Reducing the societal and economic burden of injury in British Columbia

ANNUAL REPORT
2017–2018

BC INJURY research and prevention unit

Reducing the societal and economic burden of injury in British Columbia
ACKNOWLEDGEMENTS

We gratefully acknowledge the province-wide partnership between the Provincial Health Services Authority (PHSA), Evidence to Innovation Research Theme at the research institute of BC Children's Hospital, and the Department of Pediatrics, University of British Columbia (UBC) for their integral participation and contribution to the BC Injury Research and Prevention Unit (BCIRPU). Their ongoing involvement and support allows BCIRPU to continue to be a leader in the development of evidence-based prevention initiatives that build capacity in health authorities and that contributes to the improved health, well-being, and safety of British Columbians.
# BC Injury Research and Prevention Unit

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Message from Director and Associate Director

It is recognized that individual and collective choices are strongly influenced by the social, economic, and physical conditions where people live, learn, work, and play; therefore, injury prevention must employ a multi-faceted approach in order to be effective. The three “E’s” of injury prevention—engineering, education, and enforcement—demonstrate the role of both individual and collective action to reduce the individual, social, and economic burden of injury.

In 2017–2018, BCIRPU continued its successful program of injury surveillance and research towards the goal of a province free from serious injury and disability. This year we have made significant progress on our provincial approach to injury prevention. Together with the BC Injury Prevention Committee and Ms. Megan Oakey, Provincial Manager for Injury and Falls Prevention and Acting Senior Director, Health Promotion, Chronic Disease and Injury Prevention at PHSA/BCCDC, we have continued our work on the three provincial priorities—seniors falls and injuries prevention; transport-related injury prevention; and the prevention of youth suicide and self-harm—including the development of evidence reviews, gap analyses, and strategic work plans for each priority.

In January, BCIRPU completed a refresh of the Concussion Awareness Training Tool (CATT), giving it a brand-new look and increased functionality. The CATT resource continues to garner interest across Canada. An evaluation was completed for BC Hockey after they mandated CATT for all of their on-ice officials during the 2016-2017 season. BCIRPU’s ten-year partnership with The Community Against Preventable Injuries continues, and the social marketing campaigns have demonstrated effectiveness in changing attitudes and behaviours among British Columbians, and significant reductions in injury mortality in the target population and their children. A productive collaboration with the City of Surrey fire department has resulted in the publication of reports on injury and death among Canadian firefighters, fire-related injuries among Canada’s children and youth, and fire-related injury and building design.

Lastly, we successfully launched the Active & Safe Central website that provides evidence-based injury prevention resources specific to sport and recreational activity, a partnership funded by the BC Alliance for Healthy Living, and built with numerous provincial and national expert partners. BCIRPU actively participated in awareness campaigns across the country, including National Injury Prevention Day and Seniors’ Fall Prevention Awareness Week, and continued to produce and disseminate various knowledge translation products, including Injury Insights, newsletters, social media, and the webinar series. Ongoing efforts include: updates to our economic burden of injury report; Injury Data Online Tool (iDOT) and data visualizations; a social marketing campaign for recreational boaters, in partnership with and funded by Transport Canada; work on risky play; and, continued coordination and evaluation of the Period of PURPLE Crying program in BC, an initiative funded by the BC Ministry of Children and Family Development. It is a testimony to the BCIRPU staff that numerous research abstracts and journal manuscripts have been accepted for presentation and publication at high-ranking peer-review venues; most notably, BCIRPU staff were successful in the submission and acceptance of 15 different research abstracts at the World Injury Prevention Conference to be held in November 2018.

We would especially like to thank PHSA and the BCCDC for their generous funding to BCIRPU—their ongoing guidance and support is invaluable. We would also like to extend sincere thanks to the members of the BC Injury Prevention Committee, the BC Injury Prevention Alliance, and Health Authorities for their ongoing cooperation, collaboration and input throughout the year. We extend considerable gratitude to Dr. Allison Eddy and the Department of Pediatrics, UBC, and to Dr. Wyeth Wasserman and the BC Children’s Hospital Research Institute for providing the environment and ongoing resources that support our research efforts. Finally, we thank the various injury prevention communities, research institutes, and NGOs for their collaboration and continuous support as key partners in building capacity to better address injury prevention in BC and beyond.

Dr. Ian Pike, Director
Dr. Shelina Babul, Associate Director
Message from the Provincial Health Services Authority (PHSA)

BCIRPU has a leadership role in supporting the BC Centre for Disease Control (BCCDC) in advancing its enhanced mandate for chronic disease and injury prevention. As an instrumental member of the BC Injury Prevention Committee (BCIPC), they have supported and actively participated this past year in the province-wide process to develop recommendations for action for two provincial priorities: Falls: adults 65+ and transport-related injuries (young drivers, pedestrians, cyclists, motor vehicle occupants); and the three-year road safety work plan.

The BCIPC, working with myself and the BCIRPU, led the provincial recommendation development including an environmental scan, evidence review, gap analysis, and development of recommendations for action.

Furthermore, BCIRPU and the BCIPC, in consultation with numerous stakeholders, began the work to establish consensus-generated injury prevention indicators and an accompanying data management framework for robust injury surveillance within the developing BC Observatory for Population and Public Health.

This annual report represents outstanding achievements in injury surveillance, research, knowledge translation, and public information by the BCIRPU throughout the 2017–2018 year. BCCDC, PHSA is pleased to be a partner with BCIRPU in our collective mission to reduce the societal and economic burden of injury in BC. We look forward to continued collaboration for action on injury prevention.

Megan Oakey, MPH, B.H.K
Interim Director – Healthy Living Programs & Injury Prevention & Provincial Manager for Injury and Falls Prevention
BC Centre for Disease Control, Provincial Health Services Authority
Our Vision
To be leaders in the production and transfer of injury prevention knowledge and integration of prevention practices in the daily lives of British Columbians.

Our Mission
Saving lives, reducing disability, and promoting prevention.

Background
BCIRPU is located at BC Children’s Hospital and is a core research program within the Evidence to Innovation theme at the research institute of BC Children’s Hospital. BCIRPU also serves as a training centre, and the staff at the Unit may hold faculty appointments at the University of British Columbia. BCIRPU was established as a strategic entity, blending the need for research and evidence with best practices and the development of policies and programs to reduce injury in BC.

Our Role
To serve as a provincial ‘hub’ to provide research-based leadership and coordination to stakeholders in order to reduce the societal and economic burden of injury among all age groups in British Columbia.

Key objectives include:
» Reducing the burden of injury in BC.
» Leading research and knowledge development.
» Improving surveillance.
» Guiding evidence-based prevention.
» Supporting professionals and practitioners.
» Providing awareness, education, and public information.

Strategic Focus
» Surveillance
» Research
» Knowledge Synthesis and Translation
» Public Information

Statistics
» Presentations and Workshops Given: 39
» Newsletters Published: 5
» Reports Published: 54
» Journal Articles Published: 14
» Conference Abstracts: 27
» Media Requests: 103
» Number of Webinar Participants: 217
» Website Visits: 15,461
» Collaborative Grants Awarded: $2,040,135

Funding & Support
BCIRPU operates as a province-wide partnership between the Provincial Health Services Authority (PHSA), Evidence to Innovation Research theme at the research institute of BC Children’s Hospital, and the Department of Pediatrics, University of British Columbia (UBC). BCIRPU is supported by core funding from PHSA, and competes for peer-reviewed grants and contracts.
**Strategic Areas of Focus**

**Surveillance**

Activities are reasonably consistent year to year, but will increase as new databases (e.g. BC Trauma Registry data) are incorporated within the surveillance system. Significant time and attention is required to clean and maintain the databases, to ensure security and utility, and to ensure that the data functions to populate the BCIRPU Injury Data Online Tool (iDOT ©).

**Research**

Activities are planned in advance through the grant writing process. Successful grants include sufficient resources for the required personnel and equipment and are undertaken to align with the core deliverables work of the BCIRPU. Oversight and management for research is provided by BCIRPU principal investigators.

**Knowledge Synthesis & Translation**

Activities are ongoing and significant investments are made to gather and synthesize research evidence and develop meaningful communications for health authorities and other injury prevention researchers, practitioners, and policy makers. Key activities to support knowledge synthesis include systematic reviews of the relevant literature, environmental scanning, and meta-analyses. Translating the research evidence and information includes peer-reviewed publication, conference presentation, workshops and seminars, and face-to-face meetings. Translational research includes pilot testing and modeling. The use of reports, social media (Twitter and Facebook), and other materials as outlined below help support these other communications efforts.

**Public Information**

Activities include information and messages for the media and the general public. BCIRPU currently utilizes its website, social media, and newsletter to convey this information and messaging, and has created a strategic alliance with The Community Against Preventable Injuries (Preventable) to develop and implement professional social marketing campaigns.
**TOP 5 STORIES OF 2017–2018**

**Active & Safe Central (p. 16)**

A new resource to educate parents, kids, coaches, and teachers on how to prevent injuries while staying active is now available. Launched on May 10, 2018, in honor of International Move for Health Day, Active & Safe Central contains information on common injuries, risk factors, and strategies for injury prevention for over 50 sports and recreational activities.

The information on activesafe.ca is tailored for participants, parents and the wide range of people who support sport and recreation including coaches, teachers, officials, administrators and health professionals. The project is supported by BC’s Physical Activity Strategy, which is co-led through a partnership between the BC Government and the BC Alliance for Healthy Living. Active & Safe Central was developed in collaboration with SportMedBC, BC Recreation and Parks Association, Sport Injury Prevention Research Centre, Canadian Injury Prevention Trainee Network, Parachute, and viaSportBC.

**Refresh of Concussion Awareness Training Tool (CATT) (p. 15)**

In January 2018, we launched our refreshed website for concussion information, cattonline.com. Our new resource combines our three toolkits—CATT for Medical Professionals, CATT for Parents, Players, and Coaches, and CATT for School Professionals—into one central website. The new website contains more information about concussions, individual pages for each course, a section for latest news, and more. We have also refreshed the look and functionality of the SCAT5 and Child SCAT5 tools for use by medical and licensed health care professionals for use in office or on any desktop, tablet, or smartphone.

The new cattonline.com has been updated to reflect the 2017 Concussion in Sport Group Consensus Statement as well as emerging evidence-based resources. The e-learning module for medical professionals was updated to reflect the new standards in Spring 2018, with the others to follow.

**Dr. Ian Pike receives UBC award, promotion**

2017 was a banner year for BCIRPU Director Dr. Ian Pike, who received the 2017 University of British Columbia (UBC) President’s Award for Public Education Through Media, and was promoted to full Professor status at the UBC Department of Pediatrics.

According to UBC’s Research and Innovation Office, the award is given to a faculty member “who has demonstrated outstanding service to the University and the community by actively and creatively sharing research expertise via the news media.” Dr. Pike was recognized for his work as director of the BCIRPU and founding member and spokesperson for The Community Against Preventable Injuries (Preventable).

A well-known expert on injury prevention topics with the media, Dr. Pike is a tireless advocate for public safety. Since the launch of Preventable in 2009, he has completed over 100 media interviews on topics surrounding drowning prevention, safe boating and water safety, proper ladder use, work-related injury, and changing behaviours and attitudes to prevent injuries. Dr. Pike received his award on April 17, 2018. Congrats, Ian!
National Injury Prevention Day


This new annual recognition day was created to help build awareness of the devastating impact of injury. Injury is the number one killer of Canadians aged 1 to 44, where one child dies every nine hours. Most injuries are predictable and preventable, and we want to help Canadians live long lives to the fullest through education, knowledge, and empowerment.

A social media campaign was launched with the hashtags #NIPD and #StopTheClock. Major landmarks across the country showed their support for this cause by “going green.” Thank you to the following BC landmarks for “going green” on July 5: Canada Place, Vancouver City Hall, Telus World of Science, Fitsimmons Bridge (Whistler), BC Place.

Seniors’ Fall Prevention Awareness Week (p. 22)

In November 2017, the BCIRPU implemented a campaign to raise awareness of the prevalence of seniors’ falls in BC and how older adults can prevent them.

Seniors’ Fall Prevention Awareness Week took place from November 6–12, coinciding with national Fall Prevention Month. The multi-platform campaign, delivered through the Finding Balance BC website, saw great success in many areas, all supplemented by excellent engagement and participation from the health authorities. Four key messages were delivered: the importance of strength and balance, making your home safer; getting regular eye exams; and having your doctor or pharmacist review your medications.

Campaign highlights include:

» 6,354 posters were delivered to over 500 public health units, GP offices, pharmacies, and trauma units across BC

» A press release about Fall Prevention Week resulted in 7 media stories

» Facebook ads contributed to 140,049 people reached and 335,114 impressions

» Tweets sent from November 6–12 gained 34,900 impressions, approximately 5,000 per day
Support Services

SUPPORTING INJURY PREVENTION PROFESSIONALS

A Provincial Hub

BCIRPU serves as the hub, providing leadership and coordination, for injury prevention initiatives in BC, and is directly aligned to support the needs of the BC Ministry of Health’s Service Plan, the public health core model program needs of health authorities, the PHSA Population and Public Health priorities, as well as the needs of other stakeholders. BCIRPU provides ongoing support to BC health authorities, the BC Injury Prevention Committee (BCIPC), and members of the BC Injury Prevention Alliance (BCIPA) in the development, implementation, and evaluation of injury prevention plans and evidence-based initiatives in a way that best serves the client in order to enable cost-effective, evidence-based, and targeted injury prevention policies, strategies, and interventions.

BCIRPU assists health authorities and other stakeholders with:

» Injury prevention program planning, development, and evaluation.
» Identification of key trends, issues, and best practices.
» Co-ordination and facilitation of injury surveillance.
» Expert training in injury and falls prevention.
» Research design, methods, and analysis.
» Research literature searches and synthesis.
» Grant application development.

Support to Health Authorities in Fall and Injury Prevention

Ongoing support continues with the health authorities in seniors’ falls and injury prevention. Contact is ongoing with health authority falls prevention leads by way of the community of practice, and chairing the BC Fall and Injury Prevention Coalition.

Map of Services

The BCIRPU plays a central role in coordinating communication among the injury prevention leads within the Health Authorities, and in supporting opportunities for networking and communication. BCIRPU is represented on the Health Authority Injury Prevention Working Group.

BCIRPU provides substantial support to the work of the BC Injury Prevention Committee (BCIPC). Following last year’s selection of the provincial injury prevention priorities, BCIRPU has supported:

» Development of the 3-year BCIPC work plan.
» Completion of the falls prevention environmental scan.
» Completion of the falls prevention intervention evidence review.
» Completion of the injury indicator scan to develop injury indicators by generating consensus among decision makers and programming funders in order to recommend a data management framework for policy-relevant whole-system reporting.
» Development of the BC Seniors Falls and Injury Prevention Recommendations for actions following a five step process.
» Investigation into trampoline park injuries.
» Development of an Injury Prevention Business Case for resources and capacity for all health authorities in British Columbia.
SUPPORTING INJURY PREVENTION PROFESSIONALS

During the 2017-18 operating period, BCIRPU provided the following support services to BC Health Authorities:

- **Northern Health**
  » Ongoing support for fall and general injury prevention.

- **Vancouver Coastal Health**
  » Participated in the VCH Regional Injury Prevention Committee.
  » Ongoing support to Program Lead for Injury Prevention with Trauma Services.
  » Reviewed submissions to the VCH Trauma Services Action Mini-grants.
  » Provided professional development training for school professionals at two sites in support of the VCH promotion of the Concussion Awareness Training Toolkit for School Professionals.
  » Collaborating to provide VCH with tracking of school professionals completing the online CATT course.
  » Supported the VCH Trampoline Safety Campaign.

- **Island Health**
  » Ongoing support for fall and general injury prevention.
  » Worked on access to the Trauma Datacube and the CDI Datamart in partnership with the observatory epidemiologist from Island Health.
  » Worked on defining injury hospitalizations from the Discharge Abstract Database in collaboration with the observatory epidemiologist from Island Health.

- **Interior Health**
  » Ongoing support for fall and general injury prevention.

- **Fraser Health**
  » Regular participation in the Unintentional Injury Prevention Priority Action Committee.
  » Provided support to MPH students during placements.
  » Participation in the Concussion ABI team meetings.
SUPPORTING INJURY PREVENTION PROFESSIONALS

Other Injury Prevention Resources

BC Casebook for Injury Prevention (released 2015)

A visual resource aimed at politicians, senior bureaucrats, and executive leaders in provincial and municipal government to assist Health Authorities and other injury stakeholders with decision-making, priority setting, planning processes, and resource allocation for Injury Prevention in Public Health in BC. Supporting resources include:

» Casebook Infographic
» Casebook Video
» Casebook PowerPoint Presentation

View the Casebook on the BCIRPU website.

Economic Burden of Injury in BC (released 2015)

A companion piece to the Casebook, providing breakdowns for the causes of injury, rates, and costs within each BC health authority, showing where injury prevention efforts in each health authority could have the greatest return on investment. Supporting resources include:

» Economic Burden Executive Summary
» Economic Burden Infographic

View the Report on the BCIRPU website.

BC Injury Online Directory (released 2017)

Featuring injury prevention stakeholders across BC to facilitate networking and collaboration among practitioners, policy-makers, researchers, service providers, and community members.

Access the Directory on the BCIRPU website.

The Canadian Atlas of Child and Youth Injury Prevention

Highlighting the work of the CIHR Team in Child and Youth Injury Prevention, this platform brings injury data and information together, allowing injury professionals, practitioners, and policy makers to make informed and timely decisions to improve child and youth injury prevention in Canada. The Potential Years of Life Lost (PYLL) visualization illustrates the loss due to child and youth deaths between 2006 and 2011 in Canada.

Access the tool at injuryevidence.ca.
CHIRPP

BCIRPU operates the BC component of the Canadian Hospitals Injury Reporting and Prevention Program (CHIRPP)—an injury surveillance system funded by the Public Health Agency of Canada and in use in 11 pediatric and 7 general hospitals across Canada. The program continues to amass extensive data and information on child and youth injury, which is used to inform injury prevention policy and programs.

Injury Data Online Tool

Available via the BCIRPU website, the Injury Data Online Tool (iDOT©) provides up-to-date surveillance data and information. Users select from multiple pull-down menus to choose parameters and create the customized view of the injury mortality and injury hospitalization data according to their needs. Numbers, rates, and age-adjusted rates can be presented. Longitudinal and cross-sectional comparative data is available and can be further broken down by multiple specific parameters such as age, sex, region, and injury type. The iDOT© also provides information on the number of hospital days and the costs related to hospital treatment. Included in the iDOT© are road safety data from the Traffic Accident Statistics (TAS) database provided by the Insurance Corporation of BC (ICBC); the inclusion of sports-related data using the Discharge Abstract Database, CHIRPP BC emergency department data, and work-related injury death and injury claims from WorkSafeBC. Data have been updated to the most recent years available.

Visit our website to access the iDOT©.

Google Analytics for the iDOT© (April 1, 2017–March 31, 2018)

- Pageviews: 2,454
- Unique Pageviews: 1,867
- Average Time on Page: 3:10
GUIDING EVIDENCE-BASED PREVENTION

Research and Knowledge Development Services

With expertise in injury epidemiology, health promotion and education, psychology, kinesiology, preventive medicine and public health, BCIRPU provides applied injury research and knowledge development leadership and support to government, health authorities, PHSA Population & Public Health, and other stakeholders.

As well as its continuing program of injury research and knowledge translation, BCIRPU assists health authorities and stakeholders with:

» Research design, methods, and analysis.
» Research literature searches and knowledge synthesis.
» Identification of key trends, issues, and best practices.
» Grant application development and review.
» Injury prevention program planning, development, and evaluation.

Recreational Boating Safety Project (funded by Transport Canada)

BCIRPU received funding from Transport Canada to address recreational boating safety over three years. The project launched in spring 2017 and is being conducted in partnership with The Community Against Preventable Injuries (Preventable), the Lifesaving Society and Royal Canadian Marine Search and Rescue.

The purpose of the project is to develop, deliver and evaluate a social marketing campaign to recreational boaters in BC that will raise awareness, transform attitudes and ultimately change behaviours and reduce boating injuries. In the first year of the project, an epidemiological report of recreational boating deaths and injuries was produced to guide creative development of the campaign materials in preparation for the launch of the campaign in Year 2. The report described fatalities, hospitalizations and emergency department visits related to recreational boating injuries, as well as the applicable legislation, a review of the relevant peer-reviewed literature and previous safe boating campaigns in Canada. The key risk factors identified were alcohol consumption and lifejacket wear. The highest number of injuries occurred among adult males, in powerboats, and on lakes and oceans.

As previous Preventable boating campaigns have addressed the two key risk factors, development of an entirely new creative campaign platform was not needed. Instead, a robust communications plan and messaging around safety preparedness was developed. A baseline survey, measuring boaters’ awareness, attitudes and behaviours related to preventable injuries, was conducted in the spring of 2018. The campaign is slated to launch in summer 2018, with messaging to appear in marinas throughout the province and supported by a robust digital strategy and on-water engagement activity by RCMSAR volunteers.
GUIDING EVIDENCE-BASED PREVENTION

Sport and Recreation Injury Prevention

Concussion Awareness Training Tool (CATT)

The Concussion Awareness Training Tool (CATT, cattonline.com) is an online resource providing e-learning training in the recognition, treatment and management of concussion. This evidence-based resource is tailored for medical professionals, coaches, parents/caregivers, school professionals, and players/participants.

The CATT resource has been redesigned and updated based on the recommendations of the 5th International Conference on Concussion in Sport that took place in Berlin in October of 2016. It also incorporates new and emerging evidence. The redesign included the creation of mobile-friendly versions of the SCAT5 and Child SCAT5 for medical professionals.

Work on the redevelopment of the CATT course for medical professionals progressed during 2017–18 in partnership with Parachute and the Public Health Agency of Canada as part of the national Concussion Harmonization project. The updated e-learning course will be free-of-charge, available in both English and French, and eligible for credits with the Maintenance of Certification (MOC) program through the Royal College of Physicians and Surgeons of Canada. The revised course shifts its original focus from the recognition and diagnosis of concussion to concussion treatment and management. It will cover how to effectively assess a patient’s concussion situation within the initial post-injury period, how to optimally manage concussion care during the first 2-4 weeks post-injury period, and how to identify when referral to specialty care is required.

E-learning courses include:

» CATT for Medical Professionals – aims to standardize practice in a clinical setting for the pediatric and general population. Resources include diagnostic tools, clinical resources, patient handouts, journal articles, websites, and videos.

» CATT Coaches – speaks to concussion identification and management, with resources including Return to Sport and the Smartphone accessible Concussion Incident Report.

» CATT for Parents – speaks to concussion identification and management, with resources including Questions to Ask Your Doctor, Return to School, and Return to Sport.

» CATT for School Professionals – includes Return to School and resources to support teachers, administrators, counsellors, and others in the school setting.

The development of a CATT e-learning course and resources for Workers and Workplaces is currently being funded by the Population and Public Health Prevention Projects Funding opportunity at the BC Centre for Disease Control and will be available in the summer of 2019.

Google Analytics for cattonline.com (April 1, 2017–March 31, 2018)

» Sessions: 30,453

» Pageviews: 55,104
GUIDING EVIDENCE-BASED PREVENTION

BC Hockey Concussion Policy Evaluation: CATT for Team Officials

The CATT e-learning module for coaches was developed to provide up-to-date educational training on the recognition, response, management, and prevention of concussion. In June 2016, BC Hockey mandated CATT training for all team officials, to be completed prior to the 2016-2017 hockey season.

The objectives of the BC Hockey Concussion Policy Evaluation were to:

1. To assess the effectiveness of the online Concussion Awareness Training Tool (CATT) course for Coaches as an educational tool for BC Hockey team officials.
2. To examine the level of support in mandating the CATT course for parents of BC Hockey players.
3. To enhance the CATT website using participant feedback.

The survey had a greater than 10% response rate (n=1,593). Prior to the mandated CATT training, participants reported hearing about CATT primarily from BC Hockey, family or friends, e-mails or newsletters, and fellow on-ice officials. BC Hockey team officials reported a significant increase in concussion knowledge following the CATT training (p<0.001). Mandating CATT training for parents was supported by 68.4% of respondents, with females significantly more in favour males (p<0.02).

Participant feedback, to be used towards the upcoming enhancement of the CATT website, included the development of a downloadable information package for coaches upon completion of the CATT training.

Injury Prevention for Sport and Recreational Activity – Active & Safe Central

Active & Safe, co-led by Drs. Shelina Babul and Ian Pike, addresses the gaps in the availability of sport and physical activity injury prevention resources in the published literature and digital space. Funded by the BC Alliance for Healthy Living, BCIRPU worked on this project in collaboration with the Sport Injury Prevention Research Centre and injury prevention stakeholders, SportMedBC, BC Recreation and Parks Association, viaSport BC, and Parachute. The comprehensive project team included experts in sport and recreation, the BC Children’s Hospital Digital Lab, and the Canadian Injury Prevention Trainee Network.

The phases of this project included:

1. Determining priority sports and recreation activities for review
2. Reviewing evidence and consulting with key stakeholders to identify best practices, programs, policy recommendations and key educational messages/materials in injury prevention
3. Developing an Integrated Knowledge Transfer Strategy
4. Developing a Central Online Resource Scoping Document
5. Developing and curating content for the online training module and resources
6. Creating Active & Safe Central resources.
GUIDING EVIDENCE-BASED PREVENTION

Active & Safe Central (continued)

Over 50 sport and recreational activities were identified for inclusion in this initiative. As an evidence-based resource, the review of evidence for each sport and recreational activity included:

1. A review of comprehensive literature reviews in the last 10 years to identify evidence-based prevention recommendations
2. Review of primary studies in the past 5 years
3. A scan of existing guidelines

Each sport and recreational activity contains its own landing page, which includes an overview, common injuries, injury statistics, risk factors, and tailored prevention information for participants and parents, coaches and teachers, officials and administrators, and health professionals.

Active & Safe Central launched on May 10, 2018 via a media release distributed by the research institute at BC Children’s Hospital.

Evaluation was approached in a three-step plan:

1. Focus groups with mock-ups to inform discussion
2. Smaller session beta-testing, working through the tool to address user-friendliness
3. Post-launch anonymous feedback and Google analytics

This online resource will support schools, community organizations, and individual British Columbians to promote safe engagement in sport and recreation activity.

Learn more at activesafe.ca.

Fire and Firefighter Safety

The BCIRPU received funding from the City of Surrey to produce, in collaboration with the University of Fraser Valley, a set of four reports related to fire and firefighter safety.

One report looked at the determinants of injuries and deaths among Canadian firefighters using claims data. It was found that cancer was the leading cause of deaths among firefighters, whereas traumatic injuries were the leading cause for time-loss claims.

The three remaining reports involved analyzing the National Fire Information Database, which was a novel database containing fire incidents and victims information reported by the Fire Commissioners and Fire Marshal Office from across Canada. The first report examined residential fire-related injuries and deaths among Canadian children and youth and found significant socioeconomic status effects. The second report looked at the relationship between fire protection features in the home and injuries to civilians and showed that sprinklers and smoke detectors reduced injury rates in residential areas. The third report investigated the relationship between firefighter casualties and building properties and fire safety measures. This report did not find evidence that building properties (i.e. age, material, height) were associated firefighter casualty rates, but rather that working smoke alarms, sprinkler coverage, and firefighting experience helped reduce casualty rates.

A key recommendation for the Canadian Council of Fire Chiefs was to continue to improve the quality of the database by harmonizing data collection practices across all jurisdictions in order to reduce inconsistencies and missing data fields.
GUIDING EVIDENCE-BASED PREVENTION

Parenting and Injury Prevention

Go Play Outside! (funded by the Lawson Foundation)

Outdoor risky play is important for children’s healthy development and wellbeing. However, opportunities for outdoor risky play have been decreasing across generations due to perceptions that it is dangerous and unnecessary. With the aim to better inform parents of young children about the importance of outdoor risky play and promote behaviour change, we developed an educational tool in online (https://outsideplay.ca) and in-person workshop format, based on the existing risk reframing model. Since the launch in January 2017, our online tool has been well-received, being visited by over 14,500 users producing over 77,000 page views.

We are currently conducting a randomized controlled trial to test the tool. Participating mothers of children between 6 and 12 years of age residing in Metro Vancouver are randomly assigned to one of the three intervention groups: 1) OutsidePlay.ca online tool; 2) Position Statement on Active Outdoor Play (control condition); and 3) in-person workshop. They complete a series of measures three different times – at baseline, 1-week post-intervention, and 3-months post-intervention. A protocol paper was published in Trials describing the study. Findings will be shared with the public through presentations, manuscripts, social media and other dissemination means. For more information, visit www.Brussonilab.ca.

Playability (funded by CIHR)

The Playability study is designed to develop an index of how playable neighbourhoods are for children aged 10-13 years. It is a three-stage study, with the first phase focused on gathering the children’s and their parents’ perspectives. We recently completed this stage in which 105 boys and girls in Grandview-Woodland, Lower and Central Lonsdale, and Steveston areas, participated in our study and wore a GPS watch and an accelerometer for 7 days to help us understand their physical activity and mobility patterns. They also participated in go-along interviews, where they gave us a tour of their neighbourhood while discussing what they like (or not) about their neighbourhood and what they do when they play outside. In addition, their 127 parents participated in interviews to share their perceptions towards their neighbourhoods in the context of children’s outdoor play. We are currently analyzing the data to outline determinants of children’s outdoor play, which will inform the development of Playability Index. A paper describing the methods of this study is currently under review.

For more information, visit the Playability study page.
The Period of PURPLE Crying Program—Prevent Shaken Baby Syndrome BC

The Period of PURPLE Crying® program has been implemented in British Columbia province-wide since January 2009. PURPLE program education and materials are delivered to parents of BC’s nearly 45,000 annual births via three doses:

1. Maternity services and midwifery clinics;
2. Public health units; and
3. A public education campaign called CLICK for Babies.

The PURPLE program aims are to:

1. To support caregivers in understanding the frustrations of normal increased infant crying that can lead to shaking or abuse, and
2. To reduce the incidence of shaken baby syndrome/abusive head trauma in BC.

The PURPLE program has been institutionalized in all 50 birthing hospitals, 138 public health units, several midwifery clinics and various provincial community agencies including pregnancy outreach, infant development, Aboriginal support, foster parent support, and adoption groups. The majority of materials were in English in a booklet/App format.

Free online training is available for the following groups: maternity / public health / primary care nurses, adoptive and foster parents, childcare and child service providers.

To date, 5,972 maternity and public health nurses have completed the program implementation training, and since inception, 1,725 foster parents have received training.

Learn more at dontshake.ca.
**GUIDING EVIDENCE-BASED PREVENTION**

**Road Safety and Motor Vehicle Injury**

Traffic collisions continue to be a major cause of injury and death among British Columbians. Research to reduce traffic-related injuries and deaths, and to reduce the burden on our health care system is essential. BCIRPU has been engaged in a number of initiatives to reduce motor vehicle crashes in BC and Canada.

These include:

» Evaluation of traffic safety interventions in BC—to assist in understanding the impact of BC traffic safety laws on safety improvements in terms of injury and fatality reduction.

» Actively involved with RoadSafetyBC and the BC Road Safety Strategy Steering Committee and working groups to achieve Vision Zero and the safest roads in North America by 2020. This includes actively promoting the use of the BC Community Road Safety Toolkit with municipalities and stakeholders.

» Supporting the CHASE (Child Active Transportation Safety and the Environment) program to study how features of the built environment affect whether children walk or bike to school and whether or not certain built environment features increase or decrease their likelihood of getting hurt.

Continuing the work of:

- Fatal child injuries in real world crashes.
- The “ejection stereotype” project, a collaboration with the Laboratory for Rational Decision-Making at Cornell University, seeks to explain why some parents underestimate the benefit of booster seats.

**Seniors’ Fall and Injury Prevention**

**BC Falls and Injury Prevention Coalition (BCFIPC)**

Megan Oakey, Provincial Manager for Injury and Falls Prevention, BCCDC, and member of the BCIRPU, is the coalition chair. The membership of the Coalition comprises Health Authority Falls and Injury Prevention Leads and Managers, academics, and those in the private sector. The main activities for the BCFIPC were:

1. Continuing the BC Seniors’ Falls Awareness Prevention Week to run the entire month of November. Campaign posters were displayed at flu clinics, pharmacies, and GP offices across BC, and Staying Independent checklists to assess personal falls risk factors were distributed to clients. The campaign again used the www.findingbalancebc.ca website to promote material via social media and serve as a BC’s primary falls and injury prevention information for the public (see p. 22).

2. Promoting the Medication and the Risk of Falling resource for Health Practitioners in partnership with members of the BCFIPC and the BC Pharmacy Association. The resource is housed on the FindingBalanceBC website.
Improving Injury Awareness and Knowledge

BCIRPU monitors the best prevention practices in BC, throughout Canada, and in other countries around the world by reviewing literature on injury prevention interventions and by networking with local, regional, national, and international injury prevention partners. BCIRPU completes in-depth analyses of current interventions in order to identify those with proven success and transfers this knowledge to government, health authorities, PHSA, and other stakeholders.

BCIRPU assists health authorities and stakeholders with:

- Literature searches and knowledge synthesis.
- Identification of key trends, issues, and best practices.
- An interactive injury website (injuryresearch.bc.ca).
- An online interactive injury surveillance data tool (iDOT©).
- Injury prevention teleconference seminar series.
- Customized injury prevention presentations, workshops, and seminars.
- Injury prevention fact sheets and public information tools.
- Formal injury prevention training curricula.

The Canadian Injury Prevention Curriculum

The Canadian Injury Prevention Curriculum (CIPC) focuses on injury prevention, control theory and practice. It is the first curriculum of its kind that is targeted to community based public health and injury prevention practitioners, and is built on Canadian content and uses Canadian examples to illustrate injury prevention concepts. Delivered as a 2-day workshop, this curriculum is geared towards researchers and injury prevention professionals who practice injury prevention in the community.

The CIPC was delivered as a 2-day workshop in Vancouver on September 27 and 28, 2017, with a total of 18 participants from around the province in attendance. Local content was incorporated into the workshop, including presentations on provincial priorities for injury prevention, using photo voice as means of data collection and presentation to influence policy, risky play, and the Period of PURPLE Crying.

CIPC Facilitator Training Workshop

This workshop is geared to training and mentoring individuals who have taken the CIPC course so that they are able to facilitate and conduct their own workshops.

BCIRPU helps health authorities and other injury stakeholders successfully build capacity in education and training programs, conferences, seminars, workshops, and public education and social marketing campaigns.
BCIRPU ANNUAL REPORT 2017–2018

Knowledge Synthesis, Translation & Public Education

IMPROVING INJURY AWARENESS & KNOWLEDGE

BCIRPU Webinar Series

During the 2017–2018 operating period, BCIRPU continued to deliver an informative webinar series. Five seminars were provided by leading experts in the field, with a total of 217 registered participants.

Webinar topics:

1. May 18, 2017 | Dr. Jeff Brubacher
   Cannabis and Motor Vehicle Crashes: What is the Evidence?
2. September 21, 2017 | Dr. Tarek Sayed
   Automated Road Safety Analysis Using Traffic Conflict Techniques
3. November 23, 2017 | Dr. Tessa Clemens
   Understanding the True Burden of Drowning in Canada: The Epidemiology and Prevention of Non-Fatal Drowning
4. January 19, 2018 | Dr. Kay Teschke
   Modernizing the British Columbia Motor Vehicle Act
5. March 15, 2018 | Dr. Kelly Russell
   Concussion Care: The Manitoba Experience

Education and Public Information

BC Seniors’ Fall Prevention Awareness Week 2017

The first Fall Prevention Week was held in 2007. It has, subsequently, been held every year across British Columbia during the first week of November running from Monday to Sunday with participation from regions across BC. The Proclamation is approved and issued by the Lieutenant-Governor of British Columbia each year.

The 2017 BC Seniors’ Fall Prevention Awareness Week continued to run the entire month of November. Over 6,000 campaign posters and over 50,000 Staying Independent checklists were sent to GP offices, public health and trauma units, and pharmacies across BC. A media release resulted in four online and three radio stories. Articles and a campaign toolkit were displayed on findingbalancebc.ca, and for the first time, we used social media ads to promote campaign messages.

The campaign raised awareness of four key messages:

1. Keep your body active.
2. Have your eyes checked by an optometrist once a year.
3. Make your home safer.
4. Have your doctor or pharmacist review your medications.
ThinkFirst BC: Brain Waves

This year, the BCIRPU was successful in educating over 300 elementary school children about brain and spinal cord injury through our Brain Waves program.

Brain Waves is a fun and engaging half-day neuroscience presentation that teaches students in grades 4 to 6 about the brain and spinal cord. Thank you to our trained volunteers, who brought the hands-on program—which includes activity booklets, helmet fitting tips, and Jello Brains—to the classroom.

If you would like to participate in Brainwaves 2019, please email bcinjury1@cw.bc.ca.

Injury Insight

BCIRPU produces Injury Insight, a periodic injury prevention factsheet/newsletter focused on injury issues of interest in BC. Production of these knowledge translation products has supported a partnership with the Langara College Nursing Program.

Injury Insights published during 2017–2018:

- Pedestrian Injury from Motor Vehicle Crashes in BC
- Injuries from Falls on Stairs
- “Kids Bounce Back” After Injury

We are currently developing an Injury Insight on falls among British Columbia seniors aged 85 years and older.

Read all of our Injury Insights online.
The Community Against Preventable Injuries (Preventable)

The Community Against Preventable Injuries (Preventable) is a province-wide, multi-partner social marketing organization designed to raise awareness, transform attitudes, and ultimately change behaviours. Its goal is to significantly reduce the number and severity of preventable injuries in BC.

BCIRPU is a founding strategic partner of Preventable, and provides the evidence, the research and the evaluation behind its injury prevention social marketing campaign. Dr. Ian Pike serves as the spokesperson for Preventable and Drs. Shelina Babul, Mariana Brussoni and Ms. Jennifer Smith have served as expert spokespersons on specific injury issues like concussion and play-related injuries.

Year 9 of the Preventable campaign launched in June, with a giant banana peel appearing downtown Vancouver and again over the Labour Day weekend in Olympic Village. The 8-foot installation was popular on social media and sparked conversation online about paying attention to the risks that are right in front of us.

Continuing from last year, the 30-second TV ad was again aired and broken down into five shorter injury-specific segments all using the “Seriously?” tagline for 2017/18. The 15-second segments, featuring ladder falls, burns in the home, helmet use while skateboarding, texting and driving, and laundry pod poisoning, were made available for Public Service Announcement and digital use.

Preventable also delivered 5 campaigns in partnership with the BC Liquor Distribution Branch to address alcohol consumption and serious injuries. Each month-long campaign was delivered in BCLDB stores and on social media, with the “March moderation” campaign also making use of geotargeted mobile ads. During the summer, Preventable partnered with Canadian Red Cross and Vancouver Biennale to put giant lifejackets on the laughing statues in English Bay and remind the public about the importance of water safety.
Networks, Coalitions & Partners

SUPPORTING INJURY NETWORKS & COALITIONS

Cooperation and Collaboration

In order for injury prevention activity in BC to be successful, a multi-sectoral and interdisciplinary approach is necessary. BCIRPU is supported by a province-wide partnership between the Evidence to Innovation theme at the research institute of BC Children’s Hospital, BC Ministry of Health (MoH), Provincial Health Services Authority (PHSA), and the University of British Columbia (UBC). BCIRPU is accountable to each of these partners, as well as through the active participation and involvement of these and other clients and constitutes it serves.

BCIRPU has established strong strategic relationships with many provincial, national, and international agencies and organizations that allow it to draw on a wide variety of resources and expertise that builds capacity and better addresses injury prevention in BC.

BCIRPU serves as a hub, and plays a central role in coordinating and leading injury prevention initiatives throughout the province and across Canada. BCIRPU provides leadership and support to government, health authorities, and other stakeholders, including the extensive networks and coalitions that these organizations participate in.

Networks and Coalitions

In addition to participating in strategic provincial, national, and international networks, during the 2017–2018 operating period, BCIRPU directly supported:

- **PHSA Leadership Council for Population and Public Health**
- **BC Injury Prevention Committee (BCIPC)** — providing coordination and secretariat support.
- **BC Injury Prevention Alliance (BCIPA)** — providing coordination and secretariat support.
- **BC Falls and Injury Prevention Coalition** — providing coordination and secretariat support.
- **The Community Against Preventable Injuries (Preventable)** — providing injury prevention research and evaluation expertise, leadership, and spokesperson support to the injury prevention social marketing campaign.
- **BC Concussion Advisory Network** — providing leadership, coordination, and secretariat support.
- **Road Safety Data and Measurement Group** — providing coordination and support.
- **Parachute** (the national NGO for injury prevention)—providing provincial leadership and coordination under the renewed MOU.
- **viaSport Safe Sport Advisory Group** — providing leadership, coordination, advocacy, and communication.
- **Child & Nature Alliance of Canada**—providing leadership support.
Networks, Coalitions & Partners

Key Partnerships

In the 2017–2018 operating period, BCIRPU worked with the following key partners:

» Alberta Centre for Injury Control and Research
» BC Alliance for Healthy Living
» BC Ambulance Service
» BC Automobile Association
» BC Coroners Service
» BC Drug and Poison Information Centre
» BC Falls and Injury Prevention Coalition
» BC Hockey
» BC Injury Prevention Alliance
» BC Medical Association
» BC Ministry of Health
» BC Ministry of Public Safety and Solicitor General
» BC Recreation and Parks Association
» BC Regional Health Authorities
» BC Road Safety Foundation
» BC Concussion Advisory Network
» Brain Injury Association of Canada
» BrainTrust Canada
» Canadian Concussion Centre: Krembil Neuroscience Centre (Toronto Western Hospital)
» Canadian Red Cross
» Canadian Standards Association
» First Nations and Inuit Health Branch
» Fortius Sport & Health
» Health Canada Supporting Injury Networks & Coalitions
» Hockey Canada
» Holland Bloorview Kids Rehabilitation Hospital
» Insurance Corporation of British Columbia (ICBC)
» Occupational Health and Safety Agency for Healthcare
» Parachute
» Provincial Health Services Authority
» Public Health Agency of Canada
» RCMP E-Division
» Safe Communities
» Saskatchewan Government Insurance
» Sport Injury Research Prevention Centre (University of Calgary)
» SportMedBC
» The Community Against Preventable Injuries (Preventable)
» The Djavad Mowafaghian Centre for Brain Health
» University of British Columbia – Vancouver and Okanagan
» University of Calgary – Sport Injury Prevention Research Centre
» Vancouver General Hospital Trauma Services
» viaSport
» Winnipeg Pan-Am Concussion Clinic
» WorkSafeBC
» York University
REVENUES & EXPENDITURES

Sources of Revenue

62.9%
Research Grants & Contracts

25.9%
MoH/PHSA Core Funding

6.8%
Facilities/Operations and In-Kind Support

4.3%
BC Children's Hospital Research Institute (BCCHR)

0.3%
Admin & Finance Services

2.6%
Operating Costs

4.3%
BCCHR-Supported Salaries & Benefits

6.8%
Facilities/Operations and In-Kind Support

23.0%
MoH/PHSA Supported Salaries & Benefits

Sources of Expenditure
AWARDS, GRANTS, PUBLICATIONS & CONFERENCES: APRIL 1, 2017 – MARCH 31, 2018

Research Awards & Grants


» Emery C, Babul S (Co-I), et al. Prospective evaluation of body checking policy changes on the risk of concussion and injury in non-elite youth ice hockey players. Canadian Institutes of Health Research. (2012-2018)


» Hagel B, Pike I (Co-I), et al. The Built Environment and Active Transportation Safety in Children and Youth. Canadian Institutes of Health Research. (2017-2021)


» Schonert-Reichl K (PI), Brussoni, et al. Restoring the Path: An Integrated
Vision for Fostering Active, Healthy, Resilient Children. UBC, Faculty of Medicine Strategic Investment Fund. (2017-2018)


Journal Articles


Technical Reports


» Couperthwaite A, Richmond SA, Black A, Babul S, Pike I. Evidence Summary: Figure Skating. Active & Safe Central. BC Injury Research and Prevention Unit: Vancouver, BC; 2018. Available at http://activesafe.ca/.


Williams D, Richmond SA, Black A, Babul S, Pike I. Evidence Summary: Basketball. Active & Safe Central. BC Injury Research and Prevention Unit:
Conference/Symposium Proceedings

- Sandseter, EBH, Brussoni M, Duncan S, Bundy A. Risky play and children’s growth learning, health and well-being: Definitions, evidence and


Invited Presentations


Workshops


**OTHER CONTRIBUTIONS**

**Dr. Ian Pike**
- Board Member: The Community Against Preventable Injuries.
- Chair: Expert Advisory (Scientific) Committee. Parachute Canada.
- Chair: Scientific and Knowledge Translation Advisory Board. Alberta Program in Youth Sport & Recreational Injury Prevention.
- Co-Executive Director: The Community Against Preventable Injuries.
- Director, BC Injury Research and Prevention Unit.
- Director, BC Shaken Baby Syndrome – Intentional Injury Prevention Program.
- Editorial Board Member: BMJ Injury Prevention.
- Media Spokesperson: The Community Against Preventable Injuries.
- Member: BC Concussion Action Network (BC CAN).
- Member: BC Health Surveillance Advisory Committee.
- Member: BC Injury Prevention Alliance.
- Member: BC Injury Prevention Committee.
- Member: BC Road Safety Strategy Steering Committee.
- Member: Canadian Agricultural Injury Reporting Expert Committee.
- Member: Canadian Collaborating Centres on Injury Prevention and Control.
- Member: Child Death Review Panel, BC Coroner’s Service.
- Member: Canadian Injury Prevention and Control Curriculum – Revisions Committee.
- Member: Canadian Red Cross, BC Detention Monitoring Team.
- Member: Executive Steering Committee, Road Safety BC Strategy.
- Member: Injury Free Coalition for Kids.
- Member: International Collaborative Effort on Injury Statistics (ICES).
- Member: Multidisciplinary Team, BC Representative for Children and Youth.
- Member: Provincial Health Services Authority, Centres for Aboriginal Health.
- Member: Research Leadership Council, BC Children’s Hospital Research Institute.
- Member: Society for Advancement of Violence and Injury Research (SAVIR).
- Member: Steering Committee: BC Shaken Baby Syndrome – Intentional Injury Prevention Program.
- Member: Steering Committee: Department of Pediatrics, Population Health Committee.
- Member and Co-Editor: Canadian Injury Textbook Committee.
- Research Theme Lead: Evidence to Innovation (E2i). BC Children’s Hospital Research Institute.
- Team Lead: Canadian Red Cross Immigrant Detention Monitoring Team. (BC Holding Centre, Vancouver International Airport, Allouette Correctional Facility, Fraser Correctional Centre).

**Dr. Shelina Babul**
- Associate Director: BC Injury Research and Prevention Unit.
- Chair: BC Concussion Advisory Network (BC CAN).
- Director: Canadian Hospitals Injury Reporting & Prevention Program (CHIRPP) at BC Children’s Hospital.
- Director: ThinkFirst BC.
- Member: BC Hockey Safety and Risk Management Committee.
- Member: BC Injury Prevention Alliance.
- Member: BC Injury Prevention Committee.
- Member: Canadian Academy of Sport and Exercise Medicine.
- Member: Canadian Collaborating Centres on Injury Prevention and Control.
- Member: Canadian Standards Association, BC Advisory.
- Member: Canadian Traumatic Brain Injury Research Consortium.
- Member: Child Health BC Concussion Advisory Group.
- Member: Interdisciplinary Trauma Network of Canada.
- Member: Parachute National Concussion Expert Advisory Committee.
- Member: Provincial Health Services Authority, Centre for Population & Public Health Leadership Council.
- Member: viaSport Safe Sport Advisory Group.
Dr. Mariana Brussoni

» Board Member: Child & Nature Alliance of Canada.
» Editorial Board Member: Injury Epidemiology Journal.
» Member: BC Children’s Hospital Foundation Child Health Integrative Partnerships (CHIPS) Subcommittee 4: Keep Kids and Families Healthy – Across BC and Globally.
» Member: Canadian Public Health Association.
» Member: Canadian Outdoor Play Working Group.
» Member: Canadian Outdoor Play Collective Impact Strategic Planning Group.
» Member: Canadian Public Health Association Advisory Committee: Risk Mitigation Policy Toolkit.
» Member: CFRI/BCCHR Scholars of Excellence Advisory Group.
» Member: International Play Safety Network.
» Member: Outdoor Play Canada Steering Committee.
» Member: Public Health Association of BC.
» Member: UBC Department of Pediatrics Appointments, Reappointments, Promotion and Tenure Committee.
» Member: UBC Department of Pediatrics Merit Review Committee.
» Member: UBC SPPH Recognition, Communications and Culture Committee.
» Member: UBC SPPH Awards Committee.
» Member Scholar: International Institute for Qualitative Methodology.