

# BC Children's Hospital Research Institute conducts world-class research to improve the health of children and families.

## We serve children and families in BC by:

- ➔ Working to improve treatments and find cures for major childhood health conditions including cancer, neurodevelopmental disabilities and type 1 diabetes
- ➔ Making discoveries that further scientific understanding of health and disease
- ➔ Involving families in leading-edge research studies, allowing them to take part in developing new medications and therapies
- ➔ Contributing to national and international health-care guidelines that improve treatments for children and families in BC and around the world.
- ➔ Training and mentoring students who will advance children's health research in the coming years
- ➔ Advancing research to help children and families live healthier lives through the following programs:
  - BC Injury Research and Prevention Unit translates the latest research into public education to prevent unnecessary injuries and deaths
  - BC Children's Hospital BioBank collects blood and tissue samples from consenting patients at BC Children's Hospital to speed medical research to improve treatments and save lives
- The Rare Disease Hub uses state of-the-art technology to diagnose rare genetic disorders in children with unexplained medical conditions
- Mini Med School is an education series for high school students, teachers and the public to learn about and participate in the latest medical research
- The Vaccine Evaluation Centre conducts research to ensure vaccines are safe, effective and accessible
- The TRAnsplantation & CEll Therapy Program (TRACE) enables earlier diagnosis of transplant rejection and advances cell-based transplantation methods

## Research themes

- 1. Childhood Diseases:** Discovering how the body responds to health versus illness, and developing and testing new ways to diagnose and treat a wide range of childhood diseases and disorders.
- 2. Brain, Behaviour & Development:** Bringing together neuroscience, mental health and child development researchers through basic, clinical, population and public health research. We care for children with complex medical, physical, developmental and mental health needs, and lead national initiatives such as Networks of Centres of Excellence.
- 3. Healthy Starts:** Keeping children and families healthy and out of the hospital by preventing lifelong health challenges and chronic diseases that

are rooted in early childhood. We further research into how a child's family life and environment impacts their health, shedding light on healthy childhood development before and after birth, and improving child health worldwide through innovation, advocacy, education and capacity building.

- 4. Evidence to Innovation:** Developing new health-care technologies, improving patient care, advancing the safe and effective use of drugs, developing new methods of health data analytics, and shifting health system attitudes and behaviours to improve the health care and well-being of children and families. Together with the patients we serve, we are leading initiatives to inform health care policy and practice.

# BC Children's Research Institute has transformed the lives of BC kids by:

- ➔ **Improving care for kids in mental health crisis:** HEARTSMAP, an assessment and treatment tool developed at BC Children's Hospital, is in use in more than 50 hospitals across BC to help ensure that kids with emergency mental health needs receive the best possible care.
- ➔ **Preventing a devastating complication of lifesaving transplants:** Our investigators found the presence of two types of immune cells in transplanted tissue helps protect bone and marrow transplant recipients from chronic graft-versus-host disease, a life-threatening, incurable condition.
- ➔ **Understanding autism on an individual level:** By looking at autism from a whole body perspective, our investigators are working towards a future where each child with autism receives personalized treatments uniquely tailored to their biological and genetic make-up.
- ➔ **Expanding the frontiers of diabetes treatment:** Research on how insulin-producing cells in the pancreas develop before birth may one day help scientists produce these cells in the lab. This could ultimately increase the availability and safety of pancreatic cell transplantation, a procedure that ends the need for daily insulin injections.
- ➔ **Promoting healthy and active living for all:** We're fostering healthy childhoods through initiatives like ActiveSafe.ca and Live 5-2-1-0, as well as programs and tools that support children with neurodevelopmental disabilities and chronic illnesses and their families.
- ➔ **Delivering life-changing precision medicine:** Thanks to our investigators' leading-edge research, all new oncology patients at BC Children's receive state-of-the-art testing for genetic variations that increase the risk of serious complications from two common chemotherapy drugs. Efforts are underway to introduce these tests at hospitals across Canada.

## Partners

BC Children's Hospital Research Institute is supported by BC Children's Hospital Foundation and works in close partnership with BC Children's Hospital, the Provincial Health Services Authority and its agencies, and the University of British Columbia.



**BC Children's Hospital Research Institute** ● [www.bcchr.ca](http://www.bcchr.ca)  
 938 West 28th Ave. ● [www.phsa.ca](http://www.phsa.ca)  
 Vancouver, BC V5Z 4H4  
 604-875-3194 ● [BCCHRResearch](https://www.facebook.com/BCCHRResearch)



OCTOBER  
2018