

A photograph of two young women standing outdoors in a grassy area with a modern building in the background. Both women are wearing white face masks. The woman on the left is wearing a yellow hoodie under a blue denim jacket. The woman on the right is wearing an orange sweater and white pants. They are both smiling and bumping their fists in a friendly gesture. A blue banner is overlaid on the bottom left of the image, containing the text 'Annual Report 2020-2021'.

# Annual Report 2020-2021

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

## ACKNOWLEDGEMENTS

We gratefully acknowledge the province-wide partnership between the BC Centre for Disease Control (BCCDC), Provincial Health Services Authority (PHSA), Evidence to Innovation Research Theme at the BC Children's Hospital Research Institute, 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.



THE UNIVERSITY OF BRITISH COLUMBIA

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## MESSAGE FROM THE DIRECTORS

Dr. Ian Pike & Dr. Shelina Babul

This annual report is a compilation of our achievements and a testament to our resilience as a team.

The BCIRPU 2020-2021 Annual Report summarizes a unique year, unlike any we have experienced before. The COVID-19 pandemic presented the team with many challenges, but which inspired innovation and creativity to ensure our mission to reduce the societal and economic burden of injury in British Columbia. Like most other British Columbians, who were suddenly working virtually, the operational obstacles were challenging and different for everyone; from working at home, some in close quarters with children and partners, to the challenges of communications and computing technology, and to others seconded to COVID-19 relief positions. We recognize the unique challenges that were, and continue to be addressed with working during a global pandemic. We would like to thank all members of the BCIRPU team who all took the situation in stride and who continued their excellent high quality work under these unusual circumstances. This report is a tribute to the BCIRPU team and the many individuals who facilitate, support and collaborate with us.

While many of our projects were adapted to the remote working reality, BCIRPU researchers were able to contribute to the growing and important body of research exploring the impact of COVID-19 on injury. BCIRPU received generous funding from the Canadian Institutes of Health Research (CIHR) to examine the unintended consequences of the stay-at-home policies and restrictions on child and youth injury, we also examined cannabis poisonings among BC children and youth, published an op-ed on staying active while remaining safe and socially distanced at home, and continued work with our First Nations partners

at Akwesasne on the Voices of our Children and Youth: Akwesasne project. Pivoting from a focus on injury prevention, and at the request of the Kana:takon Grade 5 and 6 classes, the children discussed the impacts of COVID-19 on themselves and their schoolmates, and developed peer-education messages and materials for all local Akwesasronon children. Later in the spring and summer months, following the advice to British Columbians to stay home and vacation locally, BCIRPU researchers collaborated with Preventable to develop prevention messages focused on poison prevention (in partnership with the BC Drug and Poison Information Centre); boating safety and drowning prevention; and outdoor recreation safety and injury prevention.

The team at BCIRPU added an additional Concussion Awareness Training Tool (CATT) course to the series of online educational resources and modules. CATT for Athletes is aimed at varsity-level athletes and addresses the importance of reporting all concussions and teaches athletes how to support themselves or a teammate in the event of a concussion. CATT for Medical Professionals was expanded to include a component on treatment and management guidance for physiotherapists and occupational therapists. And, the CATT team received a Service Recognition Award from BC Hockey, a non-profit organization responsible for governing approximately 150 minor hockey associations in the province. CATT is currently mandated by numerous universities across the country, including UBC and UBC-Okanagan, the University of Northern British Columbia, and the University of Victoria, as well as many provincial sports organizations such as BC Hockey and BC School Sports, the governing organization for school sports in the province with about 450 member schools and more than 90,000 student athletes.

Dr. Mariana Brussoni leads a program of research at BCIRPU focused on childhood development, outdoor play and injury prevention, which received multiple grants in 2020-2021. This included \$250,000 from BC Children's Hospital Foundation to support the Risky Outdoor Play project, expansion of the OutsidePlay.ca risk reframing tools to include a tool for children and parents to develop common goals and plans for outdoor play, and \$650,000 from the Lawson Foundation to launch, Promoting Early Childhood Outside (PRO-ECO): An Outdoor Play Intervention for Children Aged 3 to 5 Years in Early Learning and Child Care Programs. This partnership with the YMCA aims to develop and test a multi-component intervention to increase the time and quality of children's outdoor play in childcare settings. For her continuing excellence in research, Dr. Brussoni was awarded a UBC Faculty of Medicine Distinguished Achievement Award for Excellence in Clinical or Applied Research. Congratulations Mariana!

BCIRPU continued to develop and distribute public education materials and messages, and during 2020-2021, BCIRPU was recognized for these efforts by the International Safety Media Awards (ISMA). ISMA honours exceptional safety and injury prevention media from around the world, and recognizes creativity and excellence in Print, Web-based, Short and Ultra-Short Videos, and overall Campaigns. BCIRPU was recognized for its CATT Online and Active & Safe websites, which won Gold awards, while the Preventable program took two gold and one silver award, and honourable mention for their video, print, and campaign materials.

We acknowledge that all BCIRPU team members experienced personal challenges in this past year as they dealt with COVID-19, yet remained focused and as productive and successful as ever. We extend our deep gratitude and thanks to our BCIRPU colleagues who moved injury research and prevention work forward; published 33 articles;

made 32 peer-presentations, and collaboratively earned over \$2.6 million in grants during 2020-2021. We are also grateful for the many longstanding relationships with program and research partners, and extend a huge vote of thanks for their continued collaborations and support. Finally, we would like to extend our thanks to our operating partners at the BC Centre for Disease Control, Provincial Health Services Authority, The University of British Columbia, the BC Children's Hospital Research Institute and the BC Ministry of Health, all of whom managed to keep injury prevention in clear view, while addressing their own organizational challenges during the pandemic. Thank you.

COVID-19 has led to unprecedented circumstances and challenges for everyone, and we have seen the many difficulties it has created in many quarters. COVID-19 has also led to wonderful examples of caring, resilience, creativity and pure fortitude. We are exceptionally proud of the BCIRPU team, who despite the challenges of working at a distance, have grown closer as a team. We thank each and every one of you, and look forward to our continued efforts to reduce the societal and economic burden of injury in British Columbia.

Sincerely,



Dr. Ian Pike, Director



Dr. Shelina Babul, Associate Director



# MESSAGE FROM THE PROVINCIAL HEALTH SERVICES AUTHORITY (PHSA)

**Dr. Reka Gustafson**

I wish to congratulate the BC Injury Research and Prevention Unit (BCIRPU) on a successful year despite enormous challenges due to the COVID-19 pandemic and work-from-home orders. Your ability to pivot projects and change research direction has been exemplary. The successful submission of several COVID-19 related research grant applications is a testament to the strength of the whole team.

Importantly, your leadership in injury surveillance, research and public education has allowed health authorities to advance the provincial injury prevention agenda, despite most of the Public Health workforce being redeployed to support COVID-19 activities. I value the BCIRPU's continued support for the development of high priority research, recommendations for action, and work plans supporting the three provincial injury prevention priorities, in collaboration with Megan Oakey, Provincial Manager for Injury Prevention.

This annual report represents outstanding achievements in injury surveillance, research, knowledge translation, and public information by the BCIRPU throughout the 2020-2021 year. The BCCDC is pleased to be a partner with BCIRPU in our collective mission to reduce the societal and economic burden of injury in BC. As we exit the pandemic and enter our recovery phase, I look forward to continued collaboration for action on injury prevention in the years ahead.

Sincerely,

Dr. Reka Gustafson, MD FRCPC  
Vice President, Public Health and Wellness & Deputy Provincial Health Officer  
Provincial Health Services Authority



# BCIRPU AT A GLANCE

## Our Vision

To be a leader in the production and transfer of injury prevention knowledge and the integration of evidence-based injury prevention practices in the daily lives of those at risk, those who care for them, and those with a mandate for public health and safety in British Columbia.

## Our Mission

To reduce the societal and economic burden of injury among all age groups in British Columbia through research, surveillance, education and knowledge transfer, public information and the support of evidence-based, effective prevention measures.

## Background

BCIRPU is located at BC Children's Hospital and is a core research program within the Evidence to Innovation theme at the BC Children's Hospital Research Institute. To achieve its mission, the Unit was established as a strategic entity, supporting the development of policies and programs through research, surveillance, and the translation of evidence and knowledge to researchers, policy makers, practitioners, and the public. BCIRPU leaders are members of the faculty at the University of British Columbia, and train and mentor future health care professionals, researchers, policy makers, and injury prevention practitioners.

## 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 social and economic burden of injury in BC
- Improving injury surveillance
- Leading research and knowledge development
- Guiding evidence-based prevention
- Supporting professionals and practitioners
- Providing awareness, education, and public information

## Strategic Pillars

- Surveillance
- Research
- Knowledge Synthesis and Translation
- Public Information

## Funding & Support

BCIRPU operates as a province-wide partnership between the BC Ministry of Health (MoH), BC Centre for Disease Control (BCCDC) at Provincial Health Services Authority (PHSA), Evidence to Innovation Research theme (E2i) at BC Children's Hospital Research Institute (BCCHR), and the Department of Pediatrics, University of British Columbia (UBC). BCIRPU is supported by core funding from MoH and PHSA, and competes for peer-reviewed research grants and contracts.

# STRATEGIC AREAS OF FOCUS

## Surveillance

Understanding trends and patterns is an important first step in reducing the burden of injury. Injury surveillance is the ongoing collection, analysis, interpretation, and timely dissemination of injury data. Government, health authorities, and other stakeholders require data to inform their decisions to develop and implement effective injury prevention initiatives. The BCIRPU maintains a comprehensive, up-to-date, and standardized surveillance system through its Injury Data Online Tool (iDOT) to support these efforts.

## Research

High-quality research is crucial for the development of evidence-based injury prevention policy and programming. With expertise in injury prevention, epidemiology, health promotion and education, psychology, kinesiology, preventive medicine, communications and social marketing, and public health, BCIRPU provides applied injury research and knowledge development leadership and support to government, health authorities, PHSA and BCCDC, researchers, and other stakeholders. Our collaborations with provincial, national, and international researchers and stakeholders support injury prevention research across age groups, mechanisms of injury, socioeconomic status, and among Indigenous communities.

## Knowledge Synthesis & Translation

BCIRPU monitors the best injury research and prevention practices in BC, Canada, and around the world. The Unit completes in-depth analyses of current interventions in order to identify those with proven success. This knowledge is compiled and communicated to government, health authorities, BCCDC, PHSA, and other stakeholders. Examples include research evidence reviews, evaluations, syntheses of injury indicators—both general and specific to the provincial injury prevention priorities—and health authority-specific reports.



## Public Information

Improving knowledge and changing attitudes and behaviours can lead to the reduction of disability and death from preventable injuries. BCIRPU currently utilizes traditional digital tools and media to convey injury prevention information to the general public. This is achieved through the Unit's strategic alliance with The Community Against Preventable Injuries in the delivery of a province-wide Preventable injury prevention social marketing program, as well as core programs including the Concussion Awareness Training Tool (CATT), Prevent Shaken Baby Syndrome BC, Finding Balance BC, Active & Safe Central, and Outsideplay.ca.



# TOP STORIES OF 2020–2021

Here's what we were talking about this past year.



PURINO | SHUTTERSTOCK

## Research into Unintended Consequences of COVID-19 policies receives funding

The Canadian Institutes of Health Research (CIHR) provided funding to support a study of the unintended consequences of implementing stay-at-home policies during the COVID-19 pandemic (\$267,750: PI – Dr Ian Pike). This project will use several data sources to better understand how children and youth may have suffered violence-related injury during the pandemic. The research team will use data from BC and Ontario to report on the types and related circumstances of injuries. It is expected that this information can inform prevention efforts in the event of future stay-at-home policies.

## Dr. Brussoni Receives Generous Donation

A generous gift from the Lawson Foundation heralds the launch of Promoting Early Childhood Outside (PRO-ECO): An Outdoor Play Intervention for Children Aged 3 to 5 Years in Early Learning and Child Care Programs (\$650,000: PI – Dr Mariana Brussoni). PRO-ECO, which has been co-developed with the YMCA of Greater Vancouver with support from scientific advisors and public health professionals, has four core components:

- Development of policies and procedures
- Early childhood educator training and mentorship
- Outdoor space modifications
- Parent/caregiver engagement

## New Concussion Course for Athletes

With generous funding provided by the Canadian Academy of Sports and Exercise Medicine, U SPORTS, Canadian Athletic Therapists Association, Ontario Athletic Therapist Association, Atlantic Provinces Athletic Therapists' Association, and Department of Health Sciences, Brock University, BCIRPU launched a new concussion toolkit that provides guidance on navigating a concussion and returning to sports (PI – Dr Shelina Babul). CATT for Athletes consists of free online resources, including an e-Learning course and associated materials that varsity athletes can use to navigate the return to sport and the classroom after sustaining a concussion. The course is free and available in both English and French. To inform the development of the CATT for Athletes e-Learning module, current and former student athletes across



## TOP STORIES OF 2020–2021

Here's what we were talking about this past year.

Canada provided input into the course content, which also includes personal stories from athletes who have experienced a concussion.

Learn more at [www.cattonline.com/athlete/](http://www.cattonline.com/athlete/).

### Cannabis Poisoning in Children

In early June, BCIRPU published its study on cannabis poisonings among BC children and youth in *Health Promotion and Chronic Disease Prevention in Canada: Research, Policy and Practice*. The study analyses data from the three-year period prior to recreational cannabis legalization in Canada in order to set a baseline for future comparisons. Researchers extracted data from the Canadian Hospitals Injury Reporting & Prevention Program (CHIRPP) database for the period January 1, 2016 and December 31, 2018. Researchers found that of the 911 poisonings treated at BC Children's Hospital, 12.5% resulted from intentional cannabis consumption, among a group of patients with an average (median) age of 15 years old. Most of these poisoning cases occurred as a result of the co-ingestion of cannabis with other substances, most notably alcohol. A media release developed in partnership with the Provincial Health Services Authority (PHSA) resulted in ten media stories, including by CBC News, CTV, and News 1130.

### VOICES of Our Children and Youth: Akwesasne

VOICES of Our Children and Youth is a three-year CIHR-funded project conducted in partnership with the First Nations community at Akwesasne (PI – Dr Ian Pike). The project privileges the voices of children and youth in creating safer places for child and youth play, sports, and active transportation. In addition to the focus

on safety and injury prevention, on May 8th, the VOICES project students were filmed by Akwesasne TV at the request of the Kana:takon Grade 5 and 6 classes to conduct a VOICES session on kid's perspectives on the impacts of COVID-19. The purpose of the session was to educate local Akwesasronon children about COVID-19 in a community context, and about how to stay safe. The lesson covered the symptoms of COVID-19 and how to stay safe at home and in the community. The lesson also included posters that were made by the children illustrating who their heroes are in this pandemic – all in the perspective and voices of the kids. children illustrating who their heroes are in this pandemic.





# MEDIA HIGHLIGHTS

Here's what we were talking about this past year.



KEITH JOHNSTON | SHUTTERSTOCK

BCIRPU had 27 stories in the media in 2020-2021. Here are some highlights from the past year.

## Youth Falling Through the Cracks

With data gathered from hospitals, the census, and locations of mental health services throughout the province, BCIRPU researchers found that self-poisoning rates were highest in rural areas with poorly distributed mental health services compared to urban regions. The research project was featured in an article on Castanet.net. "Although antidepressants increase young people's risk of suicidal thoughts, the benefits of antidepressant treatment greatly outweigh the potential dangers," Dr Ian Pike says. "Physicians

should monitor young patients for signs of mental health concerns, closely monitor those who are prescribed antidepressants and discuss alternative coping strategies."

## BC School Coaches Required to take Concussion Training

High school coaches and administrators in B.C. are now required to take CATT for Coaches, according to B.C. School Sports, the body that governs high school sport in the province. "We really wanted to make sure that regardless of what sport any student was participating in, we could provide an environment that people are trained to identify, prevent and handle concussions properly," Jordan Abney, Executive Director, B.C. School Sports told [CBC News](#). There are more than 70,000 student athletes across the province who participate in 19 different sporting activities and there are about 7,000 coaches, assistant coaches, student trainers, and other administrators responsible for helping deliver school sports who will take CATT for Coaches.





## MEDIA HIGHLIGHTS

Here's what we were talking about this past year.

### Coronavirus: safe for kids to play outside

Dr. Mariana Brussoni was featured in a segment with City News called [News 1130 Gets Answers](#). The question she discussed was, "Is it safe for my kids to play outside with friends?"

*"All identified outbreaks of three or more cases occurred in an indoor environment, which confirms that sharing indoor space is a major SARS CoV-2 [novel coronavirus] infection risk," the study's abstract concludes.*

### Drowning Prevention

During the summer months of the pandemic, drownings across the province increased. The advice to stay at home and explore locally resulted in more people heading outdoors in BC, and to ever more remote locations. "Unfortunately, drowning deaths are likely to occur when we're seeing the nicest weather in our province," said Dr Ian Pike in a Vancouver is Awesome story. BCIRPU appeared in the news multiple times throughout the summer, raising awareness of how to be safe in, on and around water. Dr Ian Pike commented in one article about the City of Kelowna refusing to reinstate lifeguards at their beaches, "Things are going to be different this year," "When the weather gets fine and people do venture out, they may have a lot of pent-up energy and in their excitement may overlook some of the risks and requirements for safety," he said in the Globe and Mail.



COLLIN QUINN LOMAX | SHUTTERSTOCK



## SUPPORT SERVICES

### Supporting injury prevention professionals

#### A Provincial Hub

BCIRPU serves as a provincial 'hub' and leads work to develop and define injury definitions, and establish inclusion and exclusion criteria in various injury datasets. This work is done in collaboration with observatory epidemiologists in each of the health authorities, clinical support managers in the health authorities, as well as data managers and analysts within BC Ministry of Health and Trauma Services BC.

#### Provincial Injury Prevention Priorities

The BC Injury Prevention Committee (BCIPC), co-chaired by Ms Megan Oakey (Provincial Manager for Injury Prevention at BCCDC) and Dr Murray Fyfe (Island Health) and supported by BCIRPU, continued their work to establish provincial priorities for injury prevention. In 2020-2021, work on these priorities - seniors' falls and injury prevention; transport-related injury prevention; and the prevention of youth suicide and self-harm, was slowed and suspended due to other COVID-19 pandemic priorities and the redeployments of critical staff members. Despite this, important strides forward with the work were made.

#### Seniors' Fall Prevention

A working group, formed in spring 2019 with members from the Ministry of Health's Guidelines and Protocol Advisory Committee (GPAC), the BC Injury Prevention Committee (BCIPC) and the BCIRPU, continued to develop the BC Falls Risk Assessment and Management Guidelines for Older Adults – aligning with a key recommendation from the Senior Falls and Injury Prevention Priority. After an initial delay due to the pandemic, the guideline was approved by the GPAC committee for full external review, which took place during the summer of 2020. The final guideline was approved during the summer of 2021.

Ms Megan Oakey and Ms Denise Beaton presented a half-hour oral presentation on the development of this guideline at the 5th Canadian Fall Prevention Virtual Conference in November 2020. They also continued to co-chair the BC Falls and Injury Prevention Community of Practice (CoP), whose mandate is to foster collaboration, reduce the duplication of effort, and work toward the standardization of provincial fall prevention resources.



## Road Safety

Ms. Megan Oakey presented survey results from work by the BCIPC on barriers and enablers to neighbourhood level walking and cycling at the Virtual Pre-Conference Global Injury Prevention Showcase Mar 22-26, 2021. Work continued to complete the manuscript for the BCIPC-led survey on key elements of an automated speed enforcement program that engender public support.



SP-PHOTO | SHUTTERSTOCK

## Youth Suicide and Self-Harm

Due to the COVID-19 pandemic, the Youth Suicide & Self-Harm Working Group suspended their work to develop recommendations for action based on the BC Coroners Service Death Review Panel Report, Supporting Youth and Health Professionals: A Report on Youth Suicides. However, the evidence review was resumed in late 2020, and it is anticipated that the working group will resume activities later in 2021.

## Map of Services

BCIRPU plays a central role in coordinating communication among injury prevention leads in BC, facilitating opportunities for networking and collaboration. BCIRPU provides substantial support to the work of the BC Injury Prevention Committee (BCIPC) and is represented on Health Authority Injury Prevention Working Groups.

BCIRPU assists BC's health authorities and other stakeholders with:

- Injury prevention program planning, development, implementation, and evaluation
- Coordination and facilitation of injury surveillance
- Identification of key trends, issues, and evidence-based best practices
- Expert training in injury and falls prevention
- Research design, methods, and analysis
- Research literature searches and synthesis
- Grant application development and review



During the 2020-21 operating period, BCIRPU provided the following support services to BC Health Authorities:

## ■ Northern Health

- Ongoing support for falls, road safety data, general injury prevention, and data requests.

## ■ Vancouver Coastal Health

- Informed the development of a trauma patient injury survey at VGH
- Provided safety messaging on cliff jumping related to return-to-activity during COVID-19

## ■ Interior Health

- Assisted the Interior Health epidemiologist

## ■ First Nations Health

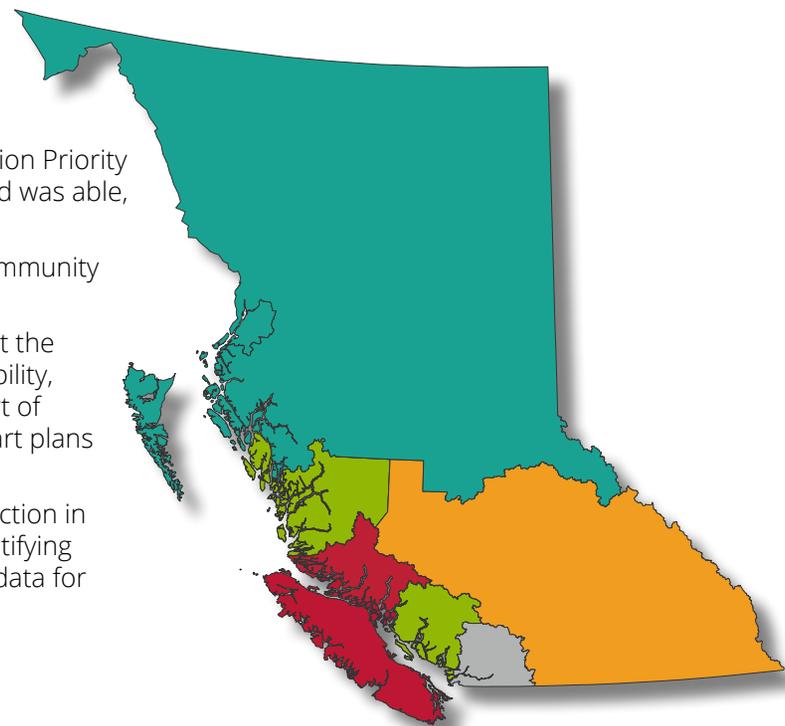
- Building upon exploratory discussions related to injury prevention with the First Nations Health Authority (FNHA) in 2018-2019, a collaboration was formed between FNHA, BCIRPU, and Trauma Services BC to develop First Nations Injury Surveillance in BC. The first step in establishing this surveillance system is to gain access to the First Nations Client File (FNCF) in order to enable linkages with available datasets. During 2020-2021, a Privacy Impact Assessment (PIA) and Information Sharing Agreement was drafted and is currently under review.

## ■ Fraser Health

- The Unintentional Injury Prevention Priority Action Committee continued, and was able, to work on:
  - A proposal for Vision Zero community grants (2nd round)
  - The creation of safe spaces, at the municipal level, for active mobility, waiting, and recreation as part of COVID-19 response and restart plans
  - The improvement of routine standardized injury data collection in emergency departments identifying methods for analysing injury data for e-scooter related injuries

## ■ Island Health

- Assisted the Island Health epidemiologist by updating the serious injury indicator for children and youth for the Child Health BC website



- Northern Health
- Vancouver Coastal Health
- Island Health
- Interior Health
- Fraser Health

BCIRPU collaborated with analysts and epidemiologists in all health authorities via the Injury Surveillance Methods Working Group to establish consistent methods for defining and reporting injuries in BC, and continued the collaboration with BC Trauma Services (BCTS) to develop a secure linked Injury Data Mart.



## Other Injury Prevention Resources

### BC Casebook for Injury Prevention

This visual resource was created to assist government decision makers, leaders in Health Authorities and other injury stakeholders with decision-making, priority setting, planning processes, and resource allocation for Injury Prevention in BC. Supporting resources include an infographic, video, and PowerPoint presentation. In 2020-2021, BCIRPU undertook a review and refresh of all cases to ensure data and information represented the most recent evidence in support of injury prevention. The Casebook will be moved to an online resource, providing greater flexibility for maintenance and user experience. View the [Casebook](#) on the UBC cIRcle website.

### Economic Burden of Injury in BC

A companion piece to the Casebook, this resource provides a breakdown of the causes of injury, rates, and costs within each BC health authority, thereby showing where injury prevention efforts in each health authority could have the greatest return on investment. Supporting resources include an executive summary and summary infographic. View the [Report](#) on the UBC cIRcle website.

### BC Injury Online Directory

This directory lists injury prevention stakeholders in BC with the goal of facilitating networking and collaboration among practitioners, policy-makers, researchers, service providers, and community members.

### Injury Insights

BCIRPU produces Injury Insight, a periodic injury prevention factsheet/newsletter focused on injury issues of interest in BC. In 2020-2021, BCIRPU published factsheets on motorcycle injuries, cannabis poisoning in children, the cost of burns among young children, ATV safety, outdoor schools, and a factsheet on data: material wealth and social connectedness in relation to injury. Access all current and past Injury Insights on [our website](#).

### Active & Safe Central

This resource contains injury prevention information for over 50 sports and recreational activities. Visit [activesafe.ca](#).

### Concussion Awareness Training Tool

The Concussion Awareness Training Tool (CATT) is a series of online eLearning modules and resources with the goal of standardizing concussion recognition, diagnosis, treatment, and management. CATT provides medical professionals, coaches, parents, teachers, athletes, working adults, and women's support workers with the latest evidence-based information on concussion. Visit [cattonline.com](#).

### Outsideplay.ca

This online risk reframing tool was created to help parents and early childhood educators learn the importance of outdoor risky play and develop strategies for promoting healthy outdoor risky play for children. Visit [outsideplay.ca](#).



# SURVEILLANCE

## Understanding injury trends and patterns

### Improving Injury Surveillance

BCIRPU's surveillance system currently includes data on injury hospitalizations including sports-related injuries (2001/02-2016/17), deaths (2001-2018), road crash information (TAS data) (deaths: 2002-2019), ED visits to BC Children's Hospital (CHIRPP data) (2007-2018), and work-related injury claims (WorkSafe) (2001-2019). New databases are incorporated as they become available and new data sharing agreements are secured, with ongoing cleaning and maintenance as required.

### Injury Data Tools

Ongoing efforts include:

- Operating the BC Injury Reporting System, providing injury statistics and information to the BC Ministry of Health, BCCDC/PHSA, the BC Injury Prevention Committee, the BC Injury Prevention Alliance, the health authorities, and other agencies and organizations (e.g. BC Coroners Service, Child Death Review Unit; BC Superintendent of Motor Vehicles and the BC Road Safety Strategy Steering Committee).
- Conducting ongoing collection, analysis, interpretation, and dissemination of high-quality injury statistics and information related to emerging trends, identified gaps in evidence, best practices, and best buys.
- Maintaining data sharing agreements with various agencies and organizations, to ensure a comprehensive view of injury in BC.
- Managing the interactive Injury Data Online Tool (iDOT©), a direct interface with the surveillance data for users to produce customized tables, charts and data visualizations.
- Support, partnership and collaboration towards the development of an Injury Data Mart, which will provide a secure facility for surveillance data and data linkage.
- Support the development of an injury surveillance system using data that identifies First Nations Status, working in collaboration with the First Nations Health Authority (FNHA) to identify surveillance needs, data sources, outputs, and products.

### Canadian Hospitals Injury Reporting and Prevention Program (CHIRPP)

BCIRPU operates the BCCH component of the Canadian Hospitals Injury Reporting and Prevention Program (CHIRPP), an emergency department level injury surveillance system funded by the Public Health Agency of Canada (PHAC) and in use in 11 pediatric and 9 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 (iDOT)

Available via the BCIRPU website, the Injury Data Online Tool (iDOT©) provides up-to-date surveillance data and information. Users select from multiple drop-down menus to choose parameters and create a customized view of injury mortality (BC Vital Statistics - VS) and injury hospitalization (Discharge Abstract Database – DAD) data according to need. Case counts, rates, and age-adjusted rates can be obtained and presented in tables and/or charts for online viewing or export into MS Excel, MS Word or as a text file. Longitudinal and cross-sectional comparative data are 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 injury-related length of stay in hospital, and the costs related to hospital treatment.

In addition to DAD and VS data, iDOT© includes road-related injury data from the Traffic Accident Statistics (TAS) database provided by the Insurance Corporation of BC (ICBC); sports- and recreation-related injury hospitalizations using the DAD, BC Children’s Hospital Emergency Department injury data (Canadian Hospitals Injury Research and Prevention Program – CHIRPP), and work-related injury death and injury claims from WorkSafeBC. Data are updated annually to the most recent years available. Access [iDOT©](#) via the BCIRPU website.

## Injury Data Visualizations

In response to user requests, BCIRPU developed a series of data visualizations highlighting injury trends and patterns in BC utilizing the data sets supporting iDOT©. Currently, seven visualizations are available providing the user the opportunity to manipulate the visualization through the inclusion of data filters to view the data by age, sex, region, etc. Access the data visualizations via the BCIRPU website.

- Injury related deaths in BC, 2008-2017
- Road traffic-related deaths in BC, 2009-2018
- Injury related hospitalizations in BC, 2014/15-2016/17
- Sport-related hospitalizations in BC, 2009/10-2016-17
- Concussion-related hospitalization rate in BC, 2012/13-2016/17
- BC Children’s Hospital injury-related ER visits, 2012-2014
- Concussion-related ER visits in BC, 2012/13-2016/17

### Google Analytics for the iDOT© pages and data visualizations (April 1, 2020–March 31, 2021)

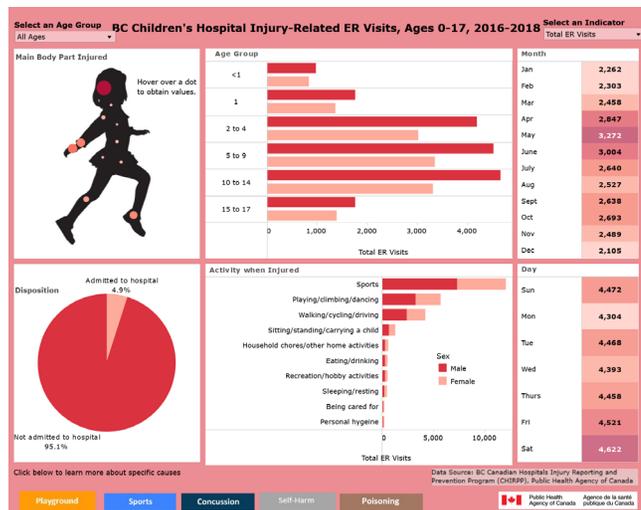
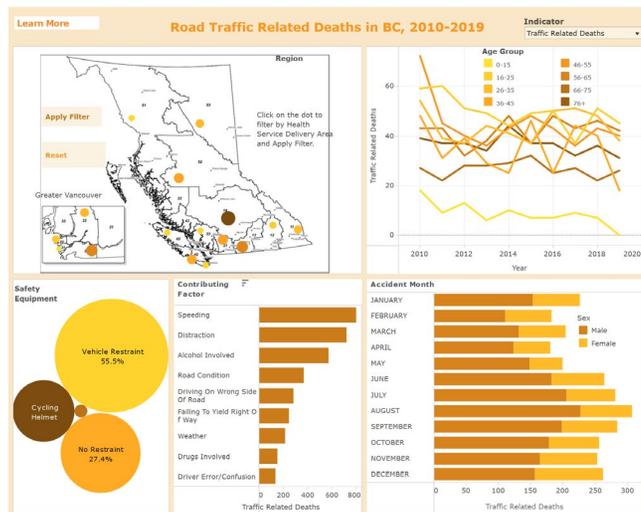
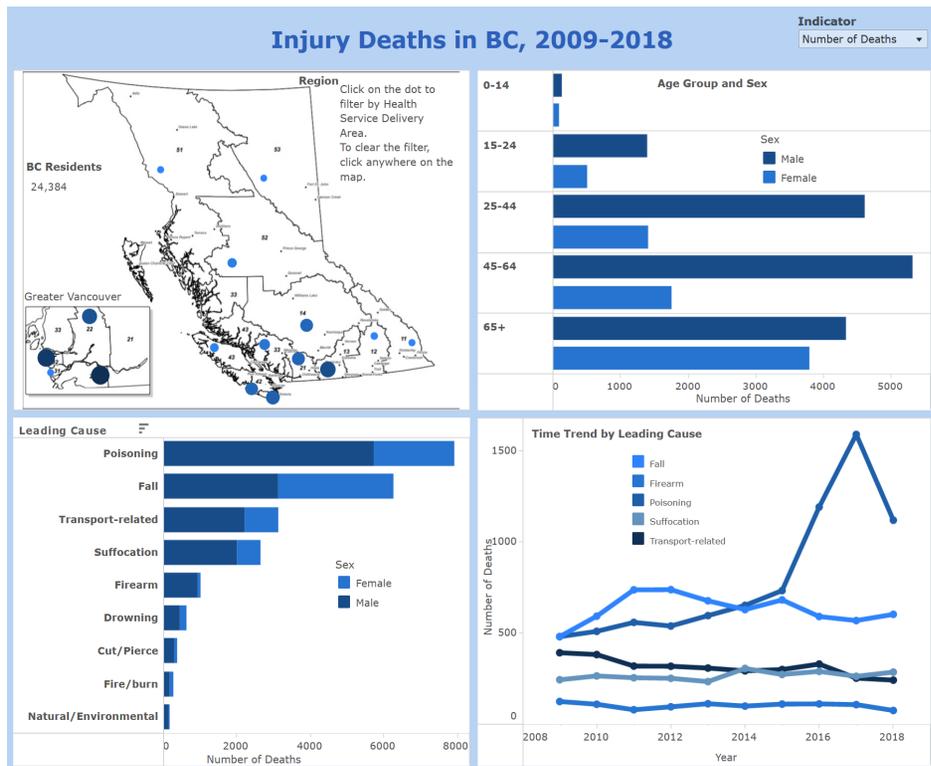
Pageviews: 990

Unique Pageviews: 685

Most Accessed Tool: Traffic Accident System Tool



## Injury Data Visualizations



Data visualizations for injury-related deaths (left), road-related deaths (top right), and ED visits to BC Children's Hospital (bottom right) are available on our website.



# RESEARCH

## Guiding evidence-based prevention

### Research and Knowledge Development

BCIRPU contributes to the injury prevention evidence base by pursuing research opportunities through peer-reviewed grants and contracts. Projects aligning with the Unit's core deliverables are undertaken with provincial, national, and international research partners, collaborators, and other stakeholders.

Articles Published: **33**

Presentations & Workshops: **32**

Collaborative Grants Awarded: **\$2,635,937**

### Surveillance in High School to Reduce Concussions and Consequences of Concussions in Canadian Youth (funded by National Football League)

The SHRed Concussions program provides a national platform for concussion surveillance in high schools that will have a significant impact in reducing the risk of sport-related concussions and their consequences among youth. The project is led by Dr Carolyn Emery, University of Calgary, and involves investigators from universities across Canada, including UBC and UBCO. In Vancouver, SHRed will be conducted at BC Children's Hospital (BCCH), and UBC, and is being led by Drs Shelina Babul and Ian Pike.

As part of the three-year program, investigators will evaluate 1,000 high school athletes in B.C. between the ages of 13-17, participating in basketball, football, ice hockey, ringette, lacrosse, rugby, soccer, volleyball, cheerleading, wrestling, alpine skiing, or sledge hockey at the interscholastic, community, or club level across Canada, with the overall goal to improve concussion prevention, recognition, management and recovery. Funding will also support the development and validation of an injury surveillance system in high schools, integrating a variety of proven tools to detect concussion, predict recovery, and inform best practice and policy in the prevention and management of concussions in these high risk youth sports. Funding for this project, is generously provided by the National Football League Scientific Committee ([read more](#)), and was announced in November 2018.

### VOICES of Children and Youth in Injury Prevention (funded by Canadian Institutes of Health Research)

The Voices of Children and Youth (VOICES) is a CIHR-supported project to determine the efficacy of child and youth voices to inform community injury prevention policy and practice improvements. Youth are challenged through visual storytelling, combining photography, video and narratives, to identify



safe and unsafe places in their community, to develop solutions to improve the situation, and to make recommendations to community leaders who can make a difference. Youth receive training in photography, journalism, writing, first aid, fire prevention and other important injury prevention topics. Children and youth are often overlooked for their insights, and this purposeful inclusion of their voices balances power between them as indigenous community members and the adult decision-makers, creating a greater sense of community ownership, fostering trust, and responding to cultural preferences.

The VOICES method has been applied in two FN communities, resulting in changes to infrastructure and knowledge transfer products designed and produced by the youth, such as YouTube videos. With the added challenge of COVID-19 restrictions and working virtually, VOICES continued in the Mohawk community



HURST PHOTO | SHUTTERSTOCK

of Akwesasne, located in an area that straddles Ontario, Quebec, and New York along the St. Lawrence River, with Dr. Rose-Alma McDonald as the community lead. Classroom sessions were moved to an online platform, and injury prevention topics were amended to accommodate. At the request of the children, sessions on COVID-19 safety were incorporated, and children discussed the need for public health measures, and importantly, how they could advocate for COVID safety procedures among their school mates. The VOICES methodology incorporates community-based participatory research privileging children and youth voices in serving as key informants for injury prevention policy and practice change, and in this particular year, as COVID-19 pandemic safety champions.

## Examining Cancer and Injury Among Female Firefighters

The purpose of this study is to describe the incidence and circumstances of both cancer and work-related injuries among female firefighters. Few studies on firefighters include sufficient numbers of women to draw any substantial conclusions regarding the work-related circumstances resulting in injury and health concerns affecting female firefighters. An online survey was developed and made available between June 2019 and June 2020, in both English and French. Over 1,300 female firefighters, either born female or now self-identifying as female, participated from 12 countries, primarily the United States and Canada. Data on cancer experiences was provided by approximately 20% of participants, and data on work-related injury experiences by approximately 65%. Manuscripts are currently in production focusing on cancer and work-related injury, separately. Findings of this study will provide support for developing and evaluating health and wellness policies, designating resources, and designing screening, surveillance, and prevention strategies. This study is being conducted by Dr. Ian Pike, Retired City of Surrey Fire Chief Len Garis, City of Surrey Fire Chief Larry Thomas, and medical oncologist Dr. Kenneth Kunz.



## Fire severity outcome comparison of apartment buildings constructed from combustible and non-combustible construction

Wood is commonly used in construction, but often perceived as less safe than structures made from non-combustible materials. With the advancement of wood products and treatments, construction techniques, and protective systems, this may not be the case any longer. Using retrospective data from fire departments across Canada, this study aimed to determine whether the type of construction material (combustible or non-combustible) affected the severity of an apartment building fire, after accounting for protective systems (smoke alarms and sprinklers).

The study found that, after adjusting for the presence of smoke alarms and sprinklers, structures constructed from non-combustible materials did not perform any better in terms of injuries, requiring extinguishment by fire department, or the fire spreading beyond the room of origin. The presence of working smoke alarms and sprinklers played a much greater role in reducing the severity of a fire. Smoke alarms and sprinklers reduced requiring extinguishment by fire department, as well as reduced fire spreading beyond the room of origin. Sprinklers also reduced the injury rate. Overall, this study highlighted the importance of safety systems, as opposed to construction material, in reducing the severity of a fire.

## From injury to illegal drug overdose: a retrospective cohort study

Declared a public health emergency in April 2016, the opioid overdose crisis is an ongoing issue in British Columbia driven mainly by the introduction of fentanyl into the illegal drug supply, dependence on opioids as a pain management medication, and opioid use disorder (OUD). Some people experience pain after

 Research Awards: **7**

 Conference Proceedings: **12**

an injury and are prescribed opioids as a pain management medication. These individuals may develop a dependence on opioids and OUD, which may lead them to turn to illegal drugs in an effort to manage their dependence, placing them at a much higher risk of overdose. This study used a linked administrative dataset to characterize the relationship between injury, pain management medication, and potential illegal drug overdose, while adjusting for other potential risk factors, such as age, sex, employment, and income. It included working age Fraser Health residents who had sustained an injury serious enough to require an emergency department visit. The study found that those who were prescribed opioid agonist therapy (OAT) medication following their injury, a sign of OUD, had the highest risk of illegal drug overdose. Other risk factors included having an opioid prescription, being male, being younger, and living in a lower socioeconomic neighborhood. These risk factors for overdose were also the same as the risk of developing OUD. Overall, this study highlighted the OUD cohort as an intervention group that would need sustained support and that additional caution is needed when prescribing opioids to individuals identified with additional risk factors, namely men, those who are younger, and who may be of lower socioeconomic status.



## Economic Burden of Injury

Recent publications by BCIRPU authors and other researchers have provided advancements in costing methodology and the inclusion of additional cost categories. These advances have provided the opportunity to enhance research calculating the economic burden of injury in BC. Projects to report on: 1) the cost of injury in Canada, a project supported by Parachute and the Public Health Agency of Canada, 2) the Economic Burden of Injury in BC, 3) the cost of poisoning in BC, and the cost of firearm injuries in BC, supported by the Ministry of Public Safety and Solicitor General, were launched in the 2020-21 reporting period. A decision to produce the first two of these reports as on-line, interactive platforms will enhance usability of data and ultimately the information provided. The purpose of these studies is to quantify the total cost of injuries in B.C., highlighting the costs of healthcare, indirect societal costs, e.g. lost productivity, costs associated with additional services, e.g. the criminal justice system, and prevention programming. The overall goal is to inform decisions regarding investment in injury prevention with the ability to estimate return on investment (ROI).

## Burden of Poisoning

BCIRPU researchers undertook an extensive project to review the burden of poisoning in British Columbia, with particular attention to unintentional and intentional self-poisonings among children and youth. A total of three peer-reviewed manuscripts were produced, two of which have been accepted for publication and the third under review at the time of writing this report. The first article, Self-poisoning among British Columbian children and youth: Demographic and geographic characteristics, will be published in the BC Medical Journal. The second manuscript, Socioeconomic factors and substances involved in poisoning-related emergency department visits in British Columbia, Canada, will be published in Health Promotion and Chronic Disease Prevention in Canada: Research, Policy and Practice. A third manuscript focused on child

and youth self-harm poisoning with a focus on the relationship with material and social deprivation is being developed for submission to the International Journal of Environmental Health and Public Health.

## Injury Prevention and Outdoor Risky Play

Dr. Brussoni leads a program of research focused on children's outdoor play, and the relationships between outdoor risky play, injury prevention and healthy child development. Her lab competes for peer-reviewed funding, and has a long-standing and successful relationship with the Lawson Foundation. Most recently, her research is directed to develop a comprehensive multi-level intervention to better provide and accommodate children's quality outdoor play in the early childcare centre settings in Canada. During 2020-21, Dr. Brussoni co-authored three peer-refereed articles on COVID-19 and children's outdoor play in the International Journal of Behavioral Nutrition and Physical Activity, Health & Place, and Children; was invited to attend the Organization for Economic Cooperation and Development (OECD) as a presenter and panelist to speak to outdoor risky play; and, Dr Brussoni's research program was fully active with a number of projects related to children's outdoor play making important advances:

### Early Childhood Outside! Study (funded by the Government of Canada)

Guided by findings from focus group and cognitive interviews with early childhood educators and licensing officers, a behavioural change tool (OutsidePlay.ca) was developed to support early childhood educators. The aim of the OutsidePlay.ca tool is to help early childhood educators learn the importance of outdoor risky play for children, reframe their perceptions of risk to better manage safety fears, and guide development of a plan for changing service delivery. The ultimate goal of the tool is for early childhood educators to feel confident and comfortable in promoting and providing quality outdoor risky play to children at



their early childcare centre. The early childhood educator version of OutsidePlay.ca includes an introductory chapter where users can reflect on their own childhood play, and how it's different or similar to children's play at their child care centre. This chapter also guides users to find their reasons as to why they want to support children's outdoor play opportunities. Chapter 2 consists of six interactive video scenarios with different play settings and situations where users are asked to make decisions using the risk-benefit assessment. The scenarios include: 1) communicating with parents/caregivers; 2) rough-and-tumble play; 3) play at heights; 4) conflict resolution; 5) play with loose parts; and, 6) play at speed. For example, in the play at speed scenario, users are asked to let children play tag on slippery ground or not. The rest of the scenario plays out based on the choice users had made, followed by a debrief video summing the key take-aways and providing practical guidance for users. The final chapter invites users to think of a concrete and achievable goal to provide children quality outdoor risky play, and create a plan to accomplish it.

## **Early Childhood Outside! Randomized Controlled Trial Study (funded by the Lawson Foundation)**

The aim of the Early Childhood Outside! RCT is to test the efficacy of the early childhood educator version of OutsidePlay.ca in reframing early childhood educators' perceptions of outdoor play and changing their service delivery to give children at their centre quality outdoor risky play opportunities. Using the RCT method, participants are randomly assigned to either take OutsidePlay.ca or a control group. Researchers follow-up with participants 1-week after and again 3-months after the intervention to examine changes in attitudes and behaviour. The study was launched in December 2020 and data collection will be completed by end of June 2021.

## **Playability (funded by CIHR)**

This mixed-methods study aims to better understand physical and socioecological factors that influence children's outdoor play. Between April 2016 and June 2018, 105 families in three neighbourhoods (Grandview-Woodland, Lower and Central Lonsdale, and Steveston) in Metro Vancouver participated in the study. Various data were collected, including seven days of children's GPS and accelerometry data, qualitative interviews, neighbourhood photos and map drawings, daily diaries, and demographic and other surveys. Dr. Brussoni's team has published six articles on this research and continues to analyze the qualitative and quantitative data. These analyses will contribute to informing best practices for design of sustainable and child-friendly urban environments that recognize and include children as active users and meet their needs to positively influence their development and well-being

## **Pro-ECO (funded by Lawson Foundation)**

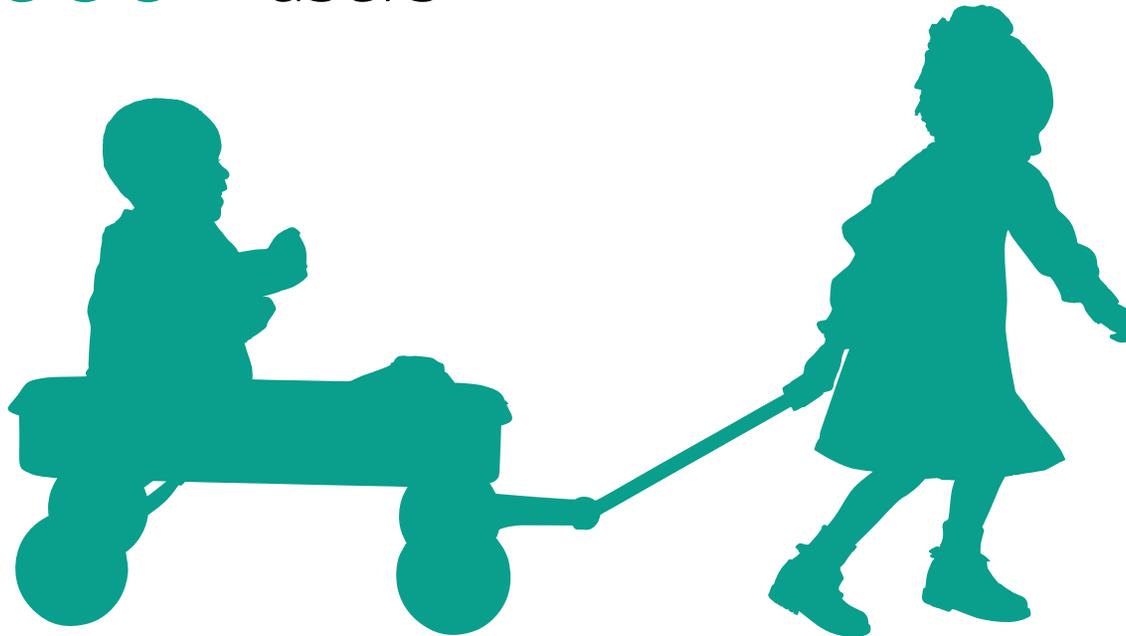
The PROmoting Early Childhood Outside (PRO-ECO) study is to develop, implement and evaluate a comprehensive intervention to increase time spent by children in quality outdoor play in early childcare centres. This study was funded by the Lawson Foundation, and we are working in close partnership with the YMCA of Greater Vancouver from co-development to testing of the intervention. The intervention will include four core components: 1) development of policies and procedures; 2) early childhood educator training and mentorship; 3) outdoor space modifications; and 4) parent/caregiver engagement.



# Go Play Outside!

[outsideplay.ca](https://outsideplay.ca)

**8,000+** users



**~33,000** pageviews



## KNOWLEDGE SYNTHESIS, TRANSLATION, AND PUBLIC EDUCATION

### Improving injury awareness and knowledge

#### Changing Policy, Practice, Attitudes, and Behaviours

BCIRPU gathers and synthesizes research evidence, and develops communications strategies to reach government, health authorities, health practitioners, policy makers, researchers, other stakeholders, and the public. This includes briefing notes, technical reports, letters of support, meetings, workshops, seminars, conferences, peer-reviewed publications, and traditional and digital tools, and media.

All of these products contribute to changes in injury prevention, policy, practice, attitudes, and behaviours.

 **Newsletter  
Subscribers:**  
**800+**

#### Active & Safe

Active & Safe Central is a resource for children, youth and adults who engage in, or facilitate sport and recreational activities, providing information on common injuries, risk factors, and injury prevention for their activity of choice. This website is based on current and available research evidence from around the world.

Sports and recreational activity-related injuries have a substantial cost in terms of reduced productivity, impact on the health care system, and overall quality of life. Despite the associated risk, recreational activity has substantial health benefits and should not be avoided. Sport and recreation as a form of physical activity is a strategy for maintaining a healthy weight and the prevention of a number of health-related conditions, including cardiovascular disease, diabetes, and certain types of cancer. This resource was created to address gaps in the availability of sport and recreational activity injury prevention resources

In 2020-2021, with the generous support of the BC Ministry of Health, resources and a plan were implemented to ensure that the Active & Safe Central website is maintained and kept current with the latest evidence and information related to the 50 sports and recreational activities included on the platform. The Active & Safe Central website was awarded Gold at the 2021 International Safety Media Awards (ISMA), held in conjunction with the World Safety and Injury Prevention Conference. The ISMA awards have been instituted to honor exceptional safety and injury prevention communications media, globally.

#### Concussion Awareness Training Tool

The Concussion Awareness Training Tool (CATT) is an online resource providing e-Learning in the recognition, response, treatment, and management of concussion. This evidence-based resource is tailored for medical professionals, coaches, parents and caregivers, school professionals, workers and workplaces, and woman's support workers (supporting the survivors of intimate partner



violence). All CATT modules are now available in both English and French. During the 2020-2021 operating period, the CATT eLearning module for medical professionals was enhanced, with the addition of information relevant to physiotherapy and occupational therapy pertaining to concussion management and recovery. This initiative was undertaken in partnership with ICBC and the UBC Division of Continuing Educational Development.

In 2020-2021, CATT saw the addition of a module for high performance athletes at the university/college level, developed in partnership with U SPORTS and other athletic-focused agencies. This resource was developed following formative evaluation with athletes and athletic directors, ensuring the desired content and presentation features were understood and incorporated. A pre/post intervention evaluation with athlete participants is currently underway, as well as an evaluation with U SPORTS institutions regarding their current or planned use of the resource. Following the launch of CATT for Athletes, a related project was initiated in partnership with the NFL-funded Surveillance in High Schools to Reduce Injuries (SHRed) project (PI Dr. Carolyn Emery, Calgary) to develop a CATT online eLearning course for high school aged athletes. This resource will come on-line in August/September 2021.

CATT presentations were made: at the UBC CDC/BCCDC 2020 Research Week; to the West Vancouver School District; at the Canadian Concussion Network-Réseau Canadien des Commotions Annual Meeting 2021; and sessions for CATT for Workers and Workplaces and concussion materials were presented at the 2021 Actsafe Entertainment Safety Conference. Dr. Shelina Babul

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CATT has been mandated by over 75 organizations and institutions.

**MORE THAN**  
**75,000**  
People all over the world have completed the CATT e-learning modules.

was interviewed by media regarding the 2020 BC School Sports requirement for all members who work with school sports athletes in B.C. to complete concussion training through the CATT for Coaches eLearning module. Three CATT-related manuscripts were published, relating to CATT in Uganda, CATT for Medical Professionals, and increasing the accessibility of online health information for adults with concussion. A manuscript on concussion awareness in the school system is being finalized for publication. The CATT website won Gold in the 2020 International Safety Media Awards. In 2020-2021, the CATT website had 81K visits from 51K users for a total of 265,541 pageviews. 64% of visitors were from Canada, and 22% from the United States. The top 5 provinces were BC, Ontario, Alberta, Quebec, and Saskatchewan. The top 5 pages visited were Home Page (21.1%), Coach Course (10.21%), Sport Concussion Assessment (8.92%), Coach (7.77 %), and Coach Certification (5.85%).



## The Community Against Preventable Injuries (Preventable)

Preventable is a province-wide, multi-partner social marketing organization designed to raise awareness, transform attitudes, and ultimately change behaviours around injury prevention. Its goal is to significantly reduce the number and severity of preventable injuries in BC. BCIRPU is a founding member and 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 Scientific Director for Preventable and, together with injury prevention colleagues, acts as the spokesperson for the campaign. In 2020-2021 Preventable appointed Ms. Laura Dale as the full-time Director, Preventable. Laura is co-located at BCIRPU and is a member of the BCIRPU team.

Preventable, and its partners experienced unprecedented times resulting from COVID-19. As a result, Preventable connected with British Columbians to understand if and how they wanted to hear injury-prevention messages given the challenges of the pandemic. The input received from British Columbians was clear- they wanted to hear continued injury prevention messaging, despite the difficulties of the pandemic. The resulting campaign focused on reminders to not to miss the obvious, particularly as it related to home-related injuries, active transportation, and outdoor sport and recreation injury.

## Poison Prevention

In 2020-2021, Preventable and London Drugs, with support from Parachute, launched a successful Poison Prevention Week campaign in Vancouver, focusing on raising awareness of poisoning prevention in the home. In addition to media requests and interviews, Preventable supported the distribution of 250 cabinet

locks to parents so that they can safely store poisons out of reach of children.

## Ground Disturbance Injuries

Many British Columbians are unaware of the risks posed by disturbing buried utility lines. That's why Preventable partnered with BC1Call, FortisBC, TC Energy, BC Oil and Gas Commission and BC Common Ground Alliance (BCCGA) to develop an innovative province-wide campaign to remind British Columbians that damage and injury due to ground disturbances are preventable. Through a series of TV spots, social media posts, and mobile banners, British Columbians were encouraged to log a ticket to find out where buried utilities are located before they start digging.

## Boating Safety

Preventable continued to be engaged in the boating community and is an active participant in the Canadian Recreational Boating Advisory Committee. In July, Preventable and the BC Liquor Distribution Branch partnered to remind British Columbians that drinking and boating don't mix. Shelf talkers were displayed throughout BCLDB stores, reminding BC boaters to save the drinks for after the trip is over, and when the boat is safely docked.

## Staffing Updates

Preventable continues to grow to support the delivery of our mission and vision. We welcomed Laura Dale, our new Director and a new board of director member, Eric Hopkins, President and CEO of the British Columbia Automobile Association (BCAA).



## Awards & Recognition

Again in 2020-2021, Preventable was recognized with several awards from the International Safety Media Awards (ISMA) for its innovative and creative social marketing messaging campaigns. The ISMA awards are recognized as the 'Oscars' of the global safety and injury prevention community honouring exceptional safety media worldwide. Categories include Print, Web-based, Short and Ultra-Short Videos and Campaigns:

### Ultra-Short Video:

**Gold** - *Bike Helmet*

**Gold** - *Distracted Driving*

### Print:

**Gold** - *Pavement Patty*

**Gold** - *Alcohol Awareness & Moderation* (BC Liquor Boating ads)

**Gold** - *Changing the Discourse* booklet

### Campaign:

**Silver** - *Connecting the Dots*

### Website

**Gold** - *CATT Online*

**Gold** - *Active and Safe Central*

Preventable was also recognized by the Canadian Drowning Prevention Coalition with its 2020 Drowning Prevention Award for Research, for developing, delivering and evaluating a social media campaign for recreational boaters in BC.



**Preventable  
Media Articles: 39**

## Prevent Shaken Baby Syndrome BC – The Period of PURPLE Crying® Program

The Period of PURPLE Crying® (PURPLE) parent education program has operated in BC as a universal program since 2009. The aim of the PURPLE program is to: support caregivers in their understanding of early increased infant crying - part of normal child development - the key trigger to shaken baby syndrome (SBS); and reduce the incidence of shaken baby syndrome (SBS) cases throughout the province.

PURPLE is offered to families via three doses.

- Dose 1: Prior to discharge from the hospital, every family receives crying and shaking prevention education from a maternity nurse together with a resource package.
- Dose 2: Reinforcement of key messages is provided by a public health nurse as part of the new baby follow up or home visit post-delivery.
- Dose 3: Parents, other caregivers and the general public are also exposed to the PURPLE program via a public education campaign, typically through the annual CLICK for Babies campaign.

The PURPLE program is now institutionalized in all B.C. birthing hospitals and public health units. Community health and service providers including midwifery clinics, pregnancy outreach, infant development, Indigenous support, foster parent support, and adoption services receive training and participate in PURPLE education with parents/caregivers. The program materials are now available in either an app and booklet format or a DVD and booklet format, and in 11 languages: English, French, Spanish, Punjabi, Somali, Japanese, Vietnamese, Korean, Portuguese, Cantonese and Arabic. In 2020-2021, a one-page infographic was also made available for parents and caregivers who speak a language other than those for which the materials are available.



## PURPLE Crying Program Achievements\*

Since the PURPLE program was launched in 2009, there has been a cumulative 41.8% decrease in the number of SBS cases among infants under 24 months of age in BC.<sup>1</sup>

In 2020-2021, 36,850 program materials were distributed to BC parents and caregivers, and 477 BC nurses and community personnel completed online on-line PURPLE training, including 248 maternity and public health nurses; 144 nursing students; and, 85 community service providers. In addition, Prevent SBS BC staff presented on BC physician engagement at the Virtual International SBS/AHT Conference in Sept 2020.

<sup>1</sup> Sources: BC Child Protection Services, BC Children's Hospital. Note1: Data excludes deaths in hospital, Note2: Cases are organized by birth year so this number is subject to change

Due to COVID-19 restrictions, the PURPLE Program format was modified to include enhanced virtual messaging via social media ads (Facebook, Twitter and Instagram). In 2020-2021, three social media campaigns were conducted in January, February and March, proving to be very successful in reaching the intended audiences: a total of 374,233 grandparents and 566,847 new parents viewed messages on Facebook, and of these 10,468 grandparents and 12,182 new parents clicked to obtain additional information. The Instagram campaign saw a total of 323,551 new parents, of whom 3,666 clicked for additional information, and the Twitter platform saw 357,010 members of the general public view the messages. Given the expanded reach experienced using these social media platforms, PURPLE will continue to employ this virtual strategy in the future.

## BCIRPU Webinar Series

During the 2020–21 operating period, BCIRPU continued to deliver an informative [webinar series](#). Five seminars were provided by leading experts in the field, with a total of 200 participants.

### Webinar topics:

1. May 21, 2020 | Dr. Brent Hagel  
*Active Transportation and the Built Environment: The CHASE Study*
2. July 23, 2020 | Ms. Pamela Fuselli  
*The Pan-Canadian Seniors' Fall Prevention Network*
3. September 24, 2020 | Ms. Atousa Zargarán, Ms. Phoebe Cheng  
*Cannabis-related injuries and poisonings in BC children and youth*
4. January 28, 2021 | Ms. Samantha Pauer  
*An overview of poisonings in BC*
5. March 25, 2021 | Dr. Mariana Brussoni  
*Why is outdoor risky play more important than ever?*

 **Webinar**  
**Participants: 200**



## Education and Public Information

### Social Media Campaigns

In 2020-2021, BCIRPU supported and facilitated a number of social media campaigns. Safety messaging addressed concussion, road safety, Safe Kids Week, Poison Prevention Week (cannabis), and COVID-19-related messaging focused on injuries at home, and outdoor sports and recreation. The BCIRPU Facebook page has over 186 page likes and 247 followers; the Twitter account has over 600 followers, and the Instagram account has 115 followers. BCIRPU social media accounts continue to be an effective tool for reaching both the public and policymakers with injury prevention-related messaging. Messaging is also disseminated through dedicated social media accounts for the Concussion Awareness Training Tool, Finding Balance BC, Prevent Shaken Baby Syndrome BC, and The Community Against Preventable Injuries.

### Brain Waves

Brain Waves is a national brain and spinal cord injury prevention program overseen by Parachute, Canada's national injury prevention organization. BCIRPU is the provincial delivery partner for Brain Waves and the training site for volunteers in B.C.

In 2020-2021, due to the public health orders and restrictions associated with the COVID-19 pandemic, the program was delivered via a virtual platform. A total of 7 virtual Brain Waves presentations were delivered this year, covering 179 students. Nine video vignettes were developed in B.C. to supplement the virtual delivery of the training program, and these videos will be shared by Parachute with the other Brain Waves sites and partners across Canada.

### BCIRPU Website Google Analytics

30,000 sessions (+54% from 2019-20)  
37,498 users (+123% from 2019-20)  
54,574 pageviews (+227% from 2019-20)

#### *Traffic Sources:*

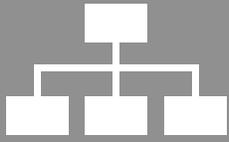
Social media = 40.73%  
Search engines/organic = 27.89%  
Direct traffic = 21.26%

#### *Pages with the Highest Traffic:*

Homepage (10% of pageviews)  
iDOT/Traffic Accident System Tool (4.07%)  
Education/CATT (3.40%)  
Quick Facts/Seniors Fall Prevention (2.33%)  
Quick Facts/Motor Vehicle-Related Injuries (3.26%)

### Canadian Injury Prevention Curriculum Course (CIPC)

The CIPC focuses on injury prevention, control theory, and practice. In 2020-2021, the CIPC was delivered as part of a UBC graduate class, taught by Drs. Brussoni, Babul and Pike. In-person community workshops were suspended due to the COVID-19 pandemic, and it is anticipated that an in-person workshop will be held in 2022.



# NETWORKS, COALITIONS, AND PARTNERS

## Supporting injury networks and coalitions

### Cooperation and Collaboration

BCIRPU provides leadership and support to government, health authorities, and other stakeholders and their extensive networks and coalitions. Successful injury prevention activity in BC is dependent upon multi-sectoral and interdisciplinary collaborations. BCIRPU has established strong strategic relationships with many provincial, national, and international agencies and organizations. This enables the Unit to draw upon external expertise and resources to build capacity and better address injury prevention in BC.

### Networks and Coalitions

In addition to participating in strategic provincial, national, and international networks, during the 2020-2021 operating period, BCIRPU directly supported:

- **BC Concussion Advisory Network** — providing leadership, coordination, and secretariat support.
- **BC Concussion Advisory Network Sub-Committee** — providing leadership, coordination, and secretariat support.
- **BC Falls and Injury Prevention Community of Practice (BCFCP)** — providing leadership, coordination and secretariat support.

- **BC Injury Prevention Committee (BCIPC)** — providing leadership, coordination and secretariat support.
- **BC Injury Prevention Alliance (BCIPA)** — providing leadership, coordination and secretariat support.
- **BC Health Authority Injury Prevention Community of Practice** — providing coordination and support.
- **BC Road Safety Strategy** — providing leadership support.
- **BC Trauma Council** — providing leadership support.
- **Child & Nature Alliance of Canada** — providing leadership support.
- **The Community Against Preventable Injuries** — providing injury prevention research and evaluation expertise, leadership, and spokesperson support to the injury prevention social marketing campaign.
- **Injury Surveillance Methodology Working Group** – providing co-chair and leadership.
- **Parachute** (the national NGO for injury prevention) — providing provincial leadership and coordination under the renewed memorandum of understanding.
- **Road Safety Data and Measurement Group** — providing coordination and support.
- **Trauma Association of Canada Injury Prevention Committee** — providing leadership support.
- **viaSport Safe Sport Advisory Group** — providing leadership, coordination, advocacy, and communication.



# NETWORKS, COALITIONS, AND PARTNERS

## Key Partnerships

In the 2020-2021 operating period, BCIRPU worked with the following key partners:

- Allan McGavin Sports Medicine Clinic (UBC)
- Atlantic Provinces Athletic Therapists' Association
- 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
- Community of Practice
- BC Hockey
- BC Injury Prevention Alliance
- BC Ministry of Health
- BC Ministry of Public Safety and Solicitor General
- BC Recreation and Parks Association
- BC Regional Health Authorities
- BC Concussion Advisory Network
- Brain Injury Association of Canada
- BrainTrust Canada
- Brock University
- Canadian Academy of Sports and Exercise Medicine
- Canadian Athletic Therapists Association
- Canadian Concussion Centre: Krembil Neuroscience Centre (Toronto Western Hospital)
- Canadian Red Cross
- Canadian Standards Association
- Child Health BC
- Child and Nature Alliance of Canada
- College of Health Sciences, Makerere University
- Concussion Legacy Foundation Canada
- Doctors of BC
- Federation of Uganda Basketball Association
- Federation of Uganda Football Association
- First Nations and Inuit Health Branch
- First Nations Health Authority
- Fortius Sport & Health
- G. F. Strong School Program
- G. F. Strong Rehabilitation Centre
- Health Canada Supporting Injury Networks & Coalitions
- Hockey Canada
- Holland Bloorview Kids Rehabilitation Hospital
- Injury Prevention Centre (University of Alberta)
- Insurance Corporation of British Columbia
- National Sports Council of Uganda
- Occupational Health and Safety Agency for Healthcare
- Ontario Athletic Therapist Association
- Outdoor Play Canada
- Parachute
- Provincial Health Services Authority
- Public Health Agency of Canada
- Public Health Ontario
- RCMP E-Division
- Richmond School District
- Road Safety BC
- Rugby Uganda
- Safe Communities
- Saskatchewan Government Insurance
- Sport Injury Research Prevention Centre (University of Calgary)
- SportMedBC
- Supporting Survivors of Abuse and Brain Injury Through Research
- The Community Against Preventable Injuries (Preventable)
- The Djavad Mowafaghian Centre for Brain Health (UBC)
- Uganda Olympic Committee
- Uganda Ministry of Education and Sport
- Uganda Ministry of Health
- University of British Columbia – Vancouver and Okanagan
- University of Calgary
- U SPORTS
- Vancouver General Hospital Trauma Services
- viaSport
- Western University
- Winnipeg Pan-Am Concussion Clinic
- WorkSafeBC
- York University
- YMCA



## CATT Mandated Organizations

The following organizations have mandated CATT:

### CATT for Athletes

- Acadia University
- Austin College
- Bishops University
- Carleton University
- Devo Escape Velocity Cycling
- Durham College
- Lakeland College
- MacEwan University
- Memorial University of Newfoundland
- Mount Allison University
- Nipissing University
- Ontario Tech University
- Seneca College
- St. Clair College
- St. Thomas University
- The Forge Western Martial Arts
- Trent University
- University of British Columbia
- University of Calgary
- University of Northern BC
- University of Saskatchewan
- University of Victoria
- University of Waterloo
- University of Prince Edward Island
- York University

### CATT for Coaches

- 3 C's Minor Hockey Association
- BC Hockey

- BC Provincial Football Association
- BC School Sports
- BC Ultimate Society
- Burnaby Skating Club
- Calgary Flag Football
- Canadian Taekwon-Do Federation International
- Cliff Avenue United FC
- Coquitlam Metro-Ford Soccer Club
- DEVO-Escape Velocity-Escape Velocity Cycling
- Engage Sport North
- Flicka Gymnastics
- Hockey NWT
- Kerrisdale Little League
- Langley Minor Lacrosse Association
- McKnight Hockey Association
- Mulgrave School
- Nicola Valley Lacrosse Association
- North Shore Girls Soccer Club
- Port Coquitlam Euro Rite Football Club
- Queen's Athletics and Recreation
- Richmond Girls Soccer
- Ridge Meadows Minor Softball
- Sundre Rec Hockey Association
- Texas Department of Public Safety – Arrest and Control Tactics
- The Forge Western Martial Arts
- United Traditional Tae Kwon-Do Canada
- Upper Island Soccer Association
- Vancouver Island Wave

- Vancouver United FC
- Water Polo West
- University of Waterloo – Staff
- Durham College
- Seneca College
- York University

### CATT for School Professionals

- D.P. Todd Secondary (Coaches)
- Glenlyon Norfolk School
- Gordon Head Middle School
- Meadowridge School
- Sentinel Secondary
- Southridge School
- St. Andrew's College
- West Point Grey Academy
- Austin College
- Maaqtusiis Schools
- Brockton School
- Seneca College

### Medical Professionals

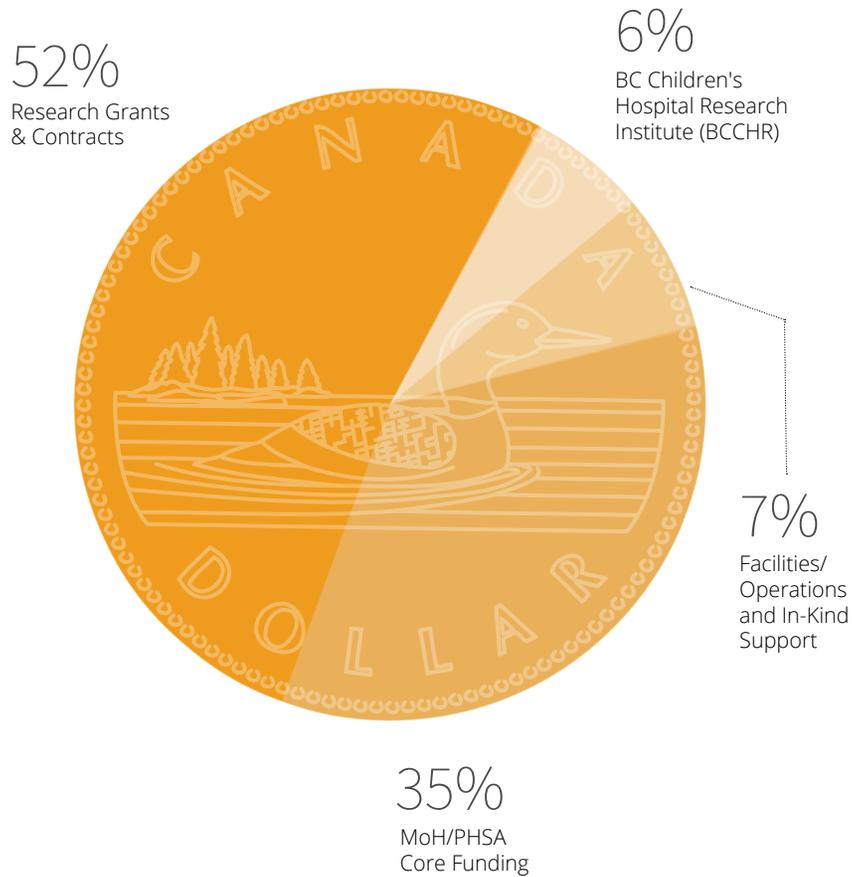
- Seneca College

### Women's Support Workers

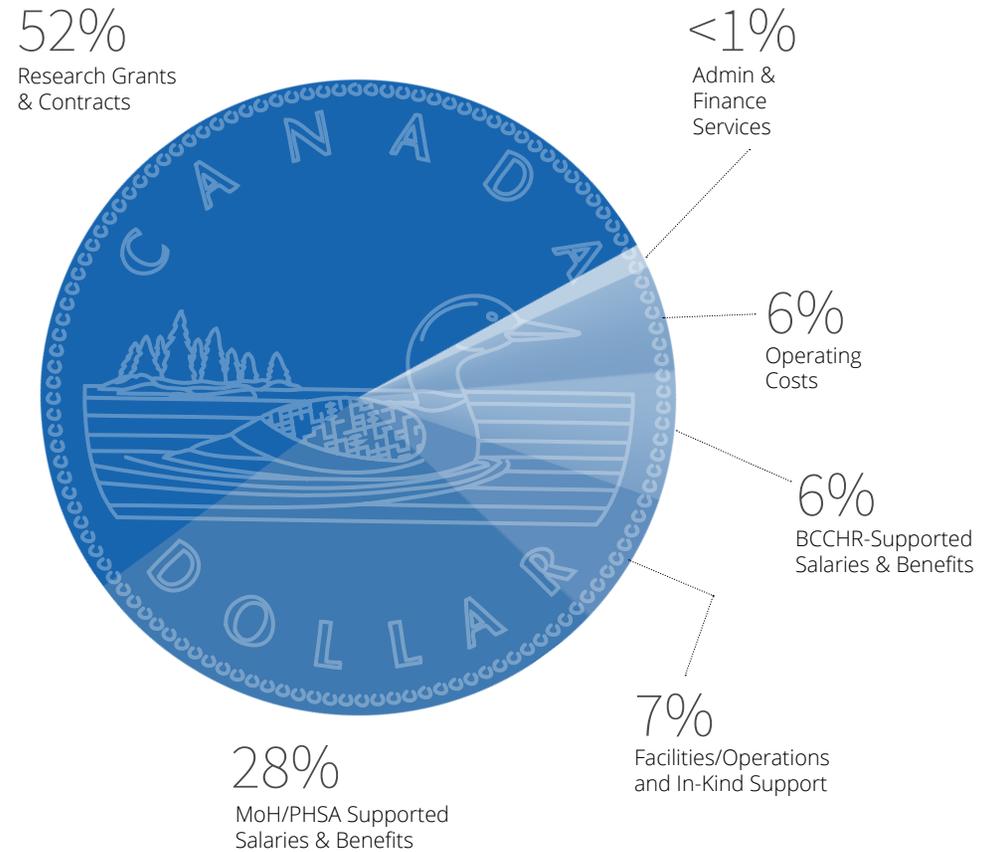
- MCFD Child Protection
- UBC Okanagan - Social Work Masters (4th year)

# REVENUES & EXPENDITURES

## Sources of Revenue



## Sources of Expenditure



# AWARDS, GRANTS, PUBLICATIONS, & CONFERENCES

April 1, 2020–March 31, 2021

## Research Grants

Babul S, van Donkelaar P. Integrating Traumatic Brain Injury Awareness into Support for Survivors of Intimate Partner Violence (IPV). UBC Collaborative Research Mobility Award (2019-2020)

Babul S. Brain Waves. Insurance Corporation of British Columbia (2020-2022)

Babul S. Canadian Hospitals Injury Reporting & Prevention Program (2020-2021)

Babul S. Concussion Awareness Training Tool (CATT) for physiotherapists and occupational therapists. Insurance Corporation of British Columbia/University of British Columbia - Continuing professional development (2020)

Babul S. Evidence-based resource to educate medical professionals on concussion diagnosis, treatment and management. (2020-2021).

Baker J, van Donkelaar P, Babul S. Concussion blood biomarker analysis and the development and implementation of the CATT-IPV. Status of Women Canada (2019-2024)\*

Brussoni M, Banack H, Berger I, Elliot E, Hirsche K, McClure S, Stone-Cole B. Dear Prudence, won't you come out to play? Peter Wall Institute for Advanced Studies Virtual Roundtable (2020-2021)

Brussoni M, Poole C, Herrington S, Berger I, Stone M, Sandseter E, Gilbert J, Frizelle C, Sankey T, Camozzi Z, Cawley J. PROMoting Early Childhood Outside (PRO-ECO): An outdoor play intervention for children aged 3 to 5 years in early learning and care centres. Lawson Foundation (2021-2022)

Brussoni M. Risky Outdoor Play. BC Children's Hospital Foundation (2021-2023)

Emery C, Babul S, Belton K, Black A, Brooks B, et al. Surveillance in High School to Reduce Concussions and Consequences of Concussions in Canadian Youth: SHRed Concussions. National Football League (2018-2021)

Faulkner G, Brussoni M. Child movement and outdoor play: Exploring parental perceptions of the impact of the 2020 COVID-19 outbreak. SSHRC Explore Grant Competition (2020-2021)

Froelich Chow A, Brussoni M, Houser N, Humbert L, Feltis ME, Stevenson E, Wahpepah K. Nature's Way – Our way: Engaging in traditional indigenous ways of being as a wholistic path to promoting wellness and protecting against the onset of chronic disease among early years children. SickKids Foundation & CIHR New Investigator Grant (NI21-1197) (2021-2022)

Gilliland J, Brussoni M, Carr D, Hoed D.C.D, Baxter D, et al. ParkSeek. Public Health Agency of Canada Enhanced Surveillance for Chronic Disease Program (2020-2021)

Hutchison J, Riopelle R, Emery C, Gagnon I, Babul S, et al. Canadian Traumatic Brain Injury Research Consortium (2015-2020)\*

Pike I, Babul S, Brussoni M. Research Facility Support Grant. UBC Vice-President, Research & Innovation (2020-2021)

Pike I, Babul S. BC Injury Research and Prevention Unit plus uplift. Provincial Health Services Authority (2020-2021)

Pike I, Chin C, Lafreniere K. A strategic alliance for the prevention of injuries through social marketing. The Community Against

Preventable Injuries (2020-2025)

Pike I, Humphries C, Rajabali F. Prevent Shaken Baby Syndrome. BC Ministry of Children and Family Development (2020-2021)

Pike I, Macpherson A, Richmond S, Hagel B. The Built Environment and Active Transportation Safety in Children and Youth (Objective 3). Canadian Institutes of Health Research (2020)

Pike I, Macpherson A, Richmond SA, Babul S, Carsley S, et al. The unintended consequences of implementing stay-at-home policies during the COVID-19 pandemic: Violence outcomes in children and youth in Canada. CIHR COVID-19 initiative (2021-2024)

Pike I, Rajabli F, Zheng A. Canadian Cost of Injury Report. Parachute. (2020-2021)

Pike I, Zheng A. Fires in Residential Buildings: Performance of Safety Systems in the Combustible and Non-Combustible Built Environments. H&H Fire Safety Consulting (2020-2021)

Tremblay M, Brussoni M, Cowie H, Mitra R, Power M, et al. Outdoor Play Canada: Outdoor play Sector Networking and Knowledge Mobilization Platform. Lawson Foundation (2020-2024)

Tremblay M, Brussoni M, Cowie H, Mitra R, Power M, et al. Outdoor Play Canada: State of the Sector Consultation. Walton's Trust (2020-2021)

Tremblay M, Brussoni M, Cowie H, Mitra R, Power M, Welsh F. Outdoor Play Canada: Outdoor play Sector Networking and Knowledge Mobilization Platform. Lawson Foundation (2020-2021)

Tremblay M, Brussoni M, Cowie H, Mitra R, Welsh F. Translation of the Outdoor Play Canada Website and Resources into French. SSHRC Connections Grant (2021-2022)

Wellington C, Babul S, Pike I. TAPPING into concussion blood biomarkers: Feasibility Assessment of Touch Activated Phlebotomy (TAP) for youth concussion blood biomarker studies. Vancouver Coastal Health Research Institute (2019-2021)

## Research Awards

Babul S, Richmond S, Black A, Turcotte K, Bruin S, Karmali S, Power S, Jacob J, Pike I. 2021 International Media Awards (ISMA) Website Category. Gold – Active and Safe Injury Prevention for Sport & Physical Activity (2021)

Babul S, Turcotte K, Bruin S, Sadler K, Beaton D, Karmali S, Cowle S, Jacob J. 2021 International Media Safety Awards (ISMA) Website Category. Gold – Concussion Awareness Training Tool (CATT) (2021)

Brussoni M. Distinguished Achievement Award for Excellence in Clinical or Applied Research, UBC Faculty of Medicine (2020)

Pike I, Dale L, Lafreniere K, Bruin S. 2021 International Media Safety Awards (ISMA) Ultra-Short Video Category. Honourable Mention – Lifejacket Video, Gold – Bike Helmet and Distracted Driving Videos (2021)

Pike I, Dale L, Lafreniere K, Bruin S. 2021 International Media Safety Awards (ISMA) Print Category. Gold – Pavement Patty, Alcohol Awareness & Moderation, Changing the Discourse booklet (2021)

Pike I, Dale L, Lafreniere K, Bruin S. 2021 International Media Safety Awards (ISMA) Campaign Category. Silver – Connecting the Dots (2021)

Pike I, Oakey M, Beaton D, Samarakkody D. 2021 International Media Safety Awards (ISMA) Campaign Category. Honorable Mention – Falls Prevention Week (2021)

## Journal Articles

Al-Hajj S, Nehme R, Hatoum F, Zheng A, Pike I. (2020). Child school injury in Lebanon: A study to assess injury incidence, severity and risk factors. *PLOS ONE*, 15(6). <https://doi.org/10.1371/journal.pone.0233465>

Al-Hajj S, Pawliuk C, Smith J, Zheng A, Pike I. (2020). History of injury in a developing country: A scoping review of injury literature in Lebanon. *Journal of Public Health*, 43(1), e24-e44. <https://doi.org/10.1093/pubmed/fdaa043>

Amberber N, Howard A, Winters M, Harris MA, Pike I, et al. (2020). Road Traffic Injury During the Covid-19 Pandemic: Cured or a Continued Threat? *University of Toronto Journal of Public Health*, 2(1). <https://doi.org/10.33137/utjph.v2i1.34737>

Babul S, Turcotte K, Lambert M, Hadly G, Sadler K. (2020). Delivering Evidence-based Online Concussion Education to Medical Professionals: The Concussion Awareness Training Tool (CATT). *Journal of Sports Medicine*, 2020, 8896601. <https://doi.org/10.1155/2020/8896601>

Bauer M, Brussoni M, Giles AR. (2020). Categorizing mothers' and fathers' conceptualizations of children's serious play-related injury: "You won't grow a finger back". *Child: Care, Health and Development*, 46(4), 530-536. <https://doi.org/10.1111/cch.12761>

Bauer MEE, Brussoni M, Giles AR. (2021). Rural mothers' perspectives on keeping their children safe during outdoor play: "It's hard to raise a child in a small community". *Journal of Adventure Education and Outdoor Learning*. <https://doi.org/10.1080/14729679.2021.1902827>

Bauer MEE, Giles AR, Brussoni M. (2021). "I've seen what evil men do": Military mothering and children's outdoor risky play. *Leisure Sciences*. <https://doi.org/10.1080/01490400.2021.1920521>

Beaton MD, Hadly G, Babul S. (2021). Stakeholder Recommendations to Increase the Accessibility of Online Health Information for Adults Experiencing Concussion Symptoms. *Frontiers in Public Health – Digital Public Health*, 8, 557814. <https://doi.org/10.3389/fpubh.2020.557814>

Beaulieu E, Smith J, Zheng A, Pike I. (2020). The geographic and demographic distribution of residential fires, related injuries, and deaths in four Canadian provinces. *Canadian Journal of Public Health*, 111, 107–116. <https://doi.org/10.17269/s41997-019-00256-7>

Beaulieu E, Zheng A, Rajabali F, MacDougall F, Pike I. (2020). The Economics of Burn Injuries Among Children Aged 0 to 4 Years in British Columbia. *Journal of Burn Care & Research*, 42(3), 499-504. <https://www.doi.org/10.1093/jbcr/iraa189>

Black AM, Yeates KO, Babul S, Nettel-Aguirre A, Emery CA. (2020). Association between concussion education and concussion knowledge, beliefs and behaviors among youth ice hockey parents and coaches: a cross-sectional study. *BMJ Open*, 10(8), e038166. <https://www.doi.org/10.1136/bmjopen-2020-038166>

Brussoni M, Han CS, Lin Y, Jacob J, Pike I, et al. (2021). A web-based and in-person risk reframing intervention to influence mothers' tolerance for, and parenting practices associated with, children's outdoor risky play: A randomized controlled trial. *Journal of Medical Internet Research*, 23(4), e24861. <https://www.doi.org/10.2196/24861>

Brussoni M, Lin Y, Han CS, Janssen I, Schuurman N, et al. (2020). A qualitative investigation of unsupervised outdoor activities for 10- to 13-year-old children: "I like adventuring but I don't like adventuring without being careful." *Journal of Environmental Psychology*, 70, 101460. <https://doi.org/10.1016/j.jenvp.2020.101460>

Brussoni, M. (2020). Outdoor Risky Play. In *Education in the Digital*

Age: Healthy and Happy Children (pp. 53-68). Organization for Economic Co-operation and Development. <http://www.oecd.org/education/education-in-the-digital-age-1209166a-en.htm>

Cheng P, Zargar A, Rajabali F, Turcotte K, Babul S. (2020). Setting the baseline: A description of cannabis poisonings at a Canadian pediatric hospital prior to the legalization of recreational cannabis. *Health Promotion and Chronic Disease Prevention: Research, Policy and Practice, Public Health Agency of Canada*, 40(5/6), 193-200. <https://doi.org/10.24095/hpcdp.40.5/6.08>

Ezzat AM, Brussoni M, Mâsse LC, Emery CA. (2021). Effect of anterior cruciate ligament rupture on physical activity, sport participation, patient-reported health outcomes, and physical function in young females. *American Journal of Sports Medicine*. <https://www.doi.org/10.1177/03635465211002530>

Ezzat AM, Whittaker JL, Brussoni M, Mâsse LC, Emery CA. (2020). The Knee Self-Efficacy Scale is a valid and reliable measure for knee-specific self-efficacy in individuals with a sport-related knee injury in the past five years. *Knee Surgery, Sports Traumatology, Arthroscopy*, 29, 616-626. <https://doi.org/10.1007/s00167-020-05974-x>

Han CS, Lin Y, Mâsse LC, Brussoni M. (2020). "There's kind of a wall I have to stay inside of": A qualitative understanding of children's independent mobility range, destination, time and expansion. *Children, Youth and Environments*, 30(2), 97-118. <https://doi.org/10.7721/chilyoutenvi.30.2.0097>

Herrington S, Brunelle S, Brussoni M. (2020). Outdoor play spaces in Canada: As if children mattered. In *The Sage Handbook of Outdoor Play and Learning* (pp. 143-160). Sage Publications. <https://sk.sagepub.com/reference/the-sage-handbook-of-outdoor-play-and-learning/i1332.xml>

Li J, Pang M, Smith J, Pawiliuk, Pike I. (2020). In Search of Concrete Outcomes-A Systematic Review on the Effectiveness of Educational

Interventions on Reducing Acute Occupational Injuries. *Int J Environ Res Public Health*, 17(18), 6874. <https://www.doi.org/10.3390/ijerph17186874>

Lim BT, Chhina H, Pike I, Brussoni M, Cooper M. (2020). Methodological Challenges in Investigating Supracondylar Fractures of the Humerus From a Child's Viewpoint: Evolution of Study Protocol. *JMIR Res Protoc* 2020, 9(11), e21816. <https://doi.org/10.2196/21816>

Mitra R, Moore S, Gillespie M, Faulkner G, Vanderloo L, et al. (2020). Healthy movement behaviours in children and youth during the COVID-19 pandemic: Exploring the role of the neighbourhood environment. *Health & Place*, 65, 102418. <https://doi.org/10.1016/j.healthplace.2020.102418>

Moore SA, Faulkner G, Rhodes RE, Brussoni M, Chulak-Bozzer T, et al. (2020). Impact of the COVID-19 virus outbreak on movement and play behaviours of Canadian children and youth: A national survey. *International Journal of Behavioral Nutrition and Physical Activity*, 17, 85. <https://doi.org/10.1186/s12966-020-00987-8>

Owoeye OBA, VanderWey MJ, Pike I. (2020). Reducing Injuries in Soccer (Football): an Umbrella Review of Best Evidence Across the Epidemiological Framework for Prevention. *Sports Medicine – Open*, 6, 46. <https://doi.org/10.1186/s40798-020-00274-7>

Parent N, Guhn M, Brussoni M, Almas A, Oberle E. (2020). Social determinants of playing outdoors: Family characteristics, trust in neighbors and daily outdoor play in early childhood. *Canadian Journal of Public Health*, 112, 120-127. <https://doi.org/10.17269/s41997-020-00355-w>

Riazi N, Brussoni M, Vertinsky P, Faulkner G. (2021). "Well, you feel more responsible when you're unsupervised": Exploring family perspectives on children's independent mobility. *Children*, 8(3), 225. <https://doi.org/10.3390/children8030225>

Riazi NA, Wunderlich K, Gierc M, Brussoni M, Moore SA, et al. (2021). "You can't go to the park, you can't go hear, you can't go there": Exploring parental experiences of COVID-19 and its impact on their children's movement behaviours. *Children*, 8(3), 219. <https://doi.org/10.3390/children8030219>

Richmond S, Bruin S, Black A, Pike I, Babul S. Active & Safe Central: Using a mixed-methods design and the RE-AIM framework to evaluate a sport and recreational injury prevention resource for practitioners in Canada. *BMJ Open*, 11(1), e039070. <https://www.doi.org/10.1136/bmjopen-2020-039070>

Richmond S, Pike I, Maguire J, Macpherson A. (2020). E-cigarettes: A new hazard for children and adolescents. *Paediatrics & Child Health*, 25(5), 317–321. <https://doi.org/10.1093/pch/pxaa078>

Shepherd HA, Evans T, Gupta S, McDonough MH, Doyle-Baker P, et al. (2021). The Impact of COVID-19 on High School Student-Athlete Experiences with Physical Activity, Mental Health, and Social Connection. *International Journal of Environmental Research and Public Health*, 18(7), 3515. <https://doi.org/10.3390/ijerph18073515>

Silverberg ND, Otamendi T, Panenka WJ, Archambault P, Babul S, et al. (2020). De-implementing prolonged rest advice for concussion in primary care settings: a pilot stepped wedge cluster randomized trial. *The Journal of Head Trauma Rehabilitation*, 36(2), 79-86. <https://www.doi.org/10.1097/HTR.0000000000000609>

Swanlund D, Schuurman N, Zandbergen P, Brussoni M. (2020). Street masking: A network-based geographic mask for easily protecting geoprivacy. *International Journal of Health Geographics*, 19, 26. <https://doi.org/10.1186/s12942-020-00219-z>

Turcotte K, Lubega SK, Pauer S, Babul S. (2020). Concussion Awareness and Education among Sports Resource Providers in Uganda: Piloting the Concussion Awareness Training Tool (CATT). *Ann Sports Med Res*, 7(5), 1161-1167. <https://www.doi.org/10.14288/1.0395887>

[org/10.14288/1.0395887](https://www.doi.org/10.14288/1.0395887)

## Conference Proceedings

Babul S, Pike I, Goldman R, Turcotte K, Zargar A. Pandemic and injury presenting at BC Children's Hospital Emergency department, CHIRPP data. BCCDC Research Week 2020. Vancouver, Canada. October 23-27, 2020. (Online/Virtual).

Babul S, Turcotte K, Bruin S, Sadler K, Beaton D, et al. Expanding the Concussion Awareness Training Tool (CATT). BCCDC Research Week 2020. Vancouver, Canada. October 23-27, 2020. (Online/Virtual)

Beaulieu E, Zheng A, Rajabali F, MacDougall F, Pike I. The Economics of Burn Injuries Among Children Aged 0–4 Years. American Burn Association 52nd Annual Meeting (ABA 2020). Orlando, USA. March 17-20, 2020. Cancelled due to COVID-19. Papers published in March 2020 in the *Journal of Burn Care & Research*, Volume 41, Issue Supplement\_1, Page S114. <https://doi.org/10.1093/jbcr/iraa024.176>

Black AM, Turcotte K, Taylor T, Bruin S, Sadler K, et al. Developing a tailored online concussion education program for Canadian university athletes: From needs assessment to design including behaviour change strategies. Canadian Concussion Network-Réseau Canadien des Commotions Annual Meeting 2021. January 22, 25-27, 2021. (Online/Virtual).

Boyes R, Pickett WL, Brussoni M, Janssen I. Improving prediction of outdoor active play using neighborhood images. Society for Epidemiologic Research. Boston, USA. Cancelled due to COVID-19.

Chauhan R, Cheng A, Tsow R, Sakakibara B, Babul S, et al. Neurorehabilitation and Neural Repair: preliminary systematic review findings. 11th World Congress for Neurorehabilitation. October 7-11, 2020 (Online/Virtual).

Cheng P, Zargar A, Rajabali F, Turcotte K, Babul S. Pediatric

alcohol poisoning in relation to changes in alcohol access policies. 14th World Conference on Injury Prevention & Safety Promotion. Adelaide, Australia. November 8-11, 2020. Conference postponed to November 27-30, 2022

Cheng T, Brussoni M, Han C, Munday F, Zeni M. Perceived barriers to time outdoors in early childhood education centres. BCCDC Research Week 2020. Vancouver, Canada. October 23-27, 2020. (Online/Virtual)

Dale L, Bruin S, La Freniere K, Pike I. Preventable - The intersection between social marketing and injury prevention. 2020 BCCDC Research Week 2020. Vancouver, Canada. October 23-27, 2020. (Online/Virtual)

Mann G, Humphreys C, Rajabali F, Sadler K, Smith J, et al. Period of PURPLE Crying: How can we improve physician engagement in parent education. Seventeenth International Conference on Shaken Baby Syndrome/Abusive Head Trauma. Philadelphia, United States. September 20-22, 2020. (Online/Virtual)

McGregor S, Brussoni M, Goldman R. Caregivers' concerns about COVID-19 in a pediatric emergency department: A cross-sectional study. BCCDC Research Week 2020. Vancouver, Canada. October 23-27, 2020. (Online/Virtual)

Pawer S, Rajabali F, Zheng A, Smith J, Dhatt A, et al. Characteristics of BC Children and Youth at High-Risk for Self-Harm Poisoning. BCCDC Research Week 2020. Vancouver, Canada. October 23-27, 2020. (Online/Virtual)

### **Invited Presentations**

Babul S. The value of "data" in supporting good practice in concussions. 2021 Canadian Concussion in Sport Virtual Symposium. February 9, 2021. (Online/Virtual)

Brussoni M, Elliot E, Berger I, Patzer L, Stone B. ECE outdoors: working towards a new licensing category. BC Aboriginal Child Care Society. Vancouver, Canada. March 15, 2021. (Online/Virtual)

Brussoni M, Faulkner G. Reverse the trend of the backseat generation: Get kids moving through active travel to school. Vancouver Coastal Health & Langdale Elementary Parent Advisory Committee joint webinar. Gibsons, Canada. October 29, 2020. (Online/Virtual)

Brussoni M, Herrington S. The importance of outdoor play and how to design outdoor spaces in ECE. The Education Hub, New Zealand webinar series. Auckland, New Zealand. June 12, 2020. (Online/Virtual)

Brussoni M. "Ask an expert" webinar: outdoor risky play. Organization for Economic Cooperation and Development (OECD). Paris, France. November 12, 2020. (Online/Virtual)

Brussoni M. Community of Practice: Outdoor Play. Strive & Play Venture joint webinar. London, Canada. November 11, 2020. (Online/Virtual)

Brussoni M. Growing up in a pandemic: Health and resilience in kids. UBC Alumni & UBC Faculty of Medicine webinar. Vancouver, Canada. October 1, 2020. (Online/Virtual)

Brussoni M. Making space for outdoor risky play in the time of COVID-19 and beyond. Association of Early Childhood Educators of Newfoundland and Labrador's (AECENL) 28th Annual Provincial Conference for Early Childhood Educators. St. John's, Canada. October 17, 2020. (Online/Virtual)

Brussoni M. OECD risky play book chapter. Play Wales book club. Cardiff, United Kingdom. November 26, 2020. (Online/Virtual)

Brussoni M. Outdoor play in Canada in the context of COVID-19. UBC HELP Coffee Talks. August 25, 2020. (Online/Virtual)

Brussoni M. Popping the bubble wrap: Making space for risky play. Canadian Falls Prevention Conference. November 16, 2020. (Online/Virtual)

Brussoni M. Promoting the power of play for family strengthening. US National Family Support Network & Families Canada joint webinar. San Francisco, United States. September 23, 2020. (Online/Virtual)

Brussoni M. Risky play and building resilience in children. Trauma Association of Canada – Murray Girotti Injury Prevention Lecture. Halifax, Canada. November 18, 2020. (Online/Virtual)

Brussoni M. Risky play and risk benefit assessment. Manitoba Child Care Association Conference. May 21, 2020. Cancelled due to COVID-19

Brussoni M. Risky Play. International Course on Children's Active Play and Sport Programs. Tehran, Iran. September 4-6, 2020. (Online/Virtual)

Brussoni M. Supporting risky outdoor play during COVID-19. Saskatchewan Parks and Recreation Association conference. Saskatoon, Canada. November 20, 2020. (Online/Virtual)

Brussoni M. Supporting risky outdoor play during COVID-19. UBC Childcare Parents Council Speaker Series. Vancouver, Canada. February 25, 2021. (Online/Virtual)

Brussoni M. UBC HELP Coffee Talks. Vancouver, BC. August 25, 2020. (Online/Virtual)

Brussoni M. Why is outdoor risky play more important now than ever? BC Injury Research & Prevention Unit webinar series. Vancouver, Canada. March 25, 2021. (Online/Virtual)

Pike I. Poison Prevention: It's Not Just for Poison Prevention Week Webinar. Parachute Canada. March 31, 2021. (Online/Virtual)

## Workshops

Babul S, Beaton D. The Concussion Awareness Tool for Workers and Workplaces. ActSafe Safety Conference. Richmond, Canada. March 5, 2020. (Online/Virtual)

Brussoni M. Making space for outdoor risky play in the time of COVID-19 and beyond. Child Care Options Resources and Referral, Child Care Provider professional development. Surrey, Canada. July 27, 2020. (Online/Virtual)

Brussoni M. Making space for outdoor risky play in the time of COVID-19 and beyond. Westcoast Child Care Resource Centre, Early Childhood Educator professional development. Vancouver, Canada. May 27-28, 2020. (Online/Virtual)

Brussoni M. Making space for outdoor risky play in the time of COVID-19 and beyond. Westcoast Child Care Resource Centre, Early Childhood Educator professional development. Vancouver, Canada. August 12-13, 2020. (Online/Virtual)

Brussoni M. Mixed methods study design. HLTH 4906: Capstone Course, Research Essay. Carleton University. Ottawa, Canada. November 25, 2020. (Online/Virtual)

Brussoni M. Outdoor Risky Play. City of Toronto Professional Development Day for Recreation Programmers. Toronto, Canada. April 30, 2020. Cancelled due to COVID-19

Brussoni M. Planning environments for learning. Science of Early Child Development. Red River College. Winnipeg, Canada. Ongoing. (Online/Virtual)

Brussoni M. Rethinking risk: making space for outdoor play. Westcoast Child Care Resource Centre. Vancouver, Canada. Apr 8, 2020. (Cancelled due to COVID-19)

Brussoni M. Risky Play. Science of Early Child Development. Red River College, Winnipeg, Canada. Ongoing. (Online/Virtual)

Brussoni M. Supporting risky outdoor play during COVID-19. Archway Community Services Child Care Resources & Referral, Early Childhood Educator professional development. Abbotsford, Canada. November 3, 2020. (Online/Virtual)

Brussoni M. Supporting risky outdoor play during COVID-19. Sunshine Coast Child Care Resources & Referral, Early Childhood Educator professional development. Gibsons, Canada. November 23, 2020. (Online/Virtual)

Brussoni M. Supporting risky outdoor play during COVID-19. YMCA Child Care Resources & Referral, Early Childhood Educator professional development. Vancouver, Canada. August 26, 2020. (Online/Virtual)

# OTHER CONTRIBUTIONS

## Dr. Ian Pike

- Board Member: The Community Against Preventable Injuries.
- Board Member: Parachute Canada Board of Directors
- Past Chair: Expert Advisory (Scientific) Committee. Parachute Canada
- Scientific 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
- Fellow: International Society for Child and Adolescent Injury Prevention
- Invited Member: OECD Expert Advisory Group for the Global Injury Data Project
- Media Spokesperson: The Community Against Preventable Injuries
- Member: BC Concussion Advisory 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: Executive Steering Committee, Road Safety BC Strategy
- Member: Injury Free Coalition for Kids
- Member: International Collaborative Effort on Injury Statistics (ICES)
- Member: Research Leadership Council, BC Children's Hospital Research Institute
- Member: Society for Advancement of Violence and Injury Research (SAVIR)
- Research Theme Co-Lead: Evidence to Innovation (E2i). BC Children's Hospital Research Institute
- Member: Injury Free Coalition for Kids
- Member/Co-Editor: Canadian Injury Textbook Committee
- Advisor: Injury Prevention Dashboard Task Group, Healthy People and Communities Steering Committee. Public Network of Canada
- Member: Injury Prevention and Control Task Group, Chronic Disease Injury Prevention and Control Expert Group (CDIPC EG). Pan-Canadian Public Health Network

## Dr. Shelina Babul

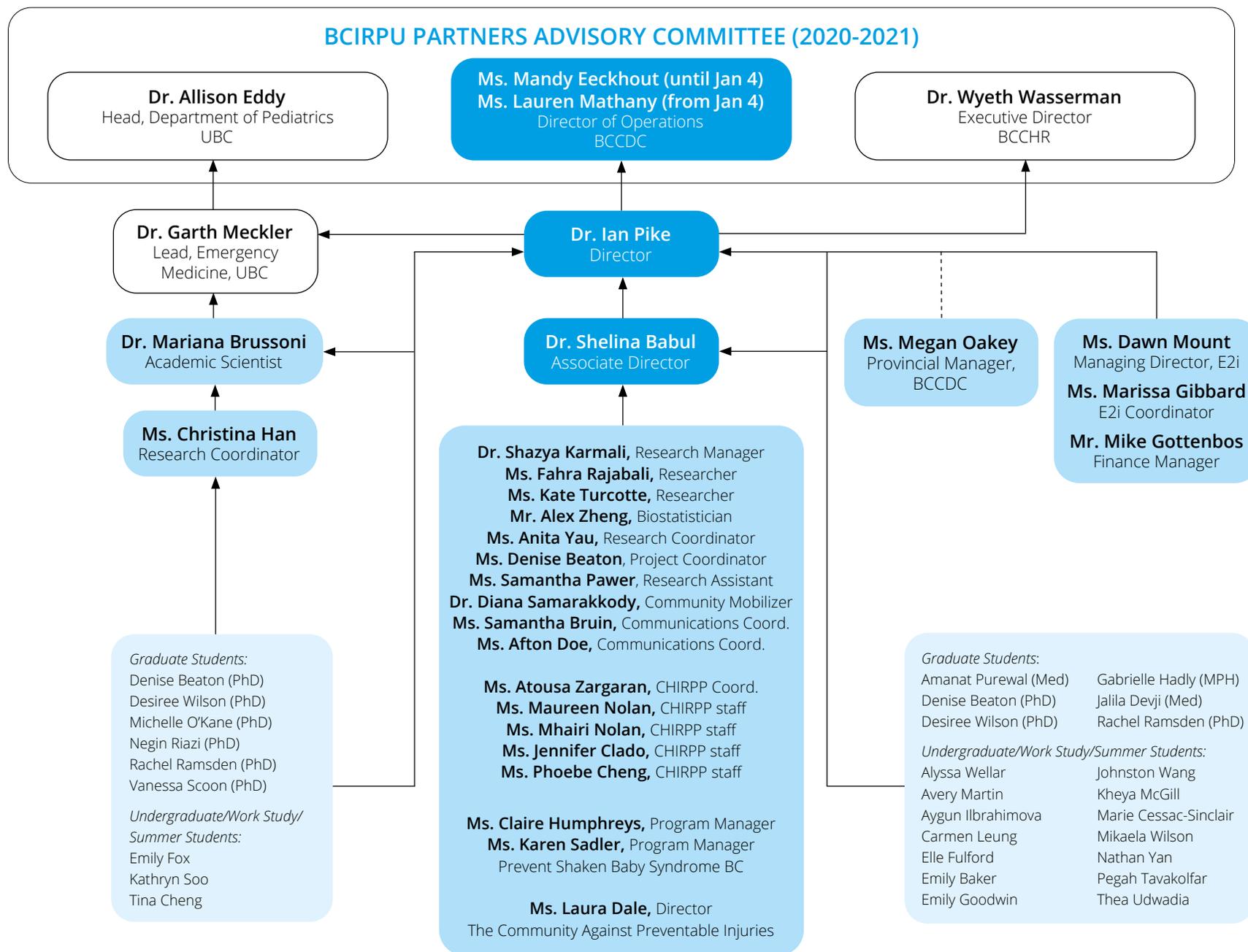
- Associate Director: BC Injury Research and Prevention Unit
- Chair: BC Concussion Advisory Network (BC CAN)
- Co-Chair: BC Concussion Advisory Network Subcommittee
- Director: BC Hockey Board of Directors
- Member: BC Hockey Safety Committee

- Chair: BC Hockey Risk Management Committee
- Member: BC Brain Injury Association Scientific Advisory Committee
- Director: Canadian Hospitals Injury Reporting & Prevention Program (CHIRPP) at BC Children’s Hospital
- Director: BC Brain Waves
- Media Spokesperson: The Community Against Preventable Injuries.
- 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: Concussion Awareness Working Group (CAWG) for BC ministries of Education (MED), Health (MoH) and Tourism, Arts and Culture (MTAC) and responsible for Sport
- Member: Interdisciplinary Trauma Network of Canada
- Member: Parachute National Concussion Expert Advisory Committee
- Member: viaSport Safe Sport Advisory Group
- Member: Concussion Awareness Working Group (CAWG) for BC ministries of Education (MED), Health (MoH) and Tourism, Arts and Culture (MTAC) and responsible for Sport
- Member: Leadership Council for Population and Public Health, PHSA
- Member: Fraser Health Concussion Resource Network
- Member: Child Health BC Concussion Advisory Group
- Member: viaSport Safe Sport Advisory Group
- Member: Canadian Traumatic Brain Injury Research Consortium

## Dr. Mariana Brussoni

- Board member: Child & Nature Alliance of Canada (CNAC)
- Editorial Board Member: Injury Epidemiology Journal
- Member: BC Children’s Hospital Foundation Child Health Integrative Partnership (CHIPS) Subcommittee 4: Keep Kids and Families Healthy – Across BC and Globally
- Member: Canadian Public Health Association
- Member: Public Health Association of BC
- Member: Society for Research in Child Development
- Chair: University of Alabama at Birmingham & Safe Kids Worldwide; RCT Data Safety Monitoring Board
- Member: International Play Safety Network
- Member: Outdoor Play Canada Leadership Group
- Member: National Advisory Committee on Recess (Physical and Health Education Canada)
- Member: PLaTO-Net Terminology Consensus Project Steering Committee
- Member: Welcome to Kindergarten BC Advisory Committee
- Facilitator: Child and Nature Alliance of Canada Strategy Circle
- Member: BC Nature Based Child Care Advisory Committee (convened by Vancouver Island Health Authority)

# ORGANIZATIONAL STRUCTURE



F508 - 4480 Oak Street  
Vancouver, BC, Canada  
V6H 3V4

604-875-3776

[www.injuryresearch.bc.ca](http://www.injuryresearch.bc.ca)