



CYCLING TO CURE KIDS WITH CANCER

GREAT CYCLE CHALLENGE
2021 IMPACT REPORT



CUTTING-EDGE CARE

SickKids is using genetics to improve cancer diagnosis and treatment.

In Canada, about 1,400 children are diagnosed with cancer each year, and too many die of the disease. With the incredible support of Great Cycle Challenge, SickKids continues to uncover some of the biggest mysteries in paediatric oncology today, advocating and implementing innovative clinical trials and collaborations across the country and the world in an effort to treat every patient.

Recent leaps in biomedical science and technology have provided unique insights that have led to individualized precision-based care. Advances in whole-genome sequencing give us the power to diagnose cancer rapidly, detect risk factors, prevent adverse drug reactions, and even set a course for disease prevention.

In 2016, SickKids established the world-leading SickKids Cancer Sequencing (KiCS) Program—an opportunity to take advantage of our genetics and oncology expertise and improve outcomes for kids with relapsed, metastatic, refractory, or otherwise hard-to-treat cancers. Thanks to the contributions of Great Cycle Challenge, we can continue to sequence and analyze the genetic makeup of children's cancer from outside the province to determine each patient's unique genetic fingerprint and identify the cause of the tumour, gain information about prognosis, and implement personalized treatments.

Together with PROFYLE, (Precision Oncology for Young People) KiCS shares sequencing to match potentially life-saving drugs that are approved, studied in clinical trials, made available through single-patient studies, or by compassionate access from pharmaceutical companies. PROFYLE is a national group of research and funding partners working together to molecularly profile patient tumours and find better therapies to treat them.



Since KiCS began, we have enrolled over 500 Canadian and international cancer patients, with clinically relevant mutations found in almost 85 per cent of cases.

SICKKIDS CONTINUES TO UNCOVER SOME OF THE BIGGEST MYSTERIES IN PAEDIATRIC ONCOLOGY TODAY.

The shift from generic, toxic treatments to targeted cancer-fighting medication born from new genetic insights is an ever-changing landscape. Although hopeful, for many patients and families, it's challenging to keep up with clinical trials, especially when coupled with the daily pressures of taking care of a sick child. Thanks to Great Cycle Challenge, the SickKids Garron Family Cancer Centre (GFCC) hired Paediatric Oncology Drug Access Navigator, Sandra Judd. Sandra creates detailed yet intuitive road maps for patient families to follow that have been extraordinarily well received. Great Cycle Challenge funds were quickly put to use to build a data repository of innovative cancer drugs to support Sandra's ability to help even more. Now, she can streamline and align GFCC's efforts to acquire more specific medications that our patients need.



“SUPPORT FROM GREAT CYCLE CHALLENGE IS CHANGING HOW WE DIAGNOSE AND TREAT CANCER PATIENTS BY HELPING US TO PURSUE SOME OF THE MOST INNOVATIVE PARADIGMS OF CANCER CARE HAPPENING AT SICKKIDS—LIKE IMMUNOTHERAPY AND PRECISION MEDICINE.”

**-DR. JIM WHITLOCK,
DIRECTOR, GARRON FAMILY CANCER CENTRE
SICKKIDS**

A DIGITAL FRONT DOOR TO CANCER TRIALS

The Canadian clinical trial landscape is fraught with challenges and rife with opportunity. A cancer clinical trial has been described as another chance at life for kids who have failed traditional cancer therapies. But families and health care workers across the country need better access and communication for these trials. Thanks to Great Cycle Challenge and Clinician-Scientist Fellow Dr. Sarah Cohen-Gogo, SickKids has found a way to help.

Dr. Cohen-Gogo is originally from France and joined the GFCC team in 2018. Soon after her arrival, Dr. Cohen-Gogo brought forth an idea to fill information and communication gaps in the cancer clinical trial space. She suggested the GFCC develop a Canadian version of U-Link—the already successful French web-based model of care and the first and foremost up-to-date cancer clinical trials information source for hospital care providers and families. U-Link also assists families with travel and accommodation costs when accessing clinical trials outside their local treatment centres.

With tremendous support from French developers and the invaluable time and input of national groups like Children’s Cancer & Blood Disorders (C17) and Advocacy for Canadian Childhood Oncology Research Network (Ac2orn), the GFCC decided to launch U-Link.

Great Cycle Challenge has been central in helping to donate funds used to initiate and optimize this helpful tool—a testament to the collaborative, compassionate, and novel care that we initiate and implement with support from generous donors like you. U-Link will be up and running soon. For that, we have Great Cycle Challenge to thank.

RARE BUT NOT FORGOTTEN

SickKids fights every type of cancer, no matter how rare.

Retinoblastoma is a rare form of paediatric eye cancer, often found in very young children. SickKids plays a crucial role as a national referral centre for the management of retinoblastoma patients who require the care of a specialized, multidisciplinary team of oncologists and ophthalmologists.

As a leader in the field, the GFCC paves the way for new treatment options for patients with rare cancers like this. In fact, many developments in rare cancer research can be translated into better care for more common types of cancers and other illnesses.

With the help of Great Cycle Challenge, the GFCC launched a new, investigator-initiated phase I study for patients with retinoblastoma. In the study, we administer chemotherapy locally to the eye with a slow-release chemoplaque surgically placed on the sclera. Support from Great Cycle Challenge allows us to formally and definitively confirm the safety and tolerability of this approach. SickKids has already treated the first two retinoblastoma patients in the world with this device.

This study will provide an important additional therapeutic option for retinoblastoma patients from across Canada. Without the fundraising dedication of Great Cycle Challenge participants, this life-saving opportunity wouldn't be available. At SickKids, and with the commitment of Great Cycle Challenge, exceptional care like this is happening every day. On behalf of children with rare cancers, their families, and all of us at SickKids, thank you.



POTENTIAL OPPORTUNITIES FOR MAXIMUM IMPACT

A future filled with possibility.

The GFCC is excited about new and life-changing projects we can fund with the support of donations from Great Cycle Challenge. Examples include a national clinical trial to help cure leukemia patients, educational tools for patients, families, and caregivers in the form of a tech-savvy app, as well as a grant opportunity for out-of-the-box research ideas that we can translate into life-saving clinical care at the bedside. We look forward to updating you on these exciting initiatives soon. Thank you for believing in the power of research. Together, we are building a better future for cancer patients across provinces and around the world.

THANK YOU.

The commitment from Great Cycle Challenge to support the fight against paediatric cancer ensures that we can continue to offer the best possible health outcomes for children at SickKids, across Canada and around the world so they can live longer and healthier lives. Thank you for your remarkable generosity.



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