

Improving Outcomes for Canadian Children, Adolescents, and Young Adults with Cancer:

A proposal for a working relationship with Health Canada

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Overview

Despite gains in childhood, adolescent and young adult (CAYA) cancer research and treatment, Canadian children continue to die. This will improve only if our health care system identifies and implements innovative models of care for CAYA with cancer. We have a plan that has been built over time and on the basis of collaboration: a plan for a coordinated Canadian effort to ensure that survival rates continue to increase, quality of life continues to improve through treatment and beyond, that research capacity is strengthened, and that Canada continues to lead in CAYA oncology.

Our plan starts with two initiatives:

1. Enabling equitable access to early phase cancer clinical trials

Currently, no coordinated system exists to allow Canadian children with cancer to access promising treatments outside of their home province or outside of Canada. Families without treatment options in their home province are forced to advocate for early phase clinical trial access and must often pay extraordinary out of pocket costs. The Canadian healthcare system needs to support families and help them access potentially life-saving clinical trials for their children – no matter where they live. Therefore, we need new ways to effectively reallocate resources² from futile “standard” treatment to promising and effective new treatments. We are proposing a program to address these problems.

2. CAYA Oncology Patient Engagement Collaborative

We are asking a Health Canada Secretariat to create a collaborative Working Group to address health system issues related to CAYA cancer. This Working Group will be a forum to create a Report to discuss the allocation of an additional federal commitment to solve problems such as inadequate supports for pediatric oncology research, the lack of a formalized CAYA cancer drug discovery program, the need for a clinical trial pipeline and potential opportunities to incentivize industry to support CAYA oncology. Together with Health Canada, we would like to meaningfully address these and many other issues.

Ac2orn, Advocacy for Canadian Childhood Oncology Research Network, was founded in 2012 as a national advocacy group for childhood, adolescent and young adult cancers. Consisting of parent and patient advocates, Ac2orn is committed to advocating for translational research and effective treatment to realize the goal of curing all CAYA cancers. Members of Ac2orn have witnessed the devastating effects of CAYA cancer treatments, and too many have watched our children die. Despite remarkable advances achieved largely through basic science and clinical research, one out of every five Canadian children and adolescents (ages 0-19) with cancer will die less than five years after diagnosis. Many of those who survive will suffer significant lifetime disabilities as a consequence of standard treatments.

Ac2orn has conducted needs analyses, written white papers and presented at scientific conferences across North America. Ac2orn has developed strong relationships with adult and CAYA oncologists and continues to work to develop relationships with regulators. Ac2orn is presently merging with several philanthropic organizations to create a national champion with a unified voice for Canadian childhood, adolescent and young adult cancers. This will become the focal point for a coordinated pan-Canadian strategy and act as a champion for children, adolescents and young adults with cancer.

The problems faced in CAYA oncology are not unique to the CAYA patient population; however, we believe new health care innovations will not only improve CAYA patient care, but will serve as instructive models for other health care fields.³ We believe it will yield sustainable benefits across the entire cancer care continuum – from diagnosis to survivorship. This problem is big enough that it must be addressed, and small enough that it can be addressed.

Enabling Equitable Access to Early Phase Cancer Clinical Trials

We are in a golden age of cancer research, but we are systemically failing to provide Canadians with equal access to the promising clinical trials founded on that research. Our proposal asks the federal government to establish a program that will facilitate access to promising phase 1 and 2 clinical trials for all Canadian CAYA with cancer.

We know, for example, early phase immunotherapy clinical trials (CAR T-cell) are producing spectacular remission rates of over 90% in patients with relapsed and refractory disease.^{4,5} These response rates are unprecedented and are realized in a heavily pre-treated patient population with no other treatment options. This represents the new wave of innovative and less toxic treatments. However, to date there are just two pediatric CAR-T trials in Canada that only patients from Ontario and Quebec can readily access.

In Canada, access to early phase trials outside a patient's home province/territory can be impossible. Provinces explicitly identify early phase clinical trials as "experimental" and thus not eligible for provincial insurance. Coverage is typically denied if a patient needs to travel outside of their home province for medical treatment. When a patient applies for out-of-province (OOP) or out-of-country (OOC) coverage to participate in a clinical trial (specifically Phase 1 and 2), it is highly likely that their application will be denied.⁶ If a patient and/or family decide to appeal a denial decision, this prolongs the process with greater levels of bureaucracy, loss of time, personal cost and stress. As a result, access to developmental clinical trials is geographically inequitable. It also means that health care dollars are wasted on "futile treatments" (that are not likely to work) instead of enabling access to promising clinical trials that could make a difference. Furthermore, patients seeking treatment on a phase 1 and 2 clinical trial often have aggressive relapsed/refractory cancer and do not have time to wait.

Goals 2018-2023

1. Federal Government to provide five year funding for a program for CAYA cancer patients to access promising Phase 1 and 2 clinical trials outside their home province. We have engaged health economists to evaluate the exact costs but are anticipating \$3 million a year for five years. These funds would cover the ancillary medical costs associated with the Phase 1 and 2 clinical trials for CAYA with cancer.

Benefits to Government

1. Demonstrate leadership in health care innovation and facilitate innovative research while reducing geographic disparities in early phase clinical trial access for our youngest Canadians.
2. Improve access to early phase clinical trials for Canadian children and young adults with cancer better positions Canada as a leader in CAYA cancer treatment.
3. Establish a process for CAYA with cancer to access early phase clinical trials aligns with the Federal Government's vision of universal healthcare and goals of health care innovation.⁷

How this Priority will be Accomplished

1. Fund a program to cover ancillary medical care and to allow CAYA patients to travel outside of their home province/territory and out of country for appropriate Phase 1 and Phase 2 clinical trials.
2. Establish supportive funding for monitoring and implementation of the program to track and measure costs associated with treating each individual and report on the initiative at agreed milestones.

CAYA Oncology Patient Engagement Collaborative

The recent Pan Canadian Health Organizations “Fit for Purpose” report recognizes the need for more meaningful and deep patient engagement in Canadian health care and health care system goals. The need is acute as Canada has lagged behind cooperative efforts between health regulators and patient groups fostered in other countries.⁸

Ac2orn is a knowledgeable and committed organization dedicated to sustainable health care change. We have a long history of building relationships with leading pediatric oncologists, charities, Health Canada, the US FDA, and international collaborative research groups. As a patient-driven-organization whose members have met face to face with Health Canada and FDA representatives, we understand that partnering with government is essential.

Cancer is the number one disease killer of Canadian kids and that is not going to change without innovation. Ac2orn represents a patient population around which to develop innovative programs. This innovation will benefit Canadian CAYA with cancer and the health care system overall. We bring forward specific objectives and priorities; however, we understand that government will have additional priorities to add based on their own context and long term vision for the future of Canadian health care.

Goals 2018-2023

1. As part of its response to the PCHO “Fit for Purpose” report, a Health Canada Secretariat establishes a collaborative Working Group tasked with ensuring meaningful CAYA oncology patient engagement.
2. The Working Group will use CAYA oncology to inform Health Canada about changes to public health care via a report to be tabled to the Minister of Health by December 31, 2018.
3. The report will inform how a government funded strategy and model can enable meaningful changes to public health care in the area of CAYA oncology.

Benefits to Government

1. This Working Group will provide an ideal opportunity to innovate at the intersection of the patient voice, health care system and research. It will also provide the government with a source to access the patient voice when making decisions that relate to Canadian CAYA with cancer.
2. Continued growth and strengthening of the Canadian ability to respond to the challenges associated with CAYA cancer research, treatment, and survivorship.

How this Priority will be Accomplished

1. A foundational meeting between leadership at Health Canada, CIHR, industry, oncology professionals, Ac2orn and CAYA patients/families to be funded and hosted by Health Canada by the end of September 2018. The meeting will be organized by Ac2orn and the purpose will be to:
 - Develop a set of measurable goals and objectives that will culminate into a national strategy for CAYA cancer research, treatment, and survivorship in Canada.
 - Support a plan of action to execute on the defined goals and objectives.
 - Establish a schedule of regular meetings and methods of interaction to ensure goals and objectives are being met, highlighting indicators of health system improvement.
2. This working group will be an avenue for discussing challenges for CAYA with cancer, such as:
 - Development of a CAYA cancer drug discovery program and clinical trial pipeline.⁹
 - Creating incentives for industry to become engaged in CAYA oncology¹⁰
 - Creation of a National Research Ethics Board¹¹
 - Dedicated CIHR research dollars for CAYA oncology¹²
 - Establishment of a coordinated CAYA survivorship program in every province¹³

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References

- ² Recommendation 4.10 of the Naylor Report. It states that there should be the creation of a formal Four Agency Coordinating Board chaired by the Chief Science Advisor (CSA) that would report to the Ministers of Science and Health. The Coordinating Board would “expeditiously determine and implement avenues for harmonization, collaboration, and coordination of programs, peer review procedures and administration.”
- ³ Forest, P-G and Martin, D. (2018). Fit for Purpose: Findings and Recommendations of the External Review of the Pan-Canadian Health Organizations. ISBN 978-0-660-25782-2. In particular reference to the “spread and scale of system innovations” on page xiii.
- ⁴ Foster, J.B., and Maude, S.L. (2018). New Developments in Immunotherapy of Pediatric Leukemia. *Current Opinion Pediatrics*, Vol. 30, No. 1, pps. 25-29.
- ⁵ Roth, A. (April 15, 2015). CAR T-Cell Therapy Surpasses 90% Complete Remission Rate in Pediatric ALL. Accessed online at: <http://www.onclive.com/web-exclusives/CAR-T-Cell-Therapy-Surpasses-90-Complete-Remission-Rate-in-Pediatric-ALL>
- ⁶ Bond, M.C. and Pritchard, S. (2006). Understanding Clinical Trials in Childhood Cancer. *Paediatric Child Health*, Vol. 11, No. 3, pps. 148-150. Pp. 148-149.
- ⁷ “As Canadians, we believe fundamentally that everyone deserves access to timely, publicly-funded, quality, universal health care – regardless of their background, physical need, where they live, or how much they make” Justin Trudeau (<https://www.liberal.ca/trudeau-presents-plan-to-invest-in-canadians-health-and-home-care/>)
- ⁸ For example, the FDA has implemented a Patient Representative Program and a Patient Education Network https://www.fda.gov/ForPatients/PatientEngagement/default.htm#FDA_Cluster.
- ⁹ A national concerted focus on hard-to-treat cancers (including relapsed, refractory and metastatic disease) must be achieved through innovative and a carefully crafted approach to research and clinical trials. The lessons learned promise to pay dividends beyond the pediatric community. As more and more trials divide their patients into smaller genetic populations, the adult clinical trial world is marching in this direction of small patient populations and multi-jurisdictional research. With lessons that are being learned in the CAYA world, systems and processes will be transferable. This would be accomplished through the development of a national team of CAYA professionals who are dedicated to pursuing research and developing Phase 1 and Phase 2 oncology clinical trials to establish a Canadian clinical trials pipeline.
- ¹⁰ The continued fostering of a professional and balanced relationship with corporations and pharmaceutical companies to work together to provide CAYA cancer patients access to promising therapies, drugs and medical interventions. In addition, an initiative to work closely with international partners and participate in clinical trials that are implemented globally. Work to ensure that international initiatives are streamlined in their implementation and execution. We can ensure that international standards set for these studies are established in Canada through centralized oversight and processes.
- ¹¹ The National Institute of Health in the United States has achieved a significant milestone with the implementation of a national research ethics board where a single institutional review board is utilized for multi-site research. The goal is to remove duplication, reduce administrative requirements and fix system inefficiencies to ensure that research can proceed expeditiously. A Canadian national REB is a necessary mechanism that will significantly expedite the research ethics review process and help decrease the start-up time to get clinical trials running. CAYA oncology represents an area perfectly suited to explore this as a program, as many sites open the exact same international protocols.
- ¹² Necessary support is required to support novel clinical trials designs and treatments that will facilitate rigorous, ethical and scientifically robust research for CAYA with cancer.
- ¹³ As more and more cancer patients achieve cure from their disease, there is a need to address the long-term effects of treatment that CAYA cancer survivors will experience as they age. Approximately 40% of childhood cancer survivors will experience late-effects from their treatment that are classified as life-threatening, disabling, and even fatal at 30 years post

diagnosis. By age 45, 80% of survivors have a life-threatening health condition – directly resulting from harsh treatment such as chemotherapy and radiation. A great number of studies have reported on the effects of pediatric cancer on employment status, holding of lower-skilled jobs, the inability to live an independent life, having successful long-term relationships and other socio-economic challenges. As more children are cured from cancer, the completion of treatment does not signal the end. More work needs to be done to monitor CAYA who have experienced cancer treatment, develop a national aftercare system, and increase research into treatments with great accuracy and refinement to ensure that children are receiving the best and the least amount of therapy necessary in order to achieve cure.