an increasing tendency to combine alcohol with "energy drinks" and there is increasing concern about health and safety consequences. Using a web-based survey completed by over 400 UVic students, data have been collected regarding the prevalence of combining these two kinds of drinks, prices paid, context of use, patterns and levels of use, risk behaviours and harms. The specific research hypotheses being tested are (i) when combining with energy drinks, people will usually consume more alcohol, (ii) when controlling for amount and frequency of alcohol consumption, combining with energy drinks increases risk behaviours and harm.

Progress to date: A paper was presented at an international conference and is being prepared for submission to a journal. In addition, a special CARBC report is being prepared reviewing the regulatory status as well as patterns of use in this university population.

Patterns and Consequences of Cocaine and Alcohol Use for Treatment Clients

Investigators: Macdonald, S. (PI), Borges, G., Callaghan, R., Roth, E., Salmon, A., Stockwell, T. & Wells, S.

Funding Body: Canadian Institutes of Health Research

Background: Research has shown that treatment populations frequently use alcohol and cocaine simultaneously (i.e., on the same occasion) and concurrently (i.e., on separate occasions). The aims of this study are twofold: 1) to describe the patterns, functions and contexts of alcohol and cocaine use among treatment clients, and 2) to identify acute and long-term differences among the three groups defined by their primary use of alcohol alone, cocaine alone or simultaneous use of cocaine and alcohol. Gender and sex differences will be examined among these aforementioned dimensions. Groups of treatment clients who primarily use cocaine alone (n=200), alcohol alone (n=200) or cocaine and alcohol simultaneously (n=200) will complete a self-administered questionnaire.

Progress to date: Initial data collection has begun at the Bellwood Institute in Toronto, and the proposal is currently under review by the Niagara Health System for proposed data collection in New Port Treatment Centre. Negotiations are underway with treatment agencies in BC as additional sites for data collection.

Quantifying Cannabis Consumption: The predictive validity of "standard joint" survey measures

Investigators: Zeisser, C., Thompson, K., Stockwell, T., Duff, C., Marsh, D., Lucas, P. & Michelow, W.

Funding Body: Canadian Institutes of Health

Background: Because of difficulties with comparing amounts of cannabis used by different means of administration, much previous research has restricted analysis of health and safety outcomes to frequency of cannabis use. Given that some users only have small amounts and with some frequency, a scale was developed which took account of survey respondents' preferred metric for quantity consumed in terms of either joints, puffs, bong or pipe hits, or grams. Using data collected from over 600 cannabis users from the BC alcohol and other drug monitoring high-risk population surveys, the purpose of this project was to examine the predictive validity of quantity of cannabis use per day in relation to measures of harm and risk behaviours.



Connie Zeisser, Data Analyst

Progress to date: A paper was presented at the 35th Annual Symposium of the Kettil Bruun Society in Lausanne, Switzerland, and has been accepted for publication in Addiction Research and Theory.

CARRC AFFILIATED PROJECTS

Driving Under the Influence of Drugs

Investigators: Brubacher, J., Schreiber, W., Martz, W., Fang, M., Wilson, J. & Purssell, R.

Funding Body: BC Mental Health and Addictions Research Network, and Transport Canada

Background: Alcohol impairment has been convincingly demonstrated to increase the risk of car crashes. Marijuana use is known to adversely affect the skills required for safe driving, but the role of marijuana intoxication in causing motor vehicle crashes is less well demonstrated. This planned project will further define the contribution of marijuana and other drug use to car crashes causing injury.

Progress to date: Pilot data have been collected on 56 injured drivers and were presented in abstract form at the 2009 Annual Scientific Meeting of the Canadian Association of Emergency Physicians. Additional grant funding has been applied for to continue the project.

Cannabis and Motor Vehicle Crashes: A Multicentre Culpability Study

Investigators: Brubacher, J., Asbridge, M., Brant, R., Mann, R., Martz, W., Andolfatto, G., Bryan, S.,

Drummer, O., Macdonald, S., Purssell, R. & Schreiber, W.

Funding Body: Canadian Institutes of Health Research

Background: Marijuana is the most commonly used illicit drug in Canada and many drivers, especially young adults, report driving after using marijuana. Although there is abundant experimental evidence that marijuana, either alone or in combination with alcohol, impairs the skills required for safe driving, real world data on the contribution of marijuana to car crashes is mixed. This uncertainty hinders the ability of traffic safety policymakers to develop effective evidence-based traffic laws or road safety campaigns targeting people who drive while impaired by marijuana. The primary objective of the study proposed here is to determine whether injured drivers who used marijuana before a car crash are more likely to have caused the crash than those who did not. Our aim is to improve traffic safety by providing current North American data that can be used to inform the development of evidence-based road safety policy targeting people who drive while impaired by marijuana.

Progress to date: Initiating data collection.

Meta-Analysis Systematic and Design Errors: Alcohol Use and Disease Outcomes

Investigators: Fillmore, K. (PI), Chikritzhs, T., Gardner, C. & Stockwell, T.

Funding Body: National Institutes of Health

Background: This is a collaborative work led by Dr. Kaye Fillmore from the University of California, San Francisco campus. It is funded by a prestigious Challenge Grant from the US National Institutes of Health for a two-year period. It involves the application of a methodology for critiquing the alcohol epidemiological literature positing a relationship between moderate alcohol consumption and protection against coronary heart disease to a wider range of disease conditions. The critique suggests some designs lead to an exaggeration of health benefits or even the appearance of false/non-existent health benefits. Surprisingly, there are a number of longitudinal studies published which suggest such protection against conditions alcohol is known to cause, e.g., liver cirrhosis and various cancers. A series of measure analyses will be conducted to explore design flaws in studies which do or do not suggest moderate drinking provides health benefits in relation to biologically implausible conditions such as cancer and some strokes.

Progress to date: Substantial progress has been made and two papers have been prepared for publication, one concerning alcohol as a protective factor for stroke and the other in relation to dementia.

Cross-National Analysis of Alcohol and Injury

Investigators: Cherpitel, C. (PI)

Funding Body: National Institutes of Alcohol Abuse and Alcoholism

Background: The study consists of a cross-national analysis of Emergency Departments from 25 countries for analysis of alcohol and injury.

Progress to date: Data have been merged to date from ER studies covering 38 ER sites across 18 countries for continuing analysis of the Emergency Room Collaborative Alcohol Analysis Project and the WHO Collaborative Study on Alcohol and Injury (ERCAAP/WHO) merged dataset.

Individual Differences in Substance Abuse and Addiction: At the Intersection of Brain, Cognition, Genetics and Personality

Investigators: Holroyd, C. (PI), Baker, T., Barnes, G., McLeod, P. & Stockwell, T.

Funding Body: Canadian Institutes of Health

Background: Why is it that only some people who use drugs actually become addicted? Can sufficient exposure to substances of abuse cause anyone to become dependent, or do addicts simply lack the will power to resist? All addictive drugs act on a neural system for reinforcement learning called the midbrain dopamine system, which projects to and regulates the brain's system for cognitive control, called the frontal cortex. Further, the development and expression of the dopamine system is determined in part by genetic factors that vary across individuals, such that dopamine-related genes are partly responsible for addiction proneness. We have recently found that young adults who are dependent on substances of abuse produce an abnormal brainwave response to reinforcing events and that they behave abnormally on a decision-making task that is diagnostic of dopamine dysfunction. In this project, we propose to conduct a series of experiments that will investigate whether this atypical brain response is 1) associated with abnormal reinforcement learning, 2) elicited by drug rewards, 3) present in adolescence even before acute drug use, and 4) associated with genes that code for the expression of the dopamine system. In so doing, we hope to tease apart biological, cognitive and personality-related factors underlying substance abuse that will be amenable to treatment.

Progress to date: One study has been completed and a paper has been accepted for publication in *Addiction Biology* (a journal with the highest citation index in the addictions field). Data collection for a large genetics study has been completed and several publications are planned. A study in a large private treatment facility is underway which will examine changes in neuropsychological responses during a period of several weeks' abstinence.

RESEARCH PRIORITY 2: EDUCATIONAL, LEGISLATIVE AND REGULATORY STRATEGIES

CARBC PROJECTS

Does minimum pricing reduce the burden of injury and illness attributable to alcohol?

Investigators: Stockwell T. (PI), Giesbrecht, N., Meier, P., Brennan, A. & Macdonald, S.

Funding Body: Canadian Institutes of Health Research

Background: The central hypothesis underlying these studies is that restricting the availability of cheap alcohol is an effective strategy to prevent and reduce many kinds of alcohol-related harm. The following linked questions are addressed: How is the price paid for alcohol in Canada related to gender, age, level of drinking and experience of alcohol-related problems? How effective have Canadian minimum pricing regulations been at reducing alcohol consumption and the related burden of disease and injury? How would alternative minimum pricing regulations impact on the burden of disease and injury from alcohol in a Canadian jurisdiction? The research program aims to move alcohol research and policy debates beyond the broad non-specific objective of raising the price of alcohol (e.g., Babor et al, 2003) to a focused examination of a strategy likely to be more targeted to public health and safety problems caused by excessive alcohol consumption.

Progress to date: Two meetings of the international collaborating group have occurred while attending other conferences in Lausanne, Switzerland and at CAMH, Toronto in September 2010. A paper has been prepared for submission to a high impact journal demonstrating the effectiveness of minimum pricing policies in BC over the past 20 years. A similar paper is in preparation for Saskatchewan, which last year introduced the largest increase in minimum pricing perhaps ever in Canada.

Median and lowest prices paid for different substances by illicit drug users (Total n=1606) and equivalent amounts estimated for single and 5+ standard dose occasions

Drug type	Median prices paid	Median prices for a standard dose	Range of prices for a standard dose	Lowest prices for heavy use occasion (= 5+ doses)
Alcohol (store price data)	\$3.25 per SD	\$3.25	\$0.58 to \$994	\$2.90
Cannabis (n=888)	\$7.50 per g	\$1.87	\$1.07 to \$2.50	\$5.35
Ecstasy (n=306)	\$7.50 per tablet	\$3.75	\$1.25 to \$6.25	\$6.25
Crack (n=507)	\$80 per g	\$6.00	\$2.57 to \$7.50	\$12.85
Cocaine (n=602)	\$70 per g	\$7.00	\$3.33 to \$10	\$16.67
Crystal Meth (n=228)	\$100 per g	\$10	\$4.00 to \$20	\$20
Heroin (n=331)	\$200 per g	\$20.00	\$8 to \$20	\$40

Source: Stockwell et al, CARBC Statistical Bulletin #7

The Public Health Impact of the Partial Privatization of British Columbia's Government Alcohol Retail Monopoly, 2001-2007

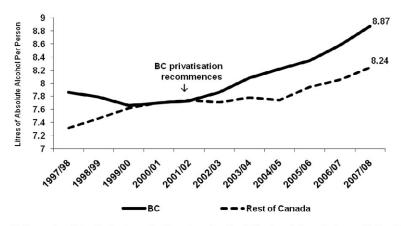
Investigators: Stockwell, T. (PI), Zhao, J., Macdonald, S., Gruenewald, P. & Holder, H.

Funding Body: Canadian Institutes of Health Research and CARBC Endowment

Background: British Columbia's government retail alcohol monopoly has been gradually privatized in recent years with a 6.3% reduction in monopoly stores and a 44.8% increase in private liquor stores. Over the same period, per capita alcohol sales per person aged 15 and over increased from 7.72 litres to 8.23 litres (+6.6%). Two hypotheses were tested regarding the observed increase in alcohol sales in BC: (i) this was due to an increase in density of liquor outlets, (ii) this was due to an increasing proportion of stores being private. The BC Liquor Distribution Branch provided data on litres of ethanol sold through different types of outlets in 28 regions of the province by beverage type. Multilevel regression analyses have been conducted to test this hypothesis. A second set of analyses examined the impact of increasing public density on rates of alcohol-related death.

Progress to date: Two papers have been published in the journal *Addiction*, one finding significant impact of the increase in private liquor stores alcohol consumption and the second on increase in alcohol-related mortality in association with privatization. The project also led to a successful funding application to the US National Institutes of Health to continue this line of research.

Per capita 15+ absolute alcohol consumption, BC and rest of Canada for 1997/98 to 2007/08



NB: Liquor sales obtained for fiscal years (i.e. 12 months ending March 31) and population estimates as of 1 July within

Source:

Alcohol Outlet Privatization: The British Columbia Experiment

Investigators: Treno, A., Martin, A., Gruenewald, P., Macdonald, S. & Stockwell, T.

Funding Body: National Institutes of Alcohol Abuse and Alcoholism

Background: This international collaborative project led by the Prevention Research Center of the Pacific Institute for Research and Evaluation involves a detailed examination of the public health and safety impacts of the partial privatization of the BC liquor market since 2000. Additional data will be collected regarding variations in drink prices as a consequence of partial privatization and variations in health and crime outcomes in different parts of the province over time as they relate to changing outlet densities and patterns of sales.

Progress to date: A survey of liquor prices has been drafted for approval by the Ethics Committee. A statistical bulletin and one journal article have been published. A comprehensive dataset is being prepared for further analysis.

RESEARCH PRIORITY 3: COMMUNITY-BASED PREVENTION PROGRAMS

CARBC PROJECTS

Factors Affecting Community Responses to the Prevention of HIV/AIDS Associated with Injection Drug Use

Investigators: Pauly, B. (PI), Benoit, C., Jansson, M., Reist, D. & Salmon, A.

Funding Body: Canadian Institutes of Health Research

Background: The overall goal of this research project is a preliminary investigation of social, political, historical and economic factors that constrain and facilitate the implementation of services for prevention of HIV/AIDS, particularly needle exchange services (NES), within the broader Canadian social context. We are examining the current sociopolitical context of NES in Victoria as an exemplar for identifying and examining facilitating and constraining factors. The case study will examine the current socio-political context of NES to identify factors that facilitate and constrain the implementation of HIV prevention initiatives.

Progress to date: A primary activity of this project was to conduct a discourse analysis of media related to portrayals of drug use, drug users and needle exchange services. To date, local media has been searched and entered into NVIVO. Using principles of critical discourse analysis, three dominant discourses related to contamination, costing of harm reduction, and moral order and rights were developed. Currently, the focus is on the development of two publications from this work.

Fostering Cultural Safety in Nursing Practice with People Experiencing Problematic Substance Use

Investigators: Pauly, B., MacCall, J. & Browne, A.

Funding Body: Michael Smith Foundation for Health Research

Background: People experiencing substance use problems often face difficulties in accessing and using healthcare services because of stigma and discrimination associated with drug use and poverty. Healthcare providers, including registered nurses, often report difficulties providing care in such situations, and individuals with problematic substance use often report very negative experiences with healthcare. As a result, people who use substances may delay, discontinue or avoid seeking healthcare, resulting in increased costs to the healthcare system. Cultural safety is a framework for practice that has been used successfully in other settings for delivery of care to marginalized populations. However, it has not been examined in the nursing care of people with substance use problems. The purpose of this project is to generate new knowledge that will foster understanding of what constitutes safe nursing care in acute care settings for people who are experiencing problematic substance use and social disadvantage.

Progress to date: Recently, we received ethical approval for this study. Both a nurse and patient advisory group have been established. Together with acute care nurses and people who use drugs in the community, we have developed the qualitative interview guides. Initial data collection has begun on two acute care units in a large urban hospital.

Housing and Harm Reduction: A Policy Framework for Greater Victoria

Investigators: Pauly, B., Reist, D., Schactman, C. & Belle Isle, L.

Funding Body: Greater Victoria Coalition to End Homelessness (GVCEH)

Background: While harm reduction is a key principle of Housing First programs, there is a paucity of work that integrates harm reduction into a policy framework for ending homelessness. The purpose of this project was to develop a policy framework for Greater Victoria that would integrate harm reduction as part of a comprehensive approach to end homelessness. A literature review and cross-jurisdictional review of policies and practices was conducted to generate insights for the development of the policy framework.

Progress to date: This paper was presented to the GVCEH and City of Victoria in January, 2011. Subsequently, the paper was adopted by both organizations to guide policy. The paper was presented at the Canadian Public Health Association Annual Conference and one paper for publication is in development.

Staying Safe in Vancouver: Identifying Strategies by Long-Term Injection Drug Users to Avoid HIV and HCV Infection.

Investigators: Salmon, A. (PI), Buxton, J., Pauly, B., Snow, M., Friedman, S., Meteau Gelebert, P. & Money, D.

Funding Body: Canadian Institutes of Health Research

Background: While much is known about the factors which increase risk for both infections among injection drug users, relatively little is known about the life circumstances or prevention practices that are associated with remaining uninfected despite long and sustained periods of injection drug use. Research on HIV non-infection has to date focused on biological mechanisms that may promote resilience. However, significant gaps in knowledge exist regarding patterns of long-term behaviour and social interaction that can lead to strategies and practices of risk-avoidance. We will address this gap by comparing data from in-depth life history interviews with two groups of long-term injection drug users: people who have remained uninfected with neither HIV nor HCV and people who are co-infected with both HIV and HCV. The purpose of this study is to identify how some people who inject drugs have managed to avoid becoming infected with either HIV or HCV, in spite of having injected drugs for many years in a locality in which the majority of people who inject drugs have acquired HCV and a substantial minority have become infected with HIV.

Progress to date: In a review of several cohorts of people who inject drugs in Vancouver, the prevalence of HIV and Hep C made it difficult to recruit individuals who were HIV and Hep C negative. This was particularly difficult given that a primary focus of this study was to understand the gendered context of injection drug use and HIV transmission. Multiple strategies for recruitment were employed. A final report and paper are under development to highlight the challenges of using cohort data and sampling challenges in an area with high rates of HIV and Hep C

"Sir Ringe" Program Evaluation

Investigators: Webster, R. (PI) & Stockwell, T.

Funding Body: BC Ministry of Health and Interior Health Authority

Background: The "Sir Ringe" program is designed to teach children and youth about "good" needles and "bad" needles. It was developed through the Interior Health Authority and has been piloted in Kamloops and several other small communities in BC. Dr. Reid Webster, CARBC Site Director with Thompson Rivers University, has worked with the Interior Health Authority and the BC Ministry of Health to develop the objectives and goals of the project. The program was delivered and evaluated during 2009 in two comparable communities: Vernon and Salmon Arm.

Progress to date: Data collection has been completed and the final report presented to funders.

Bringing It Home: Mental Health and Substance Use Policy for People Experiencing Homelessness.

Investigators: Pauly, B., Smye, V., Ostry, A., Lacombe, C., Flexhaug, M., Gessner, S., Atkley, J. & Siggner, R.

Funding Body: Canadian Institutes of Health Research

Background: The primary purpose of this grant is to bring together BC researchers and decision makers to inform and collaborate on the development of a full scale PHSI grant focused on key research priorities relevant to strengthening and integrating mental health services with homelessness intervention and prevention programs in BC. Mental health services were understood to be inclusive of mental health and substance use services for people experiencing homelessness. The objectives of the grant include a review of current evidence on mental health and homelessness from an intersectional perspective, identification of key research questions and priorities of decision makers, examination of applied research methodologies for addressing identified research questions, and development of partnerships between academic and decision maker partners.

Progress to date: Research priorities were identified by academic and decision maker partners through face-toface and teleconference meetings. A literature review was completed and provided the basis of a CIHR PHSI grant submission as well as a paper for publication. Based on identified priority research questions, applied research methodologies were reviewed and selected by the team for the development of the full proposal. Research partnerships were developed with BC Housing, Canadian Mental Health Association, British Columbia Non-Profit Housing Association and BC Ministry of Health's Mental Health and Addictions, and BC Office of Housing Policy.

Acting Together on Youth and Violence: Community-University Research Alliance (CURA)

Investigators: Bhatt, G., Tweed, R., Dooley, S. & Macdonald, S.

Funding Body: Social Sciences and Humanities Research Council of Canada

Background: Identify culturally relevant protective factors and youth strengths that help prevent involvement of youth in gang-related violence. Make recommendations to modify existing programs to better target the identified protective factors. Disseminate knowledge through training workshops for service and program agencies, as well as through ongoing community conversations and through academic, public and electronic media, including a website. Empower the community for evidence-based advocacy to influence law makers, policymakers and program funders. Improve the media images of our community and youth.

Progress to date: Reviews of the literature have been conducted, and first phase data collection of high-risk youth have been completed. Analyses are now underway.

Doing Good or Doing Harm? The Impact of FASD Diagnosis for Adult Women with Complex Lives

Investigators: Benoit, C., Down, J., Gerry, D. & Gerry, G.

Funding Body: Canadian Foundation on Fetal Alcohol Research

Background: The objective for this project is to: 1) estimate the impact of receiving a FASD diagnosis in adulthood on women's subsequent feelings of self-worth and empowerment, 2) gain insight into the quality of health and social services women diagnosed with FASD in adulthood use in the community, and 3) identify barriers to accessing primary medical care that is attentive to the needs of the targeted population.

Progress to date: The Healthy Steps Women's FASD Diagnostic and Assessment Clinic is a pilot clinic for women with possible FASD. The team plans to conduct individual interviews with the clinic population about the impact of a FASD diagnosis in adulthood, followed by focus group sessions with participants to seek their recommendations for changes in service delivery.



Daryl Charlie, Virginia Peters, James Leslie, John Anderson, Basia Pakula and Marg Hamilton

Community-Based Mental Health and Addiction Research Collaboration with Aboriginal Communities

Investigators: Anderson, J.F. (PI)

Funding Body: Centre for Applied Research in Mental Health and Addiction

Background: The objective for this project is to establish a community-based mental health and addiction research collaboration with an Aboriginal community. Through meetings and discussions with Aboriginal community leaders, the intent is to establish a list of community-focused research priorities for addressing the impact of hazardous alcohol use (i.e., binge drinking) on alcohol-related mental and physical health outcomes, including suicide, motor vehicle accidents, accidental poisonings, falls and fire-related mortality and morbidity, and liver cirrhosis.

Progress to date: Researchers have travelled to Chehalis, BC to establish a community action research collaboration with the Chehalis Indian Band.



James Leslie, Mara Andrews, Basia Pakula, Sonya Leon, Marq Hamilton, Virginia Peters, Leslie Schroeder, Miranda Kelly, Boyd Peters, John Anderson, Laurel Jebamani

FASD Action Fund Program Evaluation

Investigators: George, A., Hardy, C. & Clark, E.

Funding Body: Victoria Foundation

Background: The \$7 million Fetal Alcohol Spectrum Disorder (FASD) Action Fund administered by the Victoria Foundation provided grants to 22 demonstration projects, with the goal of preventing and improving care for FASDaffected children and youth and their families.

Progress to date: Ongoing to December 2011, with evaluation report in preparation stage.

RESEARCH PRIORITY 4: TREATMENT SYSTEMS AND PROGRAMS

CARBC PROJECTS

Patterns of Substance Use and Risk Behaviours among Injecting Drug Users in Victoria and Vancouver Before and After the Closure of Victoria's Fixed Site **Needle Exchange**

Investigators: Ivsins, A., Chow, C., Stockwell, T., Marsh, D., Duff, C., Macdonald, S. & Vallance, K.

Funding Body: BC Mental Health and Addiction Services, CIHR and Vancouver Coastal Health

Background: Amid much public debate, a fixed site needle exchange located in downtown Victoria and servicing a growing number of injecting drug users was closed following complaints of nuisance and disturbance by local residents and business people. Data from the BC high-risk monitoring surveys were analyzed to examine shifts in patterns of substance use and injection behaviour among adult injecting drug users in Victoria and Vancouver before and after the closure.

Progress to date: A sixth CARBC statistical bulletin reporting the results was prepared for public release in August 2010. The results suggest continuing concern about unsafe injection drug use in Victoria and also concern about high rates of use of crack cocaine use in both Victoria and Vancouver.







Clifton Chow



Kate Vallance

Evaluation of the BC Methadone Maintenance Treatment Program

Investigators: Parkes, T. (PI), Reist, D. & Stockwell, T. (Co-PIs)

Funding Body: BC Ministry of Healthy Living and Sport

Background: The Ministry has asked CARBC to evaluate the BC Methadone Maintenance Treatment Program (MMTP) and report back key findings and recommendations for improvement. The purpose and objectives of the evaluation were to examine MMTP systems and identify factors related to treatment access, retention, quality, effectiveness and inequalities, investigate the fiscal issues and accountabilities related to the MMTP, and summarize findings and make recommendations for improvement. The evaluation was conducted throughout 2008 and resulted in a comprehensive report for the BC Ministry of Health submitted in May 2009. A qualitative approach to gathering views from a wide range of stakeholders across the province, including methadone clients and consumers, was utilized.

Progress to Date: The report has been completed and has been circulated to interested parties. A summary report with key recommendations was published by the BC Ministry of Healthy Living and Sport.

HerWay Home Health Intervention Program

Investigators: Benoit, C., Marcellus, L., Anderson, J., Hallgrimsdottir, H. & MacKinnon, K.

Funding Body: Queen Alexandra Hospital Foundation, United Way of Greater Victoria, and a private donation

Background: This is a first-stage intervention that recently emerged in the capital regional district of Victoria, BC, to deliver better care to pregnant and early parenting women facing substance use, mental health and other life challenges. The HWHP involves a diverse network of health and social care professionals and grassroots organizations attempting to provide better continuity of care across the prenatal, birthing, postpartum and early parenting periods, and at the same time take action to reduce other determinants of health inequities. A donor has agreed to provide operating funds for the next five years to help move the HWHP from a virtual network to a full-fledged operation. The local health authority, government ministries and an array of community agencies have agreed to dedicate provider time and expertise. The HWHP provides a social laboratory to shed light on the strengths and weaknesses of collaboration at the initial stages of this primary healthcare intervention.

Progress to date: The research team is just beginning to gather qualitative and quantitative data on barriers to and facilitators of teamwork among the mix of providers, with the ultimate aim of developing a "primer" that articulates a shared conceptual framework based on the principles of health equity and social justice, as well as human resource strategies, to support the implementation of such principles. Applications have been made to CIHR for research support.

CARBC AFFILIATED PROJECTS

Quality of Service Assessment of Health Canada's Marijuana Medical Access Division

Investigators: Lucas, P. & Hathaway, A.

Funding Body: McMaster Arts Research Council

Background: Consisting of an online survey coupled with 25 semi-structured interviews of federally authorized medical cannabis patients, this is the first attempt to solicit feedback on Canada's federal medical cannabis program from end users.

A Comparison of the Effects of Smoked Whole-Plant Cannabis of Different THC Concentrations in Non-Treatment Naive Patients with Chronic Pain — The Vancouver Island Compassion Society

Investigators: Lucas, P. (PI)

Funding Body: Marijuana Policy Project

Background: This research is an ongoing examination of the effects of smoked cannabis on chronic pain.

Cannabis as a Substitute for Alcohol and Other Drugs: A Compassion Club-Based Survey of Substitution Effect in Canadian Medical Cannabis Patients

Investigator: Lucas, P.

Background: This is a study examining self-assessed changes in licit and illicit substance use of 400 medical cannabis patients in BC.

RESEARCH PRIORITY 5:

SOCIAL DETERMINANTS AND CONTEXTS OF SUBSTANCE USE

CARBC PROJECTS

Contexts of Vulnerabilities, Resiliencies and Care among People in the Sex Industry

Investigators: Benoit, C. (PI), Abel, G., Atchison, C., Davies, S., Goodyear, M., Hallgrimsdottir, H., Jansson, M., McCarthy, B., Pacey, K., Phillips, R., Reist, D., Roth, E., Shabna, A., Shannon, K., Shaver, F. & Spittal, P.

Funding Body: Canadian Institutes of Health Research

Background: The priority that Canadians place on health is reflected in the dramatic decrease in premature mortality and increase in disability-adjusted life expectancy in recent decades. Yet these benefits are not shared equally by all Canadians. This research program focuses on the sources of differences in health and safety among one of these groups: sex workers, many of whom face elevated risks of problematic substance use, unsafe working conditions, violence and premature death. Though research has explored the current legislative context of prostitution in Canada, few studies have systematically investigated the work of police, regulatory agencies and social service providers, as well as the behaviours of customers, managers and intimate partners as social determinants of sex workers' risk behaviours (including problematic substance use), workplace safety, and health and well-being in public and private

Progress to date: Research assistants were hired and trained and a major team grant was written up and submitted for evaluation.

Coping Responses by Homeless People with Drinking Problems

Investigators: Williams, N., Stockwell, T. & Pauly, B.

Funding Body: CARBC Endowment

Background: This project examines how homeless people who have alcohol dependence cope when they cannot afford to buy alcohol and when shelter accommodation does not permit them to bring alcohol onto the premises. The purposes were to investigate a) possible adverse effects of raising liquor prices on a vulnerable population who might turn to more dangerous non-beverage forms of alcohol, and b) potential for a managed alcohol program in Victoria which would provide supervised free alcohol in a structured setting to this population. The project was an honours student project conducted by Nichole Williams in the Department of Psychology under the supervision of Tim Stockwell and co-supervision of Bernie Pauly. The methodology involved in-depth qualitative interviews exploring recent patterns of behaviour and coping strategies in specific situations, in particular when the individuals could not afford to purchase alcohol and when they needed shelter but felt unable to abstain from drinking.

Progress to date: The project has been completed, the honours thesis was completed successfully, and a poster presentation was made by Nichole Williams to the Psychology Department. The results will be further disseminated with the journal article and, as well, the honours thesis will be made available on the CARBC website.

Interventions to Promote Health and Health Equity for Pregnant and Early Parenting Women facing Substance **Use and Other Challenges**

Investigators: Benoit, C., Marcellus, L. (Co-Pls), Anderson, K., Hallgrimsdottir, H., MacKinnon, K.

Funding Body: CIHR Operating Grant on Population Health Intervention Research

Background: The HerWay Home program (HWHP) is a first-stage intervention that recently emerged in the capital regional district of Victoria, BC to deliver better care to pregnant and early parenting women facing substance use and other challenges. This grant provides funds to investigate from the earliest stages the benefits and challenges of the unique human resources framework employed by the HWHP.

Progress to date: The research has received ethical approval, the research team has been hired and trained, and data collection is underway. A Masters thesis that draws on some of the data is in progress.

Protection for All: Sex Industry Health, Safety and Human Rights

Investigators: Shannon, K., Benoit, C. (Co-PIs), Atchison, C., Casey, L., Davis, S., O'Doherty, S., Shaver, F.M.

Funding Body: Health Ethics Catalyst Grant, Canadian Institutes of Health Research

Background: The project aims to a) review evidence-based best practices and policies aimed at reducing harms, including problematic drug use, and promote the health and safety of sex industry workers, b) facilitate ongoing public dialogue on these issues as a neglected ethical human-rights-based issue, and c) develop evidence-based outputs for delivery to all stakeholders (key outputs will include policy briefs, public summary report, academic peerreviewed publications, and a critical anthology of the expert summit proceedings), and the development of guidelines for a community-based ethical review process.

Progress to date: The research has received ethical approval, the research team has been hired and trained, and data collection is underway. A Masters thesis that draws on some of the data is in progress.

Risky Business: Experiences of Street Youth

Investigators: Benoit, C. & Jansson, M. (Co-Pls)

Funding Body: Canadian Institutes of Health Research

Background: This project, funded by three separate sources, focused on the risky behaviours, health and well-being of street-involved youth. By repeatedly interviewing these vulnerable youth over time, we collected data with the aim to better understand the impact of disadvantages in early childhood and subsequent life transitions on current substance use patterns, as well as long-term health and well-being.

Progress to date: This youth project has been completed and the sample has transitioned into a subsequent study focused on street youth transition into adulthood. Over 250 youth aged 14 through 18 were interviewed at least once, with up to six interviews conducted by youth willing and able to participate for the length of the study. The team has presented a large number of conference papers, published peer-reviewed articles and book chapters based on data, research ethics and methods from this study. We have also prepared analyses for, and in other ways worked closely with, our community partners to support their frontline work with street-involved and other marginalized populations.

Street Youth's Transitions to Adulthood

Investigators: Jansson, M. (PI), Benoit, C., Hallgrimsdottir, H. & Roth, E.

Funding Body: Social Sciences and Humanities Research Council

Background: This project focuses on the risky behaviours, health and well-being of former and current street-involved youth as they transition to adulthood. We aim to better understand the long-term consequences of disadvantages in early childhood and youth. Extensive qualitative and quantitative data are being collected on current substance use patterns, as well as long-term health and well-being. Youth were aged 14-18 when they originally joined the research project, and are interviewed every few months for as long as they are willing to participate. Over 750 interviews have been conducted with more than 275 different youth. We work with five community partners: Victoria Youth Clinic, Victoria Youth Empowerment Society, Greater Victoria Child and Family Counselling Association, Prostitutes Empowerment, Education and Resource Society, and Victoria Native Friendship Centre.

Progress to date: Interviewing, coding and data entry are proceeding as planned and the research team, including community partners, have presented a number of conference papers based on preliminary data gathered for the project and also published papers in peer-reviewed journals. Other presentations and papers are in preparation.

Treatment and Prevention of Illicit Substance Use among Pregnant and Early Parenting Women

Investigators: Benoit, C., Marcellus, L. (Co-PIs), Anderson, K., Hallgrimsdottir, H., MacKinnon, K.

Funding Body: CIHR Catalyst Grant: Prevention and Treatment of Illicit Substance Use

Background: This grant is for the development of a peer-based arm of the HerWay Home Program research team and for the engagement of women in recovery and graduate students in the collection of quantitative and qualitative data from HWHP clients during its first year of operation.

Progress to date: The research has received ethical approval, a peer researcher and graduate student coordinator have been hired and trained, and data collection is underway. A Masters thesis that draws on some of the data is in progress.

The Impact of Stigma on Marginalized Populations' Work, Health and Access to Services, and Work, Health and Healthcare Access in the US and Canada

Investigators: Benoit, C. (PI), Jansson, M., Leadbeater, B. & McCarthy, B.

Funding Body for Both Projects: Canadian Institutes of Health Research

Background: These inter-related studies aim at furthering knowledge of the impact of social factors and stigma on the health of sex workers compared to other low-prestige workers.

Progress to date: The international research team has completed interviews with just under 600 participants from Victoria, BC, and Sacramento, California, at four points in time. Data collection has been completed. Data entry and cleaning is in the final stage. One Masters thesis, Depression on the Frontline: An examination of the impact of working conditions and life stressors on sex workers, stylists and servers, has been completed using some of the data, and a postdoctoral student, funded by CIHR and the Intersections of Mental Health Perspectives in Addictions Research Training (IMPART) mentorship program, has been recruited to analyze data on the impact of gender, violence and trauma on substance use among the three occupational groups. Presentations drawing on various segments of the dataset have also been presented at 14 national or international conferences to date, and a number of papers have been drafted or submitted to peer-reviewed journals. A doctoral dissertation that draws on some of the data has been completed and another one is in progress.



Back row starting from the left - Gitonha Isaiah, (Korea), Eric Roth, Kimberly Sharpe, Debbie David, Mikael Jansen, Caroline Gitahi, Njogu Dennis, Lauren Casey. Front row Starting from left - Cecilia Benoit, Jackie Gitahi

CARBC AFFILIATED PROJECTS

The Implications of Adolescent Health and Health Risk Behaviours for Health in Early Adulthood: Sources of Continuities and Discontinuities in Developmental Trajectories Over 10 Years

Investigators: Leadbeater, B. (PI), Barnes, G., Jansson, M., MacDonald, S. & Stockwell, T.

Funding Body: Canadian Institutes of Health Research

Background: This project extends a longitudinal study of youth in Victoria initiated in 2000, when participants were aged between 12 and 17, to a fourth and fifth wave of data collection. Included in the many measures of health, mental health, social well-being, educational and occupational attainment, family and community variables and addiction-prone personality are measures of substance use and related harms. At CARBC, a number of investigators and graduate students have been exploring variables such as the age of onset of drinking and drunkenness as predictors of later problematic substance use.

Progress to date: The fourth wave of data collection has been completed. Papers on the role of addiction-prone personality and age of onset of substance use have been presented at conferences and are being prepared for journal submission.

Table 2: Performance Indicators for Key Result Area 2

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"To disseminate research findings that increase understanding of substance use and addiction, to increase awareness of related harms, and to identify effective responses."

HIGHLIGHTS

The researchers and knowledge exchange specialists that make up CARBC continued their tradition of mobilizing knowledge. A total of 73 publications and 76 presentations were recorded in 2010-2011. The growing range of issues addressed is evident. Documenting patterns of use, measuring harms, assessing treatment options, exploring determinants and articulating theories are all represented in the publications and presentations this year. The range of dissemination channels employed is also significant: from peer-reviewed journals and research conferences to policy reports to professional seminars and public websites to participation in various networks and committees. We are happy to report increasing traffic on our website, with growing interest in our Alcohol and Other Drug Monitoring Project from the general public, policymakers and the media (see www.AODmonitoring.ca). Significant journal articles include a review of testing for cannabis use in the workplace with a skeptical conclusion regarding its value, and several publications concerned with adverse impacts of privatizing the BC liquor market. Policy reports designed for more local circulation have generated considerable interest, in particular those concerned with methadone prescribing practices and the pricing of alcohol products by the BC Liquor Distribution Branch. A statistical bulletin was prepared and widely discussed concerning the possible adverse impacts of closing the fixed site needle exchange in Victoria.



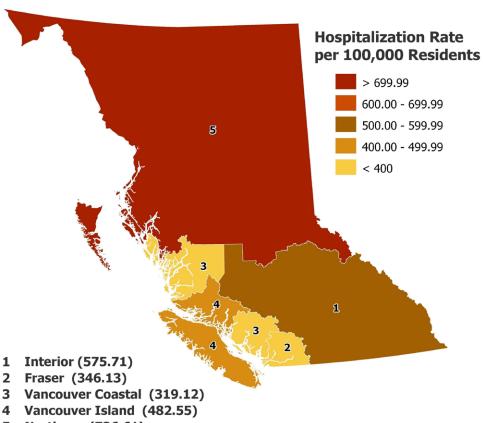






Please visit http://www.carbc.ca/Home/Publications.aspx





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Successful applications for knowledge exchange funding

AME Training and Evaluation. BC Ministry of Children and Family Development, \$33,000 from May 2010 to March 2011

BC Partners. BC Mental Health Society Branch, \$243,750 from April 2010 to March 2011

Curriculum Materials for a Drug Education Program. Delisle Youth Services, \$20,000 from February 2011 to May 2011

iMinds Supplement. BC Mental Health Society Branch, \$180,000 from August 2010 to March 2012

Kelty Resource Centre. BC Mental Health Society Branch, \$2,250 from June 2010 to March 2011

Kaiser National Awards for Excellence Program (2010-2011). Kaiser Foundation, \$20,000 from September 2010 to March 2011

Preventing Problematic Substance Use. BC Ministry of Healthy Living and Sport, \$335,000 from April 2010 to March 2011

Substance Impaired Driving. Health Canada, \$375,025 from April 2010 to March 2013

CURRENT PROJECTS

Addressing Substance-Impaired Driving among Youth (Year 1)

Investigators: Reist, D., Dyck, T. & Bodner, N.

Funding Body: Health Canada

Background: Recent epidemiological evidence suggests that substance-impaired driving remains a serious health and safety issue in BC. This three-year project seeks to influence social norms around substance-impaired driving for young drivers in BC aged 16-18. The project is based on a comprehensive community health approach which recognizes that substance-impaired driving is a complex social phenomenon requiring a comprehensive, multifaceted and sustained response. A comprehensive approach should: (1) intervene at the social as well as the individual level, (2) involve both policy/enforcement and education/social marketing, and (3) employ best practices for eliciting health-related behaviour change. The goal of changing social norms will be accomplished through researching, developing, disseminating and evaluating an evidence-informed education and social marketing campaign designed to: (a) raise awareness of young drivers about matters related to substance-impaired driving, (b) increase awareness of this issue among the general population and promote broad social ownership of the problem, and (c) cultivate social support for young drivers to assist them in changing their behaviour.

Progress to date: Three interconnected work teams are active on this project. The evidence team, based at CARBC, has scanned and summarized the relevant evidence and made it available to the product development team. The evidence team continually reviews product development plans and responds to questions posed by the product development team. The product development team, based at SFU and CARBC, has developed concepts for both web-based and classroom activities and resources, and is in the process of developing these for pilot implementation during the 2011-2012 school year. An external evaluation team has developed a developmental evaluation framework and provides regular feedback to the other teams.

Alcohol Screening and Education

Investigators: Dyck, T., Reist, D. & Bodner, N.

Funding Body: BC Mental Health Society Branch

Background: CARBC has developed online alcohol screening tools and a variety of educational and brief intervention materials for both adults and teens. These materials have also been adapted to paper-based versions for use in conjunction with the annual Beyond the Blues Education and Screening Day and other settings. The current project seeks to increase the reach of these products and adapt them to respond more effectively to a broader range of British Columbians.

Progress to date: In 2010-2011, CARBC promoted the Alcohol Reality Check website though our Helping Communities, Helping Schools and Helping Campuses initiatives and updated the risky drinking screens and related materials on the website to incorporate gender- and age-specific concerns. Further updates to the website are planned for 2011-2012 to reflect the new national Low Risk Drinking Guidelines (LRDG) once they are officially launched. CARBC also contributed to planning meetings for Beyond the Blues Education and Screening Day and consultations with site coordinators to encourage further and better use of tools related to early screening for problematic alcohol use, brief intervention and referral for emerging alcohol issues.

BC Partners Network

Investigators: Reimer, B. & Reist, D.

Funding Body: BC Mental Health Society Branch

Background: CARBC has been a member of BC Partners for Mental Health and Addictions Information since 2004. Through this network, CARBC contributes to dialogue with provincial agencies concerned with mental health and promotes health literacy related to substance use, harm reduction and addiction. The partners engage in joint and coordinated projects that support the public and service providers in understanding and responding to substance use and other issues that impact on mental health. As part of the network, CARBC also participates in the BC Mental Health and Substance Use Health Literacy Network that brings together a broad range of stakeholders for information sharing and joint planning.

Progress to date: In 2010-2011, CARBC contributed to the following collaborative efforts: Here to Help information products, Here to Help website design refresh, Healthy Minds/Healthy Campuses, Beyond the Blues Education and Screening Day, School Resources Guide and the Resource Hub Committee.

Helping Campuses

Investigators: Dyck, T., Reist, D., Bodner, N. & Souza, E.

Funding Body: BC Mental Health Society Branch

Background: CARBC has been an active partner in the Healthy Minds, Healthy Campuses Project of BC Partners for Mental Health and Addictions Information and has been working with individual campuses to develop strategies and tools for addressing substance use (particularly alcohol) on campuses. The current priority within this project is the development of an online resource centre to support post-secondary partners in implementing comprehensive strategies to address substance use issues on campus.

Progress to date: In 2010-2011, CARBC continued to contribute to the Healthy Minds, Healthy Campuses Project design team and provided consultation to BC post-secondary institutions in the development of comprehensive strategies and tools to address substance use issues on campuses. Other activities included launching an online resource centre to support post-secondary partners, informally soliciting initial feedback on its usefulness, and reviewing research on substance use and eating disorders. The anticipated short-term outcome of the above activities is campus-based groups accessing and using evidence, knowledge and practical skills to support comprehensive strategies for promoting safer substance use in post-secondary educational communities.

Helping Communities

Investigators: Reist, D., Reimer, B., Dyck, T., Bodner, N. & Souza, E.

Funding Body: BC Ministry of Healthy Living and Sport

Background: Communities are struggling to understand and respond to substance use in a context where the nature and treatment of substance use problems is poorly understood. As a result, many well-intentioned initiatives do not reflect the best available evidence. This project involves developing tools and materials that are accessible and useful to community stakeholders throughout the province, and making these available through a web-based resource.

Progress to date: CARBC has developed the Helping Communities web-based resource repository (www.carbc.ca/ HelpingCommunities.aspx). Content includes a suite of nine promising practices, each linked to discussions of the evidence base and a variety of tools and resources to assist communities in implementing the practices. In particular, a set of pragmatic tools were developed for Helping Municipal Governments Reduce Alcohol-Related Harms. CARBC also contributed to the development of new national low risk drinking guidelines and to provincial planning on how to help communities promote a culture of moderation.

Helping Schools

Investigators: Reist, D., Reimer, B., Andrew, C., Bodner, N. & Souza, E.

Funding Body: BC Mental Health Society Branch and BC Ministry of Healthy Living and Sport

Background: Over the last few years, CARBC has been working to develop innovative resources for schools. These include curriculum-related resources for Grades 6-10 as well as knowledge kits to support the implementation of a comprehensive school health approach to substance use. This project involves promoting awareness of the resources and supporting effective implementation of these products in BC schools.

Progress to date: Activities for 2010/2011 included revising the iMinds materials based on feedback from pilot schools to improve quality and usability of the materials, promoting awareness about the materials, and training of school professionals. Also in 2010/2011, CARBC worked with education partners to promote the uptake and use of available knowledge related to comprehensive approaches to addressing substance use in schools. This included engaging in public education for parent groups and others, providing professional development for school professionals, and developing an online repository of information and tools (www.carbc.ca/HelpingSchools.aspx) to support knowledge exchange activities. A total of 560 educators, parents and health professionals were reached through 20 presentations by CARBC staff, and there were a total of 19,532 page views on the website. The predicted short-term outcome is school professionals and parents accessing and using available information, tools and programs for addressing mental health and substance use.

Here to Help

Investigators: Reimer, B., Bodner, N. & Souza, E.

Funding Body: BC Mental Health Society Branch

Background: CARBC is working with the Canadian Mental Health Association-BC Division on a project to develop a comprehensive series of public education materials related to substance use and mental health. These resources are made available on www.heretohelp.bc.ca as well as from www.carbc.ca.

Progress to date: In 2010-2011, CARBC developed a new self-help workbook to help individuals address issues related to substance use, and began work on a series of safer substance use information products intended to reduce the risks and harms related to substance use. These resources provide consumers, families, caregivers, service providers and other health professionals with accurate and up-to-date information about substance use to make decisions, or help others make decisions, about their well-being.

National Awards for Excellence

Investigators: Reimer, B., Dyck, T. & Reist, D.

Funding Body: Kaiser Foundation

Background: The National Awards for Excellence Program is a project of the Kaiser Foundation (www. kaiserfoundation.ca/awards/) that recognizes the tremendous work of individuals and organizations throughout Canada that are promoting both physical and mental health by reducing the harm resulting from substance use.

Progress to date: CARBC assists the Kaiser Foundation by recruiting and supporting peer reviewers and by coordinating the adjudication process.

Visions Journal

Investigators: Reimer, B.

Funding Body: BC Mental Health Society Branch

Background: Visions: BC's Mental Health and Addictions Journal is published by BC Partners for Mental Health and Addictions Information. As a member of this partnership, CARBC participates on the editorial advisory group, helps identify writers, and contributes articles for publication. The Centre also seeks to increase the profile of the journal within the BC network of substance use services and supports.

Progress to date: In 2010-2011, CARBC contributed ideas for articles on topics related to population health, determinants of health, social ecological model, and health literacy. We link to Visions articles from our website and refer practitioners, researchers and others to articles as appropriate.

Youth Drug Literacy

Investigators: Reist, D. & Bodner, N. Funding Body: Delisle Youth Services

Background: Delisle Youth Services, a Toronto-based organization that supports children and youth through difficulties at school, at home, among their friends or in the community, was in need of a program to promote positive mental health and reduce vulnerability to substance use problems. CARBC was selected to develop the program because of its experience in developing the iMinds resources.

Progress to date: A program manual was developed that includes background information on substance use and constructivist education, five session plans with step-by-step instructions for the facilitator, and photo masters for all handouts. The program is designed to build health literacy through exposure to ideas in popular youth culture, literature and real-world debates. Participants are engaged through a variety of participatory activities and games. The resource will be available for pilot implementation in 2011.

PUBLICATIONS

Journal Articles and Book Reviews

Anderson, J.F., Pakula, B., Smye, V. et al. (2011). Strengthening Aboriginal health through a place-based learning community. Journal of Aboriginal Health, 7(1), 42-54.

Andreuccetti, G., Barbosa de Carvalho, H., Cherpitel C.J., Kahn, T., de Carvalho Ponce, J. & Leyton, V. (2010). The right choice at the right moment [letter to the editor]. Addiction, 105, 1498-1499.

Baker, T. E. & Holroyd, C.B. (In Press). Dissociated roles of the anterior cingulate cortex in reward and conflict processing as revealed by feedback error-related negativity and N200. Biological Psychology.

Baker, T.E., Stockwell, T., Barnes, G. & Holroyd, C.B. (2010). Individual differences in substance dependence: At the intersection of brain, behaviour, and cognition. Addiction Biology. Article first published online: 23 AUG 2010. DOI: 10.1111/j.1369-1600.2010.00243.x.

Bond, J., Ye, Y., Cherpitel, C.J., Room, R., Rehm, J., Borges, G., Cremonte, M., Gmel, G. et al. (2010). The relationship between self-reported drinking and BAC level in emergency room injury cases: Is it a straight line? Alcoholism: Clinical and Experimental Research, 34, 1118-1125.

Borges, G., Cherpitel, C.J., Ye, Y., Bond, J., Cremonte, M., Moskalewicz, J. & Swiatkiewicz, G. (In Press). Threshold and optimal cut-points for alcohol use disorders among patients in the emergency department. Alcoholism: Clinical and Experimental Research.

Borges, G., Ye, Y., Bond, J., Cherpitel. C.J., Cremonte, M., Moskalewicz, J., Swiatkiewicz, G. & Rubio Stipec, M. (2010). The dimensionality of alcohol use disorders and alcohol consumption in a cross-national perspective. Addiction, 105, 240-254.

Brubacher, J. R., Hunte, G.S., Hamilton, L. & Taylor, A. (In Press). Barriers to and incentives for safety event reporting in emergency departments. Healthcare Quarterly.

Buxton, J. A., Sebastian, R., Clearsky, L., Angus, N., Shah, L., Lem, M., & Spacey, S. D. (2011). Chasing the dragon -Characterizing cases of leukoencephalopathy associated with heroin inhalation in British Columbia, Harm Reduction Journal, 8:3. http://www.harmreductionjournal. com/content/8/1/3

Buxton, J. A., Kuo, M., Ramji, S., Yu, A., & Krajden, M. (2010). Methadone use in relation to hepatitis C virus testing in British Columbia. CJPH, 101 (6), 491-494.

Cherpitel, C., Ye, Y., Watters, K., Brubacher, J. & Stenstrom, R. (In Press). Risk of injury from alcohol and drug use in the emergency department: A case-crossover study. Drug and Alcohol Review.

Cherpitel, C.J., Ye, Y., Greenfield, T., Bond, J., Kerr, W. & Midanik, L. (2010). Alcohol-related injury and driving while intoxicated: A risk function analysis of two alcoholrelated events in the 2000 and 2005 National Alcohol Survey. The American Journal of Drug and Alcohol Abuse, 36, 168-174.

Cherpitel, C.J., Korcha, R., Moskalewicz, J., Swiatkiewicz, G., Ye, Y. & Bond, J. (2010). Screening, brief intervention and referral to treatment (SBIRT): 12-month outcomes of a randomized controlled clinical trial in a Polish emergency room. Alcoholism: Clinical and Experimental Research, 34, 1922-1928.

Cherpitel, C.J., Borges, G., Ye, Y., Bond, J., Cremonte, M., Moskalewicz, J. & Swiatkiewicz G. (2010). Performance of a craving criterion in DSM alcohol use disorders. Journal of Studies on Alcohol and Drugs, 71, 674-684.

Cherpitel, C.J. & Ye, Y. (2010). Alcohol and violencerelated injuries among emergency room patients in an international perspective. Journal of the American *Psychiatric Nurses Association*, 16, 227-235.

Cockburn, J. & Holroyd, C.B. (2010). Focus on the positive: Computational simulations implicate asymmetrical reward prediction error signals in childhood attention deficit hyperactivity disorder. Brain Research, 1365, 18-34.

Coghlan, M. & Macdonald, S. (2010). The role of substance use and psychosocial characteristics in explaining unintentional injuries. Accident Analysis & Prevention, 42, 476-479.

Cremonte, M., Ledesma, R.D., Cherpitel, C.J. & Borges, G. (2010). Psychometric properties of alcohol screening tests in the emergency department in Argentina, Mexico and the United States. Addictive Behaviors, 35, 818-825.

Debeck, K., Buxton, J., Kerr, T., Qi, J., Montaner, J., & Wood, E. (2011). Public crack cocaine smoking and willingness to use a supervised inhalation facility: Implications for street disorder. Substance Abuse Treatment, Prevention, and Policy, 6:4

Gibson, E., Exner, H., Lindquist, J., Stone, J., Cowen, L. & Roth, E. (2010). A mixed methods approach to delineating and understanding injection practices among clientele of a Victoria, British Columbia needle exchange program. Drug and Alcohol Review. Article first published online 13 July 2010 at http://onlinelibrary. wiley.com/doi/10.1111/j.1465-3362.2010.00219.x/full.

Giesbrecht, N. & **Thomas, G.** (2010). A Complex Picture: Trends in Alcohol Consumption, Harms and Policy: 1990-2010. Nordic Studies on Alcohol and Drugs, Thematic Issue: Alcohol Consumption, Harms and Policy, 27(5), 515-538.

Giesbrecht, N., Stockwell, T., Kendall, P., Strang, J. & Thomas, G. (In Press). Alcohol in Canada: Reducing the toll through focused interventions and public health policies. Canadian Medical Association Journal.

Hankivsky, O., Reid, C., Varcoe, C., Clark, N., Benoit, C. & Brotman, S. (2010). Putting theory into method: The promises of intersectional-type methodologies for advancing women's health research. International Journal for Equity in Health, 9(5). Retrieved from http://www. equityhealthj.com/content/9/1/5.

Hewig, J., Kretschmer, N., Trippe, R.H., Hecht, H., Coles, M.G.H., Holroyd, C.B. & Miltner, W.H.R. (In Press). Why humans deviate from rational choice. Psychophysiology.

Hewig, J., Kretschmer, N., Trippe, R.H., Hecht, H., Coles, M.G.H., Holroyd, C.B. & Miltner, W.H.R. (2010). Hypersensitivity to reward in problem gamblers. Biological Psychiatry, 67, 781-783.

Holroyd, C.B., Krigolson, O.E., & Lee, S. (In Press). Reward positivity elicited by predictive cues. Neuroreport.

Jansson, M., Benoit, C., Casey, L., Phillips, R. & Burns, D. (2010). In for the long haul: Knowledge translation between academic and non-profit organizations. Qualitative Health Research, 20, 131–143.

Lange, R.T., Iverson, G.L., Brubacher, J.R. & Franzen, M.D. (2010). Effects of Blood Alcohol Level on Glasgow Coma Scale Following Traumatic Brain Injury. Brain Injury, 24, 919-927.

Lange, R.T., Brubacher, J., Iverson, G.L. (In Press). Clinical Utility of the Protein S100B to Evaluate Traumatic Brain Injury in the Presence of Acute Alcohol Intoxication. Journal of Head Trauma Rehabilitation.

Leadbeater, B., Babul, S., Jansson, M., Scime, G. & Pike, I. (2010). Youth Injuries in British Columbia: Type, Settings, Treatment and Costs, 2003-2007. International Journal of *Injury Control and Safety Promotion,* 17(2), 119-127.

Li, P., Han, C., Lei, Y., Holroyd, C.B. & Li., H. (In Press). Responsibility modulates neural mechanisms of outcome processing: An ERP study. Psychophysiology.

Lucas, P. (2010). Patient-centred strategies to counter stigma, oppression and forced incarceration in the C/S/X and medical cannabis movements. Interface: A journal for and about social movements, 2(2), 149-167.

McCarthy, B., Benoit, C. & Jansson, M. (In Press). Regulating Sex Work: Heterogeneity in National and Sub-National Legal Strategies. Annual Review of Law and Social Science.

Macdonald, S., Hall, W., Roman, P., Stockwell, T., Coghlan, M. & Nesvaag, S. (2010). Testing for cannabis in the workplace: A review of the evidence. Addiction, 105(3), 408-16.

Macdonald, S., Stockwell, T. & Luo, J. (2010). The relationship between alcohol problems, perceived risks and attitudes toward alcohol policy in Canada. Drug and Alcohol Review. Article first published online 3 Nov 2010 at http://onlinelibrary.wiley.com/doi/10.1111/j.1465-3362.2010.00259.x/

MacNeil, J. & Pauly, B. (2011). Needle exchange as a safe haven in an unsafe world. Drug and Alcohol Review, 30, 26-32.

MacNeil, J. & Pauly, B. (2010). Impact: A case study examining the closure of a large urban fixed site needle exchange in Canada. Harm Reduction Journal, 7(11).

Norstrom, T., Miller, T., Holder, H., Osterberg, E., Ramstedt, M., Rossow, I. & Stockwell, T. (2010). Potential consequences of replacing a retail alcohol monopoly with a private licence system: Results from Sweden. Addiction, 105(12), 2113-2119.

Roth, E., Ngugi, E. & Jansson, M. (2010). Pathways and barriers to condom use among ariaal Agro-pastoralists of Northern Kenya. Sexual Research and Social Policy. Retrieved from http://www.springerlink.com/content/ c2744838hgp2k2x7/.

Stockwell, T. (2011). Commentary on: Kypri et al fighting the good fight against alcohol-related violence: One bar or one hour at a time. *Addiction*, 106(2), 311-312.

Stockwell, T., Reist, D., Macdonald, S., Benoit, C. & Jansson, M. (2010). Addiction research centres and the nurturing of creativity: The Centre for Addictions Research of BC, Canada. Addiction, 105(2), 207-215.

Stockwell, T., Zhao, J., Macdonald, S., Vallance, K., Gruenewald, P., Ponick, W., Holder, H. & Treno, A. (In Press). Impact on alcohol-related mortality of a rapid rise in the density of private liquor outlets in British Columbia: A local area multi-level analysis. Addiction.

Taylor, B., Kanteres, F., Irving, H.M., Rehm, J., Borges, G., Cherpitel, C.J., Greenfield, T. & Bond, J. (2010). The more you drink, the harder you fall: A systematic review and meta-analysis of acute alcohol consumption and injury or collision risk increase together. Drug and Alcohol Dependence, 110, 108-116.

Zeisser, C., Thompson, K., Stockwell, T., Duff, C., Chow, C., Vallance, K., Ivsins, A., Michelow, W., Marsh, D. & Lucas, P. (In Press). A "standard joint"? The role of quantity in predicting cannabis-related harm. Addiction Research and Theory.

Books & Reports

Benoit, C., Willms, D., Shlonsky, A., Milligan, K., Charles, G., Fuchs, D., MacLaurin, B. & Greenwood, M. (2010). Research experts. Growing Up in B.C. Victoria, BC: Representative for Children and Youth, and Office of the Provincial Health Officer.

Benoit, C., Shumka, L. & Barlee, D. (2010). HerWay Home. Research Brief. MSFHR. Women's Health Research Network.

Benoit, C., Shumka, L. & Barlee, D. (2010). Stigma and the health of vulnerable women. Research Brief #2. MSFHR: Women's Health Research Network.

Benoit, C., Shumka, L. & Vallance, K. (2010). Violence as a determinant of girls' and women's health. Research Brief #1. MSFHR: Women's Health Research Network.

Cherpitel, C., Pozynyak, V., Borges, G., Giesbrecht, N., Hungerford, D., Peden, M., Room, R. & Stockwell, T. (2010). Alcohol and Injuries: Emergency Department Studies in an International Perspective. Geneva, Switzerland: World Health Organization.

Cremonte, M., Cherpitel, C.J. & Borges, G. (In Press). Drinking patterns and DSM-IV alcohol use disorders' criteria in Argentinean emergency department patients. In Alcohol Dependence. Hauppauge, New York: NOVA Science Publishers.

Dyck, T., Reist, D. & Morris, J. (2011). Promoting positive mental health on post-secondary campuses in BC: A planning document. A paper requested by the BC Ministry of Health.

Macdonald, S. & Stockwell, T., Guest Editors (In Press). International alcohol and drug monitoring systems. Contemporary Drug Problems.

Parkes, T., MacAskill, S., Brooks, O., Atherton, I., Jepson, R., Doi, L., McGhee, S. & Eadie, D. (2010). Prison health needs assessment for alcohol problems. Stirling: University of Stirling/Health Scotland. Retrieved from http://www.nm.stir.ac.uk/documents/prison-healthneeds-assessment-for-alcohol-problems.pdf.

Parkes, T. (2010). The British Columbia Methadone Maintenance Treatment Program: A qualitative systems review. University of Victoria, Centre for Addictions Research of BC (CARBC): An analysis and recommendations report, drawing on the systems review. Retrieved from http://www.carbc.ca/Portals/0/ PropertyAgent/2111/Files/317/MMT1005.pdf.

Pauly, B., Wallace, B., Ranfft, M., Perkin, K., Matwychuk, M., Ostry, A., Curran D. et al. (2010). Transitional Housing: Evaluating the Effectiveness in Breaking the Cycle of homelessness. Canadian Mortgage and Housing Corporation.

Pauly, B., Reist, D., Schactman, C. & Belle Isle, L. (2011). Housing and Harm Reduction: A Policy Framework for Greater Victoria. Retrieved from www. solvehomelesssness.ca.

Reimer, B. & Reist, D. (2010). A rapid evidence review of models for integrated community substance use services. A review prepared for the BC Ministry of Health Services.

Reist, D. (2011). Decreasing substance use problems through delayed onset of alcohol use: A rapid evidence review. A paper requested by the BC Ministry of Health.

Reist, D. (2010). Methadone maintenance treatment in British Columbia, 1996-2008: Analysis and recommendations. Victoria, BC: Ministry of Healthy Living and Sport.

Rose, M. & Cherpitel, C.J. (In Press). Alcohol: Its History, Pharmacology and Treatment. St. Paul, MN: Hazelden Foundation.

Thomas, G., Stockwell, T., Zhao, J., Reist, D., Martin, G. & Zeisser, C. (2011). Alcohol price policies in British Columbia: Options for reducing alcohol-related health and social harms. A paper requested by the BC Ministry of Health.

Thomas, G. (2011). Price Policies to Reduce Alcoholrelated Harm in Canada: Current Context and Recommendations for Targeted Policies. Ottawa, ON: CCSA.

Smith, A., Roxburgh, M., James, B., MacKay, S., Gray, C., Parkes, T., Lauder, W., McCulloch, K. & Wilson, C. (2010). Developing community nursing practice: Promoting case management and skill enhancement to support shifting the balance of care. Stirling: University of Stirling.

Book Chapters

Brannen, C., Dyck, K., Hardy, C. & Mushquash, C. (In Press). Rural and remote mental health in Canada: Research and service. In J. Kulig & A. Williams (Eds.). Health care in rural Canada. Vancouver: UBC Press.

Benoit, C., Jansson, M., Casey, L., Phillips, R. & Burns, D. (2011). Developing KT with non-profit organizations serving vulnerable populations. In E. Banister, B. Leadbeater & A. Marshall (Eds.). Knowledge translation in community-based research and social policy contexts. Toronto: University of Toronto Press.

Holroyd, C.B. & Yeung, N. (In Press). An integrative theory of anterior cingulate cortex function: Option selection in hierarchical reinforcement learning. In R. Mars, J. Sallet, M. Rushworth & N. Yeung (Eds.). Neural Basis of Motivational and Cognitive Control. Cambridge, MA: MIT Press.

Pauly, B. (In Press). Close to the Street: Nursing Practice with People marginalized by homelessness and substance use. In M. Younger & S. Hwang (Eds.). Homelessness and Health in Canada.

Pauly, B. (In Press). Challenging health inequities: Enacting social justice in nursing practice. In J. Storch, P. Rodney & R. Starzomski (Eds.). Toward a Moral Horizon: Leadership for Policy and Practice.

Pauly, B. & Varcoe, C. (In Press). Vulnerable populations and nursing: Vulnerability as a health equity concern. In D. Gregory, C. Raymond-Seniuk & L. Patrick (Eds.). Fundamentals: Perspectives on the Art and Science of Canadian Nursing.

Stockwell, T. (2010). Chapter 6: Prevention. Atlas on substance use (2010). Resources for the prevention and treatment of substance use disorders (pp. 105-124). France: World Health Organization.

Varcoe, C., Pauly, B. & Laliberte, S. (In Press). Intersectionality, Social Justice and Influencing Policy. British Columbia: **UBC** Press.

CARBC Reports and Bulletins

Ivsins, A., Chow, C., Marsh, D., Macdonald, S., Stockwell, T. & Vallance, K. (2010). Drug use trends in Victoria and Vancouver, and changes in injection drug use after the closure of Victoria's fixed site needle exchange. CARBC Statistical Bulletin # 6. University of Victoria.

Pauly, B., Goldstone, I., Christie, T., Douglas J. & Weber, J. (2011). Harm Reduction and Currently Illegal Drugs: Implications for Nursing Policy, Practice, Research and Education. Ottawa: Canadian Nurses Association.

Stockwell, T., Vallance, K., Martin, G., Macdonald, S., Ivsins, A., Chow, C., Greer, A., Zhao, J., Duff, C., Lucas, P., Marsh, D., Michelow, W. & Treno, A. (2010). The price of getting high, stoned and drunk in BC: A comparison of minimum prices for alcohol and other psychoactive substances. CARBC Statistical Bulletin #7, University of Victoria.

Invited Presentations

Benoit, C. & Jansson, M. (2010). Launched without supports: Demographics, drug use & mental health of streetinvolved youth. Invited speaker at the 2010 Champions for Children and Youth Summit. Vancouver, BC.

Benoit, C. (2010). The power of mixed methodologies to investigate women's health in vulnerable populations. Invited speaker at the Women's Mental Health Conference: Building Networks and Research Capacity. Centre for Addiction and Mental Health, Toronto, ON.

Benoit, C. (2010). "At-Risk" Children. Invited Panel Member and Discussant, Human Early Learning Partnership-UVIC: Research in Early Childhood Care, Education and Health (HELP-UVIC: REACH), Victoria, BC.

Benoit, C. (2010). Neoliberalization, Medical Dominance & Inequity in Maternal Care Provision. Invited speaker at the University of Ottawa, ON.

Benoit, C. & Jansson, M. (2010, October). Launched without supports: Demographics, drug use and mental health of street-involved youth. Invited speaker at the 2010 Champions for Children and Youth Summit, Vancouver, BC.

Cherpitel, C. (2010, June). WHO National Counterparts for Alcohol Policy and AMPHORA Expert Joint Meeting, Madrid, Spain.

Cherpitel, C. (2010, June). World Health Organization, Geneva, Switzerland.

Countess, R. & Pauly, B. (2011, January). Shelter-based managed alcohol administration to chronically homeless people addicted to alcohol. Addiction Medicine Journal Club, VIHA, Victoria, BC.

Holroyd, C. (2011). Theta Phase Resetting: Electrophysiological and Computational Explorations of Parahippocampal Region Function. Invited speaker at the Department of Mathematics and Statistics, University of Victoria.

Holroyd, C. (2010). Errors and Negative Feedback (Roundtable Discussion). Invited speaker at the Society for Psychophysiological Research, 50th Annual Meeting, Portland, OR.

Holroyd, C. (2010). The fERN: An ERP Measure of Reward Processing. Invited speaker at the Motivation and Cognitive Control, Oxford, UK.

Lam, E., & Jansson, M. (2010, November). Human Research Ethics at the University: What graduate students should know. Invited speaker at the Faculty of Education, University of Victoria.

Parkes, T. & Nelles, B. (2010, May). Privileging client experience within methadone maintenance treatment (MMT) in British Columbia, Canada: Lessons for heath care system change and research practice. Invited speaker at the RCN: 2010 International Nursing Research Conference.

- Parkes, T. & Wardman, D. (2010, April). Sometimes our people get tossed out of the system: Accessibility and appropriateness of Methadone Maintenance Treatment/ Therapy (MMT) and harm reduction services for Aboriginal peoples in British Columbia, Canada. Invited speaker at the International Harm Reduction Association Conference, Liverpool, UK.
- Pauly, B. (2010, April). Challenging Constructions of Homelessness. Invited speaker at the Human and Social Development Research Day, University of Victoria.
- Pauly, B. (2010, December). Homelessness in Victoria. BC Transit, National Automobile, Aerospace and Agricultural Implement Workers Union of Canada (CAW-Canada). Invited speaker at the Celebrating Women Open House, Victoria, BC.
- Pauly, B. (2010, October). Finding a safe haven: Clients perspectives on harm reduction. Invited speaker at the **CARBC Seminar Series.**
- Pauly, B. (2010, September). Street Stories. Invited speaker at the City-Street-Church Conference, St. John the Divine, Victoria, BC.
- Pauly, B. (2010, April). Hometown harm reduction: Ten years and losing ground. Invited speaker at the City of Victoria Hometown Harm Reduction Forum.
- Pauly, B. (2010, May). Restoring trust and compassion to enhance health equity in homeless populations. Invited speaker at the Health Care Ethics Grand Rounds, St. Boniface Hospital, Winnipeg, MB.
- Pauly, B. (2010, May). Challenging Constructions of Homelessness. Invited speaker at the Faculty of Nursing, University of Manitoba.
- Pauly, B. (2010, April). Harm Reduction and Ethics: Insite and Nursing Practice. Invited Plenary Panel at the Canadian Association of Nurses in AIDS Care Conference, Fredericton, NB.
- Pauly, B. (2010, November). Health Inequities: Nursing Leadership for Social Justice in Policy. Invited speaker at the Fourth Year UVic Nursing Students.
- Pauly, B., Cain, D., Henry, R., Krancevic, J. (2010, February). Street Stories: Building knowledge and capacity for change. Critical Conversations III: International, Indigenous, Intersectional. Invited speaker at the Third Annual Diversity Research Forum, University of Victoria.
- Reist, D. (2011, January). MMT: Evolving a system. A roundtable presentation in St. John's, NFL, hosted by the Department of Health and Community Services.
- Reist, D. (2011, January). Promoting Positive Mental Health in Schools. Invited speaker at the Education Partners' Healthy Schools Committee.

- Reist, D. (2010, August). Mental Health Promotion: Addressing mental health and substance use in schools. Invited speaker at the Mental Health and Substance Use Summer Institute hosted by BC Mental Health and Addiction Services and the BC Teachers' Federation.
- Reist, D. (2010, July). Framing Health Promotion for Decision Makers. A toolbox session at the Public Health Summer School, UBC.
- Stengel, C. (2011, January). Collaborative community care in precarious environments: Maternal care for vulnerable populations. Invited speaker at the International Health, Wellness and Society Conference, Berkeley, CA.
- Stockwell, T. (2011, February). Alcohol harm, demand and supply reduction: What is the strongest cocktail? Invited speaker at the Community and Public Health Nursing, University of Victoria.
- Stockwell, T. (2010, August). Alcohol harm, demand and supply reduction: What is the strongest cocktail? Invited speaker at the Hope, Hype or Hard Evidence? Alcohol and Other Drugs Practice in the New Millennium, Freemantle, Western Australia.
- Stockwell, T. (2010, May). Riddles, findings and reflections regarding gender issues in alcohol epidemiology. Invited speaker at IMPART, Vancouver, BC.
- Stockwell, T. (2010, May). Best practice approaches to reducing the harms associated with population alcohol consumption. Invited speaker at the 2nd Annual Nova Scotia Alcohol Policy and Research Forum, Halifax, NS.
- Stockwell, T. (2010). Public Health and Alcohol in Canada. Invited speaker at the Department of Psychology, University of Victoria.
- Stockwell, T., Zhao, J. & Macdonald, S. (2010, December). Public health impact of the partial privatization of British Columbia's alcohol monopoly. Invited speaker at the Alcohol Policy, Washington, DC.
- Stockwell, T. (2010, March). Alcohol pricing for public health: General principles, the devil and the detail. Invited speaker at the National Alcohol Strategy Advisory Committee, Toronto, ON.
- Thomas, G. (2011, March). The Effectiveness of Policy on Alcohol Problems: Responding to Emerging Challenges. Invited keynote presentation at the 8th Annual Alcohol No Ordinary Commodity Forum, Toronto, ON.
- Thomas, G. (2010, September). The Economics of Alcohol Control Policy in Canada. Invited presentation on webinar to members of the Alcohol Policy Network (APOLNET) in Ontario.
- Thomas, G. (2010, July). Alcohol and Public Health: Recommendations for BC. Invited presentation to the Mayor and City Council, Summerland, BC.

Thomas, G. (2010, June). Using Evidence to Reduce Harms and Costs from Alcohol, Our Favourite Drug. Invited presentation to the BC Ministries of Health Services and Healthy Living and Sport's Policy Rounds, Victoria,

Thomas, G. (2010, May). Evidence-based Policies to Reduce Health and Social Harms from Drinking in Licensed Establishments. Invited presentation to the Mayor and City Council of Kelowna, BC.

Tu, A., Buxton, J. & Stockwell, T. (2010, June). Mental and neurological hospitalizations and deaths related to substance use in BC, 2002-2009. Canadian Society for Epidemiology and Biostatistics Student Conference, Montreal.

Tu, A., Buxton, J. & Stockwell, T. (2011, February). Mental and neurological hospitalizations and deaths related to substance use in BC, 2002-2008. Lost in Translation, Vancouver, BC.

Tu, A., Buxton, J. & Stockwell, T. (2010, June). Monitoring alcohol attributable mortality and morbidity in British Columbia, 2002-2008. Canadian Public Health Association 2010 Annual Conference, Toronto, ON.

Other Conference and Seminar Presentations

Barnes, G., Jansson, M. & Stockwell, T. (2010, June). Binge Drinking Patterns and Predictors in a Canadian Youth Sample. Presented at the Kettil Bruun Society Symposium, Lausanne, Switzerland.

Benoit, C. (2011). The elephant in the room: Stigma and its impact on health. Anti-Stigma Panel, Victoria, BC.

Benoit, C. (2011). Investigating health inequities among vulnerable populations. Social Dimensions of Health Colloquium Series. University of Victoria, BC.

Benoit, C. & Jansson, M. (2011). Health inequities among street-involved youth: the long arm of childhood. Department of Economics, University of Victoria.

Benoit, C., Jansson, M., Phillips, R., Hallgrimsdottir, H. & Vallance, K. (2010). Trajectories of IDU Among a Community Sample of Sex Workers. IMPART seminar. Vancouver, BC: BCCEWH.

Cherpitel, C. (2010, November). Screening, Brief Intervention and Referral to Treatment (SBIRT): 12-Month Outcomes of a Randomized Controlled Clinical Trial in a Polish Emergency Department, American Public Health Association Annual Meeting, Denver, CO.

Cherpitel, C. (2010, October). Issues in Measuring Alcohol Consumption in an Injury Event. Center Directors Meeting and Scientific Conference, Innovative Alcohol Intake Pattern Measurement for Human and Animal Model Research, Berkeley, CA.

Cherpitel, C. (2010, September). 12-Month Outcomes of a Randomized Controlled Clinical Trial of Screening and Brief Intervention in a Polish Emergency Department. International Society for Biomedical Research on Alcoholism World Congress, Paris, France.

Cherpitel, C. (2010, September). Alcohol and Violence-Related Injuries: Emergency Department Data in a Global Perspective. International Society for Biomedical Research on Alcoholism World Congress, Paris, France.

Cherpitel, C. (2010, September). 12-Month SBIRT Outcomes in a Polish Emergency Department: Findings from a Randomized Controlled Clinical Trial. International Network on Brief Interventions for Alcohol Problems, Annual Meeting, Göteborg, Sweden.

Cherpitel, C. (2010, June). Performance of a Craving Criterion in DSM Alcohol Use Disorders. Research Society on Alcoholism Annual Meeting, San Antonio, TX.

Cherpitel, C. (2010, June). Alcohol and Injuries: Emergency Department Studies in an International Perspective. WHO National Counterparts for Alcohol Policy and AMPHORA Expert Joint Meeting, Madrid, Spain.

Cherpitel, C. (2010, June). Alcohol and Injuries: International Studies in the Emergency Department. World Health Organization, Geneva, Switzerland.

Cherpitel, C. (2010, June). Risk of Injury from Substance Use: A Case-Crossover Study in Two Canadian Emergency Departments. Kettil Bruun Society for Social and Epidemiological Research on Alcohol, Lausanne, Switzerland.

Clark, E., George, A., Hardy, C., Wakabayashi, S., Hughes, K., MacMillan, P. & Hall, W. (2011, March). Formative assessment of a school-based intervention for students affected by FASD. Presented at 4th International Conference on Fetal Alcohol Spectrum Disorder: The Power of Knowledge: Integrating Research, Policy and Promising Practice around the World, Vancouver, BC.

Clark, E., George, A., Hardy, C., Wakabayashi, S., Hughes, K., MacMillan, P. & Hall, W. (2010, September). Impact of a school-based intervention for elementary school students diagnosed with Fetal Alcohol Spectrum Disorder (FASD). Poster session presented at FACE Research Roundtable, Vancouver, BC.

Giesbrecht, N. & **Thomas, G**. (2010, December). Reducing High-risk Drinking and Related Damage in Canada: Challenges and Opportunities in an Era of Increased Access and Rising Sales. Alcohol Policy 15 Conference, Policies for Reducing Problems Associated with Alcohol Availability, Washington, D.C.

Hohl, C.M., Brubacher, J.R. & Singer, J. (2010, May). Emergency Physicians' Attitudes about Routine Screening for Adverse Drug Events. Presented at the Canadian Association of Emergency Physicians Annual Scientific Conference, Montreal, Canada.

Jansson, M., Barnes, G. & Stockwell, T. (2010, June). Getting Drunk: Navigating the relationship between initiation of drinking and problem drinking. Presented at the Kettil Bruun Society 36th Annual Symposium, Lausanne, Switzerland.

Lucas, P. (2010, October). University of Victoria Poverty Law Society Panel on Harm Reduction and Homelessness. Presented to a panel examining local policies and practices around harm reduction and homelessness, University of Victoria.

Lucas, P. (2010, July). Consultation with Health Canada re Medical Cannabis. Coordinator/presenter for a consultation re medical cannabis with Cathy Sabiston, Director General, Controlled Substances & Tobacco Directorate of Health Canada, Vancouver, BC.

Lucas, P. (2010, April). It Can't Hurt to Ask; Assessing Medical Cannabis Patient Needs in Canada. Presented at the 6th Clinical Conference on Cannabis Therapeutics, Providence, RI.

Lucas, P. (2010, April). Regaining Internal Freedom: An Observational Study of Ayahuasca-Assisted Addictions Therapy. Psychedelic Science in the 21st Century, San Jose, CA.

Lucas, P. (2010, April). Hometown Harm Reduction: What municipalities can do to reduce the harms associated with problematic substance use. Presented at the Columbia Institute Center for Civic Governance Annual Conference, Harrison Hot Springs, BC.

Martin, W., Pauly, B., Ostry, A., MacDonald, M., Hayes, M., Matwychuk, M., Curran, D. & Wallace, B. (2010, June). Housing, Food and Income Security: Single Problems or Triple Threat? Paper presented at the annual meeting of the Canadian Public Health Association, Toronto, ON.

Pauly, B., Goldstone, I. & Douglas, J. (2010, April). CNA Discussion Paper on Harm Reduction. Concurrent Session at Canadian Association of Nurses in AIDS Care Conference.

Pinto, A., Parks, A., Tyler, I., Thanos, J., Pauly, B. & Manson, H. (2010, June). Equity in Public Health: Provincial, National and International Document Review. Paper presented at the annual meeting of the Canadian Public Health Association, Toronto, ON.

Phillips, R. & Benoit, C. (2010). Courtesy Stigma: A Hidden Health Concern Among Workers Providing Services to Sex Workers? 2nd Annual CSSH Conference, Ottawa, ON.

Rhodes, R., Benoit, C., Blanchard, C., Symons Downs, D., Levy Milne, R., Naylor, P., Warburton, D., Riecken, K., Mark, R. & Pfaeffli, L. (2010). Comparison of physical activity motivation and behaviour between age-matched parent and nonparent couples. North American Society for the Psychology of Sport and Physical Activity Annual Meeting, Tucson, AZ.

Thompson, K., Gruppuso, V. & Leadbeater, B. (2011). Gender differences in the co-development of anxiety, depression and oppositional defiant disorder symptoms during the transition to young adulthood. Western Society of Criminology 38th Annual Conference, Vancouver, BC.

Stockwell, T. (2010, May). The bases for Canada's new low risk drinking guidelines: A relative risk approach. Presented at the Kettil Bruun Society 36th Annual Symposium, Lausanne, Switzerland.

Zeisser, C., Thompson, K., Stockwell, T., Duff, C., Chow, C., Vallance, K., Ivsins, A., Michelow, W., Marsh, D. & **Lucas, P.** (2010). A "standard joint"? The role of quantity in predicting cannabis-related problems. Kettle Bruun Society 36th Annual Alcohol Epidemiology Symposium. Lausanne, Switzerland.

CARBC Sponsored Conferences and Seminars

Finding a Safe Haven: Client Perspectives on Harm Reduction in Fostering Access to Healthcare. Dr. Bernie Pauly, October 26, 2010, Victoria, BC.

Rethinking Drug Education. Dan Reist, May 14, 2010, Victoria, BC.

CARBC Publications

Ivsins, A., Chow, C., Marsh, D., Macdonald, S., Stockwell, T. & Vallance, K. (2010). Drug use trends in Victoria and Vancouver, and changes in injection drug use after the closure of Victoria's fixed site needle exchange. CARBC Statistical Bulletin, University of Victoria.

Stockwell, T. (2010). Operator and regulatory best practices in the prevention of violence in and around licensed premises: A review of Australian and Canadian research. CARBC Report, University of Victoria.

Stockwell, T., Vallance, K., Martin, G., Macdonald, S., Ivsins, A., Chow, C., Greer, A., Zhao, J., Duff, C., Lucas, P., Marsh, D., Michelow, W. & Treno, A. (2010) The price of getting high, stoned and drunk in BC: A comparison of minimum prices for alcohol and other psychoactive substances. CARBC Statistical Bulletin #7, University of Victoria.

MEDIA COVERAGE

Last year our media coverage covered a wide range of topics, although coverage of harm reduction issues in relation to both alcohol and illicit drugs, alcohol policy (mainly pricing and privatization) and reports from our BC Alcohol and Other Drug Monitoring Project were the most numerous. The majority of recorded media hits were either newspaper (approximately 40%) or radio (approximately 35%), with the others being television and online resources.

Story/Topic	Number of Hits
Youth substance use	11
Alcohol price and taxes	26
Drug policies	14
Vulnerable populations	14
Liquor privatization	28
Drugs and driving	8
Staff and faculty awards	14
Needle distribution services	15
Alcohol and other drug trends	16
Total	174

Table 3: Performance Indicators for Key Results Area 3

OBJECTIVE PERFORMANCE INDICATORS FOR 2010-2011 21 BC and national policy committee memberships (26 in 2009-10, 14 in 2008-09, 11 in 2007-08, 8 in 2006-07) Disseminate research findings to policymakers, practitioners, public health pro-12 reviews of evidence for effectiveness for different types of intervention and policy (14 in 2009-10, 11 in 2008-09, 14 in 2007-08, 14 in 2006-07) fessionals, other researchers, community interest groups and the general public. 24 new resources developed by CARBC and made available online and in print (38 in 2009-10, 29 in 2008-09, 28 in 2007-08,13 in 2006-07) Publish research findings in articles in 43 articles published by CARBC researchers in peer reviewed journals (69 in peer-reviewed journals. 2009-10, 101 in 2008-09, 43 in 2007-08) 3 books (9 in 2009-10, 3 in 2008-09, 2 in 2007-08), 9 book chapters (17 in Publish research findings in book chap-2009-10, 11 in 2008-09, 7 in 2007-08), 1 bulletin (1 in 2009-10, 1 in 2008ters, books, research monographs and 09, 1 in 2007-08), and 17 other reports published by CARBC researchers (1 technical reports. in 2009-10, 1 in 2008-09, 6 in 2007-08)

OBJECTIVE

PERFORMANCE INDICATORS FOR 2010-2011



Achieve a high academic impact for BC addictions-related research so that it is well known, frequently requested and often cited.

468 citations in peer-reviewed journals in 2009-10 of research on substance use issues by CARBC faculty (587 in 2009-10, 609 in 2008-09, 317 in 2007, 353 in 2006)



Provide balanced, factual information on drug-related harms and prevention approaches through a variety of knowledge exchange strategies, including media releases and the internet.

- **174** media hits (161 in 2009-10, 91 in 2008-09, 343 in 2007-08)
- **3** articles from CARBC in magazines, newsletters, websites, and unrefereed journals (2 in 2009-10, 6 in 2008-09, 18 in 2007-08)
- **2,200** copies of reports and other products distributed by CARBC resource centre (30,505 in 2009-10, 2,156 in 2008-09, 3,616 in 2007-08)
- **30,052** visits to our online resource centre and 4,041 to AOD Monitoring website (31,497 in 2009-10, 11,000 in 2008-09)



Conduct seminars, lectures and occasional conferences on the state of knowledge and its application to policy, practice and the research agenda.

- **12** public research seminars (5 in 2009-10, 8 in 2008-09, 5 in 2007-08), **0** national symposia convened or co-convened by CARBC (0 in 2009-10, 0 in 2008-09, 1 in 2006-07), and **0** international symposia (0 in 2009-10, 1 in 2008-09, 1 in 2006-07)
- **40** invitations to present at conferences and symposia accepted by CARBC researchers (28 in 2009-10, 21 in 2008-09, 36 in 2007-08)
- **36** papers accepted for conference presentations from CARBC researchers and students (37 in 2009-10, 88 in 2008-09, 25 in 2007-08)



Contribute to teaching programs on substance use and addictions for undergraduate and graduate courses/programs.

- 8 courses in which addictions issues were taught by CARBC members at UVic (7 in 2009-10, 6 in 2008-09, 5 in 2007-08)
- 4 courses in which addictions issues were taught by CARBC members at other campuses (4 in 2009-10, 5 in 2008-09, 1 in 2007-08)

Cultivate communities of practice

that disseminate knowledge among policymakers, practitioners, public health

professionals, researchers, community

interest groups and the general public in order to increase awareness of drug-

related harms and effective prevention

strategies.

CARBC personnel are represented in the following 19 networks active in BC (20 in 2009-10, 14 in 2008-09, 10 in 2007-08) which link researchers, policymakers, practitioners and members of the wider community with the aim of disseminating knowledge on substance use and addiction:

- BC Mental Health & Addiction Research Network
- BC Partners for Mental Health and Addictions Information
- **BC Addictions Network**
- CIHR Network Grant on Gender, Addiction and Mental Health
- Health Improvement Project Committee
- **UBC Undergraduate Medicine Community Service Learning Option**
- Provincial Academic Detailing Network (PHSA)
- **BC Health Literacy Network**
- Keeping the Door Open
- **BC AOD Monitoring Project Group**
- BC Women's Health Research Network
- **IMPART**
- **CIHR NET Grant on Cross-Substance Studies**
- BC Centre for Disease Control group concerned with injecting drug use and infectious diseases
- Vancouver CCENDU
- BC Coalition for Alcohol Policy Reform
- Representative for Children and Youth
- BC Centre of Excellence on Women's Health
- Institute for Critical Studies in Gender and Health

"To contribute to the implementation of evidence-based policy and practice."

HIGHLIGHTS

Ongoing work exploring the relationships between alcohol policy, alcohol consumption and related harms and violence are particularly current in British Columbia. Several related articles are included in the list of new publications above. CARBC was also able to respond to requests from the BC Ministry of Health to provide two background papers on alcohol policy issues related to implementing the new 10-year plan for addressing mental health and substance use. In addition, CARBC has made significant contributions to the ongoing development of national low risk drinking guidelines.

This past year, the knowledge exchange team developed suites of promising practices that support a health promotion approach to alcohol and other drug use within three specific settings: campuses, communities and schools. These, together with a variety of supporting tools, are available from the CARBC website (www.carbc.ca). Additional funding allowed the Centre to provide increased support, through program consultant Cindy Andrew, to schools implementing the iMinds learning resources or addressing substance use related challenges. As a result, more schools than ever were engaged with CARBC in addressing substance use and related harms. CARBC was also able to provide the BC Ministry of Health with background material for planning the promotion of positive mental health on post-secondary campuses.



Cindy Andrew







COMMITTEE MEMBERSHIPS

Anderson, J.	Advisory Committee on Opioid Dependence, College of Physicians and Surgeons of BC
Anderson, J.	Addictive Diseases Committee, BC Medical Association
Benoit, C.	Chair, Porter Book Prize Committee, Canadian Sociological Association
Benoit, C.	University Delegate, Canadian Institutes of Health Research
Benoit, C.	Panelist, Grand Challenge in Global Mental Health Initiative, Office for Research on Disparities and Global Mental Health, National Institute of Mental Health
Benoit, C.	Program Advisory Committee, IMPART: Intersections of Mental Health Perspectives in Addictions Research Training
Benoit, C.	International Scientific Advisory Board, NIHR King's Patient Safety and Service Quality Research Centre King's College, London, UK
Benoit, C.	Graduate Studies Executive Committee, Faculty of Graduate Studies, University of Victoria
Benoit, C.	Chair, Graduate Committee, Department of Sociology, University of Victoria
Cherpitel, C.	International Network on Brief Interventions for Alcohol Problems
Dyck, T.	Healthy Minds/Healthy Campuses Provincial Steering Committee
Dyck, T.	Alcohol and Youth Working Group
Jansson, M.	Steering Committee, BC Inter-University Research Data Centre, UVic Branch
Jansson, M.	Human Research Ethics Board, University of Victoria
Jansson, M.	Capital Region Action Team on Sexually Exploited Youth (CRAT)
Lucas, P.	Board of Directors, Multidisciplinary Association of Psychedelic Studies Canada
Lucas, P.	Board of Directors, Canadian Students for Sensible Drug Policies
Macdonald. S	. Canadian Alcohol and Drug Use Monitoring System (CADUMS), Health Canada
Macdonald. S	. Canadian Community Epidemiology Network on Drug Use
Pauly, B.	International Harm Reduction Association
Pauly, B.	Registered Nurse, College of Registered Nurses of BC
Pauly, B.	CNA Nursing Ethics Interest Group
Reist, D.	Co-Chair, BC Addictions Network
Reist, D.	BC Health Literacy Network
Reist, D.	Canadian Drug Policy Consortium
Reist, D.	Board of Directors, Kaiser Foundation
Reist, D.	School-Based Mental Health and Substance Use Consortium
Reimer, B.	BC Partners for Mental Health and Addictions Information
Stockwell, T.	National Surveillance Advisory Committee, Health Canada
Stockwell, T.	National Alcohol Strategy Advisory Committee
Stockwell, T.	Canadian Low-Risk Drinking Guidelines Expert Working Group
Stockwell, T.	Advisory Board, Alcohol Research Group, Emeryville, USA
Thomas, G.	BC Partners for Mental Health and Addictions Information

COMPLETED PROJECTS

AME Training and Evaluation

Investigators: Reist, D., Thompson, K., Coleman, P., Reimer, B. & Bodner, N.

Funding Body: BC Ministry of Children and Family Development

Background: CARBC developed the AME (Awareness, Motivation, Engagement) program for the BC Ministry for Children and Family Development, Youth Justice Policy and Program Support. The program was designed to assist youth probation officers in effectively addressing substance use issues with young people in their

Progress to date: The AME pilot program was implemented in late September 2010. The program consisted of resources, training and ongoing support. An online resource provided a basic frame and specific tools. A five-day training course was developed and 22 youth probation officers attended the course. Monthly community-of-practice conference calls were held from October 2010 to March 2011. Probation officers who participated in the AME pilot felt it had significantly influenced their work with young people, and the youth in the program reported a high level of being listened to and generally saw the sessions as useful.

Housing and Harm Reduction Action Plan

Investigators: Pauly, B., Reist, D., Belle-Isle, L. & Schactman, C.

Funding Body: Greater Victoria Coalition to End Homelessness

Background: Previously, CARBC completed an evidence review, environmental scan and community consultations for the Greater Victoria Coalition to End Homelessness Society, a non-profit communitybased organization that engages community organizations, governments, business and individuals to work in partnership with each other and the broader community to lead and drive the commitment to end homelessness.

Progress to date: In 2010-2011, CARBC prepared a harm reduction action plan for the Coalition. This plan set out a series of specific recommendations for implementing harm reduction principles within a "housing first" approach in Greater Victoria within the context of existing strategies and mechanisms.

Development of Low Risk Drinking Guidelines for Canadians

Investigators: Butt, P. (Chair), Beirness, D., Cesa, F., Gliksman, L., Paradis, C. & Stockwell, T.

Funding Body: Canadian Centre on Substance Abuse

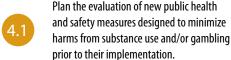
Background: CARBC contributed significantly to the development of the first set of national low-risk drinking guidelines for Canadians. Tim Stockwell represented the Centre on a national expert working group that met over a 12-month period to review evidence and compile recommendations for low-risk levels of consumption for adults and young people and to advise on situations when complete abstinence is essential. Subsequently, Dan Reist was a member of a knowledge exchange working group which developed a dissemination plan and a one-page summary Guide.

Progress to date: The Guideline document was endorsed by many government and non-government agencies across Canada. Endorsement by the federal government for the one-page Guide and the Guideline document is awaited. An article summarizing the evidence base for the guidelines and the underlying logic is in press with the *Drug and Alcohol Review*.

Table 4: Performance Indicators for Key Result Area 4

OBJECTIVE

PERFORMANCE INDICATORS FOR 2010-2011



2 relevant CARBC studies (5 in 2009-10, 2 in 2008-09, 5 in 2007-08, 7 in 2006-07, 3 in 2005-06)

Work in partnership with policymakers and practitioners in the planning, execution and dissemination of some applied research projects.

49 projects involved policymakers and/or practitioners in planning, execution and/or dissemination (17 in 2009-10, 14 in 2008-09, 17 in 2007-08, 24 in 2006-07)



Increase the probability of research findings from CARBC, its partners and other related sources being applied to policy and practice development at national, provincial and local community levels.

CARBC has contributed towards **7** significant policy proposals (7 in 2009-10, 10 in 2008-09, 7 in 2007-08, 5 in 2006-07, 2 in 2005-06). Examples include: developing a harm reduction strategy for the City of Victoria, developing municipal support for alternative alcohol policies, influencing BC alcohol prices, influencing stakeholder and public opinion on substance use and homelessness, the Canadian Nursing Association's submission to a federal enquiry on the Insite program, improved support services for substanceusing mothers, contributing to UK government policies on taxation levels according to alcohol content of drinks.



Provide regular briefings and submissions to government and parliamentary inquiries, policy advisors and relevant provincial and national committees on emerging issues in the prevention of drug-related harms.

- 7 invitations received to make submissions to policy forums, select committees or other such bodies (6 in 2009-10, 10 in 2008-09, 6 in 2006-07, 5
- Membership in 30 BC and national policy committees concerned with substance use and addictions (31 in 2009-10, 13 in 2008-09, 12 in 2007-08, 12 in 2006-07, 5 in 2005-06)



Compete for commissioned research opportunities with the potential to make direct contributions to the development of new policies, programs and service delivery systems.

- 11 successful submissions by CARBC members for commissioned work in relevant areas (11 in 2009-10, 8 in 2008-09, 8 in 2007-08, 8 in 2006-07, 11 in 2005-06)
- 12 commissioned projects undertaken and completed (14 in 2009-10, 11 in 2008-09, 7 in 2007-08, 8 in 2006-07, 8 in 2005-06)
- \$1,555,000 successfully secured for commissioned research and knowledge exchange activities (\$1,586,963.19 in 2009-10, \$1.72 million in 2008-09, \$1.55 million in 2006-07, \$1.63 million in 2005-06)

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