



**CIHR** | Institute of Human Development,  
Child and Youth Health

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Discoveries for life



**HEALTHY  
FOUNDATIONS  
OF LIFE**

Refreshed Strategic Plan  
2018-2020



Canadian Institutes  
of Health Research

Instituts de recherche  
en santé du Canada

Canada



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# Scientific Director's Message

Welcome to the Canadian Institutes of Health Research Institute of Human Development, Child and Youth Health's (CIHR-IHDCYH) refreshed strategic plan, our next step forward in addressing the priorities identified in our *Strategic Plan 2013–2017: Healthy Foundations of Life*.

Developed in consultation with CIHR-IHDCYH's community and aligned with the CIHR *Health Research Roadmap II*, our refreshed strategic plan builds on our work over the past five years. I am excited to present our new directions and activities to reinforce and expand our **research investment themes** in 2018 to 2020.


Between 2013 and 2017 we supported a broad range of maternal, reproductive, child and youth health research across our three themes working with external partners from the research community and beyond, through collaboration with other CIHR Institutes and funding mechanisms, such as the *Strategy for Patient-Oriented Research (SPOR)*. We also strengthened the CIHR-IHDCYH community

by building research capacity and promoting the translation of evidence-based research into policy and practice, as well as into everyday life.

Major achievements over the past five years include the development and launch of the *Healthy Life Trajectories Initiative (HeLTI)*, a global initiative that brings together international partners and the World Health Organisation in a unique approach to understanding the developmental origins of chronic disease. We are also addressing the need for new and innovative ideas in preterm birth research, improvements to care and patient outcomes, and improvements to the perinatal health care system through our *Preterm Birth Initiative*. Other areas of investment include **environments and health**, healthy pregnancy, integrated health services for children and youth, and mental health outcomes and care. We have built capacity by launching several targeted **initiatives** to support early and mid-career investigators, both generally and in areas of identified need. We also incorporate capacity building as a priority in all our strategic initiatives and provided educational activities and resources, such as workshops and trainee presentation opportunities at conferences.

During my second term, we will continue to support and strengthen CIHR-IHDCYH's existing programs, as well as address the gaps remaining in our strategic priorities by developing and launching additional initiatives using a collaborative approach to investing in research. We will also continue to build capacity and foster collaborations that strengthen our community, and drive creativity and innovation in research.

I would like to sincerely thank everyone who participated in the strategic plan refresh—our past and present **Institute Advisory Board** members for their valuable guidance and contributions, and the CIHR-IHDCYH staff for their hard work and dedication. I am confident that our efforts will continue to make a significant impact on the health outcomes of children, youth and families in Canada and internationally.



**Shoo K Lee**

Scientific Director, CIHR-Institute of Human Development, Child and Youth Health

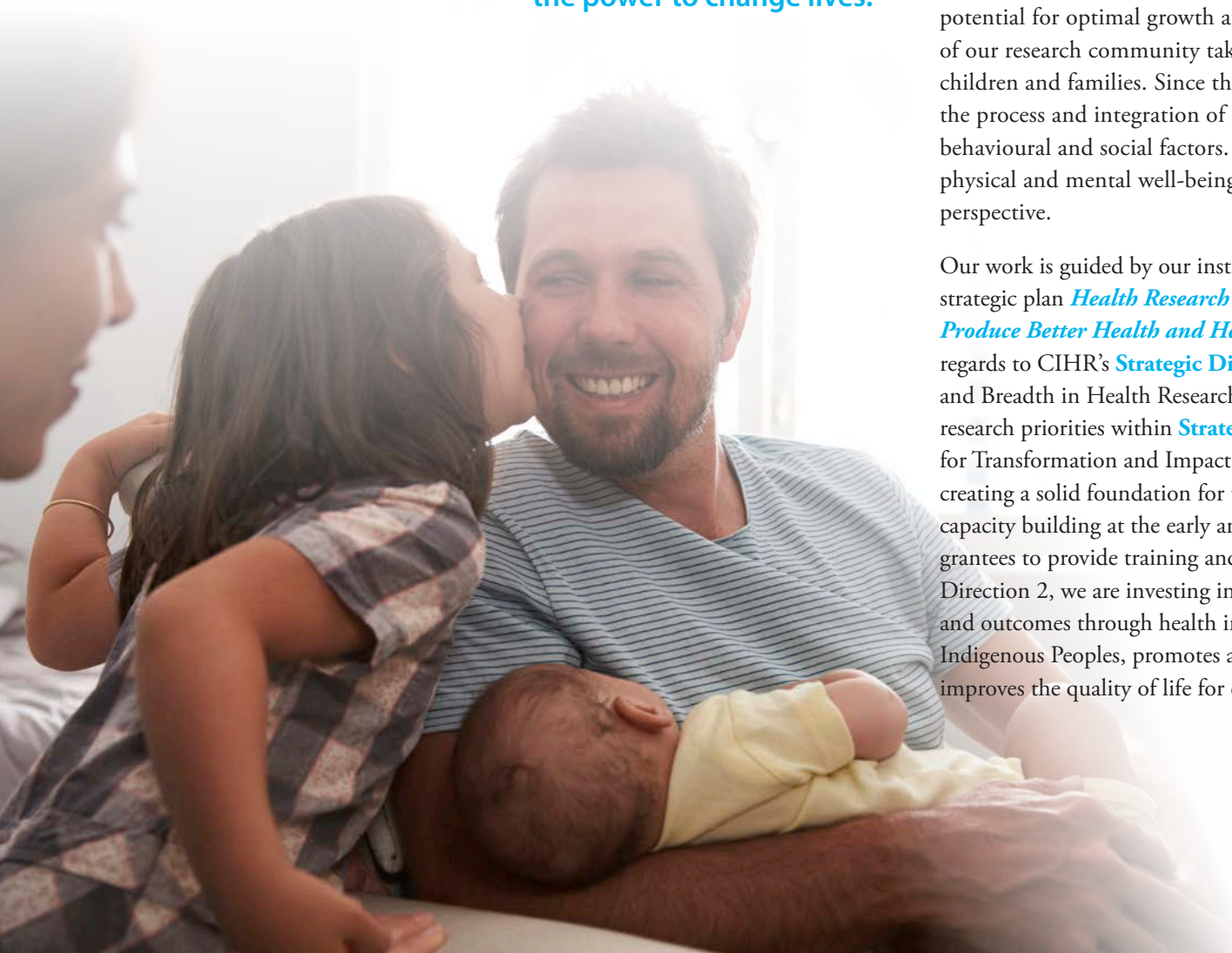
# Who We Are

At CIHR we know that research has the power to change lives.

As Canada's health research investment agency, CIHR collaborates with partners and researchers to support the discoveries and innovations that improve our health and strengthen our health care system. Our mission is to create new scientific knowledge and to enable its translation into improved health, more effective health services and products, and a strengthened Canadian health care system.

As one of CIHR's **13 Institutes**, **CIHR-IHDCYH** supports research that ensures the best start in life for all Canadians, and the achievement of their potential for optimal growth and development. Our mandate and the work of our research community take a comprehensive approach to the needs of children and families. Since the Institute's inception, our focus has been the process and integration of human development, including biological, behavioural and social factors. We are dedicated to developmental, physical and mental well-being throughout the life cycle from a population perspective.

Our work is guided by our institute strategic plan and aligned with CIHR's strategic plan *Health Research Roadmap II: Capturing Innovation to Produce Better Health and Health Care for Canadians*, most notably with regards to CIHR's **Strategic Direction 1**: Promoting Excellence, Creativity and Breadth in Health Research and Knowledge Translation and the four research priorities within **Strategic Direction 2**: Mobilizing Health Research for Transformation and Impact. Within Strategic Direction 1, we are creating a solid foundation for the future through investment in training and capacity building at the early and mid-career levels, and encouraging all our grantees to provide training and mentoring opportunities. Within Strategic Direction 2, we are investing in research that enhances patient experiences and outcomes through health innovation, supports health and wellness for Indigenous Peoples, promotes a healthier future through prevention, and improves the quality of life for children living with chronic conditions.





# Our Vision

**Leading health research for excellence in child and family health outcomes.**

Leading the creation and application of world-class research to strive for the best reproductive, infant, early development, childhood and youth health outcomes, CIHR-IHDCYH integrates leadership, innovation, collaboration and knowledge translation.

# Our Core Values

## Excellence

CIHR-IHDCYH strives to meet the highest international standards of excellence in all aspects of our work.

## Scientific Integrity and Ethics

CIHR-IHDCYH upholds and promotes adherence to the highest ethical principles and processes in all aspects of our work and activities.

## Collaboration

CIHR-IHDCYH promotes, encourages and values collaboration among researchers in Canada and internationally.

## Innovation

CIHR-IHDCYH values new ideas and creative approaches to addressing health and health system challenges in Canada and around the world; innovation is essential to help improve health outcomes for families, children and youth.

## Public Interest

CIHR-IHDCYH strives to translate new knowledge into public policy to help improve the health of children, youth and families; the public interest is of paramount importance in the creation and use of health knowledge throughout all research and related activities.



# Our Community


CIHR-IHDCYH's community is a diverse group that spans all four CIHR themes and a wide range of issues pertaining to human development, child and youth health.

Since the beginning of the Institute in 2000, and particularly from 2013 to 2017, IHDCYH-affiliated researchers have been increasingly successful in obtaining CIHR funding as shown by an increase in the percentage of funding awarded within our mandate in the various CIHR funding streams. Key investments in training have supported this growth, including the *CIHR Strategic Training Initiative in Health Research Program*, which contributed to the *Canadian Child Health Clinician Scientist Program*, and our current investments in our *Applied Chairs in Reproductive and Child Health Services and Policy Research*, *Clinician-Investigator Teams in Obstetrics and Maternal-Fetal Medicine* and *early-career investigator* programs.

Our community has also had great success in obtaining significant funding from other federal sources. Examples of large national research efforts that have been funded in 2013 to 2017 include several *SPOR* grants, such as the *CHILD-BRIGHT Network* (Chronic Disease Network), *ACCESS Open Minds* (Transformational Research in Adolescent Mental Health Network) and *KidsCAN Trials* (Innovative Clinical Trials grant), as well as *Networks of Centres of Excellence* grants, including *Frayme* and renewal of funding for the *Kids Brain Health Network*.

These successes demonstrate the ability and capacity of CIHR-IHDCYH researchers to come together on a national level to conduct high impact and innovative research. The enhanced access to funding, networking and collaboration has enabled CIHR-IHDCYH researchers to make substantive improvements in reproductive, child and youth health through improved understanding of the biological mechanisms of disease, clinical decision making, public policy implementation, behavioural change, and health care delivery.





Between 2013 and 2017, CIHR-IHDCYH led or partnered on 69 funding opportunities supporting 444 investigators, teams, and awards for a total of \$149.92M

# Looking Back and Moving Forward

**Over the past five years, CIHR-IHDCYH has targeted funding to address our research themes and support research that ensures the best outcomes for children, youth and families.**

In addition to CIHR-IHDCYH's strategic budget, investments to support this research include a significant proportion of funds leveraged from other sources. Of the \$149.92M of strategic funding invested, \$60.14M was from other CIHR sources, such as through collaboration with other CIHR Institutes and *SPOR*, and \$45.22M was from external partners. These funding investments are supporting a broad range of research across all four CIHR themes and across our strategic priorities. This collaborative approach highlights the importance of research in maternal, reproductive, child and youth health, as well as CIHR-IHDCYH's strengths in building relationships with funding partners.

As well as funding research directly, we are working to build research capacity and increase knowledge translation within the CIHR-IHDCYH

research community through training and other supporting activities. These include early career investigator workshops, conference-related activities such as poster sessions and prizes, *Café Scientifiques*, social media campaigns, and our **IHDCYH Talks** video competition.

As we move forward, the new goals and directions outlined for each strategic priority will steer CIHR-IHDCYH's investment decisions and activities over the next three years. These goals build on our investments and activities from 2013 to 2017, and will ensure that we fully address each of our strategic priorities. In achieving these goals, we will promote excellence, creativity and breadth in health research and knowledge translation, as well as mobilizing health research for transformation and impact, as described in *Roadmap II*. Integral to this work will be supporting the health and wellness goals of the Indigenous community and continuing to ensure that sex- and gender-based analysis is incorporated into the research we fund.



# Themes and Priorities

CIHR-IHDCYH's *Strategic Plan 2013–2017: Healthy Foundations of Life* outlined three research investment themes each with two strategic priorities to address.

## Healthy Developmental Trajectories

- Developmental Origins of Health and Disease through the Lifespan
- Preterm Birth

## Healthy Reproduction, Pregnancy, Childhood and Youth

- Environmental Health
- Healthy Pregnancy

## Healthy Public Policy and Systems Integration

- Integrated Child and Youth Research and Health Services
- Mental Health





# Healthy Developmental Trajectories

# Developmental Origins of Health and Disease through the Lifespan

Non-communicable diseases (NCDs), which include cardiovascular diseases, diabetes, respiratory diseases, and mental health challenges, are currently responsible for 60% of deaths globally. The impact is even greater in low- and middle-income countries, where 80% of deaths are linked to at least one NCD.

CIHR-IHDCYH is investing in research to address the issue of NCDs through the *Healthy Life Trajectories Initiative (HeLTI)*, which was developed in concert with six other CIHR Institutes. The initiative uses a Developmental Origins of Health and Disease (DOHaD) approach that explores how environmental factors interact with genes during conception, fetal life, infancy and early childhood—when the possibility of modification of an individual’s development is greatest—and how that programming affects health later in life.

The teams of researchers funded through *HeLTI* are generating and mobilizing the evidence needed to shape national and international public policies and programs to improve health and control NCDs. It is anticipated that the initiative’s focus on interventions throughout the lifespan will enable a major leap forward in global efforts to combat the rising tide of NCDs throughout the developing and developed world.

*HeLTI* is comprised of **three distinct but complementary arms** and is supported by an enabling platform, the *Canadian DOHaD Cohort Registry*, also known as the *Research Advancement through Cohort*

## From 2013 to 2017

Teams: 12

CIHR-IHDCYH: \$14.05M

Other CIHR sources: \$20.74M

External partners: \$7.89M

**Total: \$42.68M**

*Cataloguing and Harmonization (ReACH)* initiative. These components coordinate and build on the diverse research capacity and wealth of existing data sets in Canada, while using a unique set of coordinated **Linked International Intervention Cohorts** to focus the powerful DOHaD approach on NCDs both in Canada and in countries where the burden is greatest. Central to the initiative is the integration of sex- and gender-based analysis into the research being carried out to ensure that it is as rigorous, reproducible and applicable to everyone as possible.

Through the *HeLTI Linked International Intervention Cohorts*, the international component of *HeLTI* has brought together a research funding collaboration with the **World Health Organization (WHO)**, the **National Natural Science Foundation of China**, the **Indian Department of Biotechnology**, and the **South African Medical Research Council**. This unique global collaboration is a major achievement for CIHR-IHDCYH and our partner Institutes.

**HeLTI is a powerful approach to improving health across the lifespan and is designed to be a platform that brings together researchers from across the globe to work together.**

Moving forward, our priority will be to engage Indigenous communities in the initiative. This process will start with development grants to support communities to come together with relevant partners to establish needed expertise and conduct planning activities ready for a longer-term initiative. The objective of the longer-term initiative will be to develop Indigenous-focused interventions designed to improve health outcomes across the lifespan for Indigenous boys, girls, women, men, gender-diverse and Two-Spirit individuals in Canada. A total investment of \$23.5M has been committed to this component of *HeLTI*.

The initiative has been developed with a 10-year timeline and is a significant investment for CIHR and for Canadians. Establishing the *DOHaD Teams*, *ReACH Cohort Registry* and *HeLTI Linked International Intervention*

*Cohorts* formed the bulk of the effort. To support the effective ongoing operation of *HeLTI*, IHDCYH will continue to work with the other HeLTI partners to develop and expand the infrastructure required to support and sustain the initiative components, such as a data platform and other mechanisms of integrating the work of the funded teams. We will also work to secure the long-term financial commitment of the HeLTI partner organizations and build new partnerships with other funding agencies.

The overall approach, resources developed and data gathered through *HeLTI* also offers multiple opportunities for synergy and leverage by other CIHR initiatives and external partners. These opportunities include, for example, initiatives that will fund use of the HeLTI cohorts and data to support research in areas that both complement and expand beyond the main priorities of *HeLTI*.

## Moving Forward: 2018-2020

Expand *HeLTI* to include the Canadian Indigenous population

Establish the infrastructure and mechanisms required to support the long-term trajectory of *HeLTI* and maximise the impact of the initiative

Enable the growth of *HeLTI* as a cross-cutting, multi-disciplinary approach through linkages and synergies with other CIHR initiatives and external partners



# Preterm Birth

Preterm birth accounts for nearly two thirds of infant deaths in Canada, and is associated with increased morbidity throughout the life course and subsequent adult-onset chronic disease.

In addition to these health effects, preterm birth has social and financial impacts on the affected individuals and their families, and places additional costs on society in terms of health care and education.

Following a community consultation to identify where to target our investment in preterm birth research, CIHR-IHDCYH developed and launched our *Preterm Birth Initiative*. The needs identified were: 1) New and innovative ideas in preterm birth research; 2) Improvements to care and patient outcomes; 3) Improvements to the perinatal health care system; 4) Continued efforts to identify methods of preventing preterm birth; and 5) Better perinatal data linkage and access. To address these needs, the following components of the Preterm Birth Initiative have been funded to date:

- *Catalyzing Innovation in Preterm Birth Research*: Six grantees are investigating new ways to predict and prevent preterm birth and improve health outcomes for babies born preterm;
- *Preterm Birth Network*: A new pan-Canadian preterm birth collaborative research network led by Dr. Prakeshkumar Shah at the University of Toronto and Sinai Health System in Toronto is working to improve health outcomes for babies born preterm; and
- *Perinatal Health Care System Improvement Team*: Led by Dr. K.S. Joseph at the University of British Columbia and the BC Children's Hospital, this team brings together researchers and policy makers to focus on improving the system of perinatal care for all mothers and their babies, including those born preterm.

From 2013 to 2017

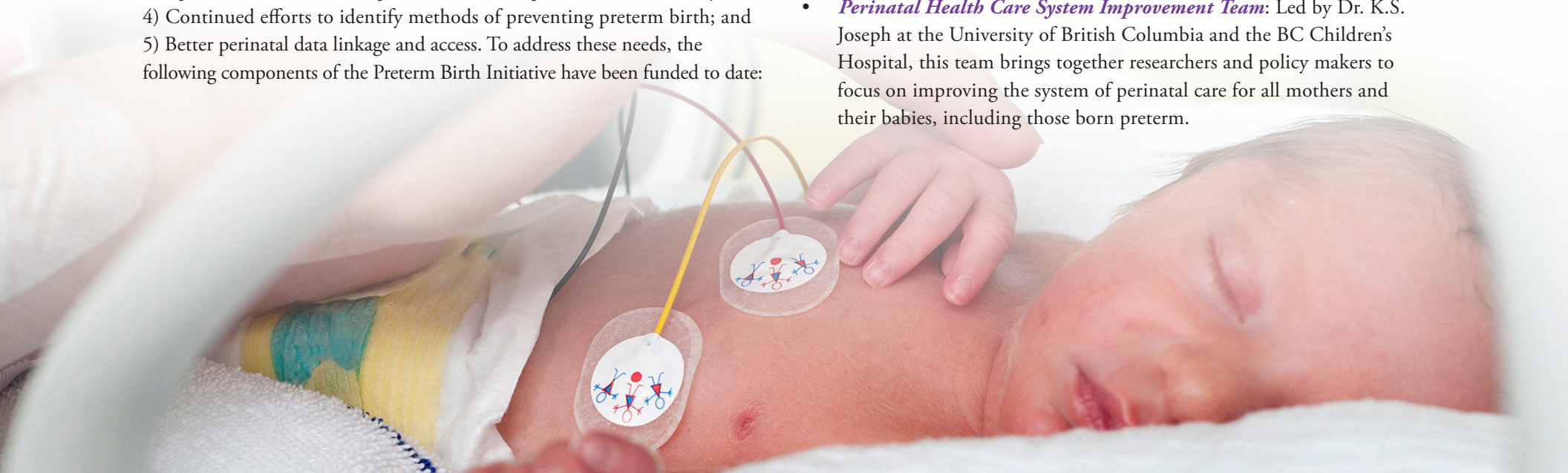
Teams: 8


CIHR-IHDCYH: \$6.56M

Other CIHR sources: \$0.04M

External partners: \$4.25M

**Total: \$10.85M**



A close-up photograph of a woman in a white hospital gown with a blue and green pattern, holding a newborn baby. The baby is wrapped in a bright green blanket and is resting its head on the woman's chest. The woman is looking down at the baby with a gentle expression. The background is softly blurred, showing what appears to be a hospital room.

With the funding of the *Preterm Birth Catalyst, Preterm Birth Network and Perinatal Health Care Systems Improvement* grants, we have directed funding towards several of the major needs identified in our 2015 community consultation regarding preterm birth research in Canada.

Moving forward we will address how CIHR-IHDCYH can support improved linkage and access to perinatal data at a national level, to better support the work of the funded teams. We will also provide support for research into the mechanisms of preterm birth and identifying approaches to preventing its occurrence, as well as promote and leverage the results of the funded research to further improve the outcomes of preterm birth and provision of perinatal care in Canada.

## Moving Forward: 2018-2020

Address the need for better perinatal data linkage and access

Continue to support new and innovative preterm birth research, including understanding the mechanisms of preterm birth, as well as potential approaches to prevention and improving outcomes of preterm birth



Healthy Reproduction,  
Pregnancy, Childhood and Youth

# Environmental Health

The world around us contains many synthetic and naturally occurring chemical and biological agents, some of which may be harmful to health.

To prevent and avoid human exposure to potentially harmful agents, society needs sound information about both exposure and hazard across the continuum that exists from source, to exposure, to biological effect, to individual response, and ultimately to public health impact. This will reduce the current burden of environmentally related disease during pregnancy, and on child and youth health, and will minimize environmental health risks across all stages of life and to future generations.

Under our Environmental Health priority, CIHR-IHDCYH has engaged in two CIHR multi-institute initiatives – the *Environments and Health Signature Initiative (EHSI)* and the *Canadian Epigenetics, Environment and Health Research Consortium (CEEHRC)*. These investments build on our **previous funding** of research on this topic including the *Environmental Contaminants and Reproductive Health and Quality of Indoor Air and Development of Asthma and Allergies in Childhood* initiatives. Research teams funded within *EHSI* and *CEEHRC* are investigating a range of topics, including the influence of the environment on childhood obesity, pediatric inflammatory bowel disease and asthma, as well as the role of DNA and environment interactions in human health and disease. The *CANadian Urban Environmental Health Research Consortium (CANUE)* is linking standardized environmental exposure data about air quality, green spaces, walkability, noise and other aspects of the urban/suburban environment to existing human health data platforms. This includes incorporating cohorts focusing on reproductive, fetal and/or child health.

## From 2013 to 2017

Teams: 7

CIHR-IHDCYH: \$1.2M

Other CIHR sources: 13.14M

External partners: \$0.25M

**Total: \$14.59M**





The effect of climate change on human health is an emerging priority for CIHR, the Canadian government and other research funding and government organizations in Canada and around the world.

Climate change will have both direct and indirect effects on everyone, but children will be more vulnerable to issues such as food insecurity. As such, it is important to support research into understanding how the changing environment may impact the health of children and youth and what interventions may have the potential to mitigate these threats, which aligns with our identified priority of environments and health.

In 2018, as part of the *EHSI*, CIHR will be launching a new initiative to identify the impact of climate change on food security in Canada's northern and remote communities. This initiative is aligned with the federal government's commitment to protecting communities and all Canadians from the risks associated with climate change as outlined under *Adaptation and Climate Resilience* in the 2017 Federal Budget. CIHR-IHDCYH will work to ensure that children and youth are a focus of this new initiative.

## Moving Forward: 2018-2020

Examine the effects of climate change on food security in the Canadian North and its impact on children and youth



# Healthy Pregnancy

CIHR-IHDCYH's healthy pregnancy priority spans research into maternal health prior to and during pregnancy, as well as healthy birth and the causes of infant morbidity and mortality.

Within Canada there is significant variability in maternal and infant outcomes, perinatal care practices, and health care system performance between and within provinces. As research capacity has been identified as a key challenge in this area, CIHR-IHDCYH's key effort has been our *Clinician-Investigator Teams in Obstetrics and Maternal-Fetal Medicine* program. This program is supporting early and mid-career investigators' efforts to tackle some of the key issues affecting the health of mothers and infants across Canada, including non-communicable diseases such as obesity, preterm birth, and complications in high-risk pregnancies.

Healthy pregnancy is also a common thread in a number of the initiatives that CIHR-IHDCYH has led, co-led or supported between 2013 and 2017, including *HeLTI*, the *Preterm Birth Initiative*, the *CEEHRC*, and the *Applied Chairs in Reproductive and Child Health Services and Policy Research*.

## From 2013 to 2017

### *Clinician-Investigator Teams program*

Teams: 5

CIHR-IHDCYH: \$3.73M

Other CIHR sources: \$0.00M

External partners: \$3.73M

**Total: \$7.46M**

### *Initiatives that include healthy pregnancy as a focus*

Teams: 28

CIHR-IHDCYH: \$26.50M

Other CIHR sources: \$22.92M

External partners: \$12.52M

**Total: \$61.93M**



**With the non-medical use of cannabis anticipated to become legal in 2018, there is an immediate need for research evidence to inform policies and guidelines in several areas within CIHR-IHDCYH's mandate.**

In addition to the current government's strong focus on preventing cannabis use in youth, there is a need for greater understanding of the impact of cannabis use during pregnancy and breastfeeding, particularly with regards to the biological mechanisms of that impact. Several CIHR Institutes including CIHR-IHDCYH are currently developing an initiative that will support research into the impact of cannabis use and legalization on the health of Canadians. Following on from a catalyst grant competition launched in 2017, this initiative will unfold in 2018. CIHR-IHDCYH is committed to supporting research into the impact of cannabis use during pregnancy and breastfeeding on maternal and infant health, to better inform health education, guidelines and policy around cannabis use.

A central initiative currently funded under our Healthy Pregnancy strategic priority is the *Clinician-Investigator Teams in Obstetrics and Maternal Fetal Medicine* program. The program is a new model of capacity building that supports obstetricians and physicians in maternal fetal medicine to conduct research while maintaining their clinical practice. A key priority moving forward will be identifying the impact of the program on the research capacity and productivity of the funded clinician-investigators, and learning how to adapt this model to other areas of clinical work.

## Moving Forward: 2018-2020

Identify the impact of cannabis use during pregnancy, breastfeeding and beyond, to understand the implications of legalization for maternal, fetal, child and youth health

Evaluate the impact of our *Clinician-Investigator Teams in Obstetrics and Maternal Fetal Medicine* program and adapt the successful elements for wider use in other related fields of research



# Healthy Public Policy and Systems Integration

# Integrated Child & Youth Research and Health Services

Forward-thinking, creative and innovative solutions are essential for the future of our health care system; for example, to achieve better integration of services, a key step in optimizing the Canadian health care system.

The integration of child and youth research and health services includes: (a) vertical integration of health services, from primary through secondary and tertiary level care, as well as health systems administration and policy; (b) horizontal integration of research evidence into initiatives aimed at improving health systems and clinical services; and (c) integration of the research (both basic and clinical) and clinical enterprises in the health care system. Eliminating silos and integrating research and clinical services will go a long way towards solving many of the problems facing patients, health service providers, administrators and researchers in Canada.

To support research into integrating child and youth health services, CIHR-IHDCYH has engaged with two cross-cutting CIHR initiatives—the *Community-Based Primary Health Care (CBPHC) Signature Initiative* and the *pan-Canadian SPOR Network in Primary and Integrated Health Care Innovations (SPOR PIHCI)*. The CBPHC teams are taking highly innovative approaches to improving the delivery of appropriate and high-quality community-based primary health care in Canada. Investment in *SPOR PIHCI* is supporting a national network of provincial/territorial networks that are developing, evaluating and scaling up new approaches to the delivery of horizontally and vertically integrated services within and across sectors of health care. Focus areas for research include child and youth mental health services, transformation of care delivery through measurement and reporting, and programs and services for children with complex health conditions.

## From 2013 to 2017

Teams: 20

CIHR-IHDCYH: \$2.50M

Other CIHR sources: \$10.18M

External partners: \$8.83M

**Total: \$21.50M**



**Over a lifetime all Canadians will experience a variety of different transitions in care at some point, whether as a patient, caregiver and/or family member.**

For example, patients with complex health conditions may visit their primary care physician, be referred to specialists, be assessed in an emergency department, be admitted to hospital, require surgery, move to a rehabilitation facility, and/or become disabled and unable to return to their previous place of residence. Transitions in care also occur as people move through life's stages (e.g., youth to adult), exposing them to known care gaps and creating anxiety that can lead to poor yet avoidable outcomes. These types of handovers within and across the health system carry risk due to mistrust between patient and provider, inaccuracies in information and disruption in continuity of care.

Investing in research to address this problem in the context of health care for children and youth will be a priority for CIHR-IHDCYH over the next three years, with an initiative planned for launch in 2018. This multi-year initiative is a partnership between five CIHR Institutes that will enhance patient experiences and outcomes through health system innovations, improve continuity of care throughout life's stages, support health and wellness for populations at increased risk of transitions in care, and improve quality of life for persons experiencing changing health status or care. Integration of sex- and gender-based analysis will be a central principle of this initiative.

Artificial intelligence (AI) has been demonstrated to have utility in the prevention and diagnosis of disease, as well as in the assessment of treatments and associated patient outcomes, and is becoming an important new frontier in health research. However, despite this fact the uptake of AI has been sporadic across areas within CIHR-IHDCYH's mandate. There is, therefore, a strong need to support the CIHR-IHDCYH community in building capacity and developing partnerships with key stakeholders in this field. To address this need, CIHR-IHDCYH will be partnering

## Moving Forward: 2018-2020

Ensure effective transitions in care for children and youth

Explore the use of Artificial Intelligence as a tool to tackle complex questions in health research and health services

on a Tri-Agency initiative to support multi-disciplinary collaborations between CIHR, NSERC and SSHRC researchers that focus on applying innovative AI research to health care and investigating ethical, legal, and/or societal impacts associated with the development, scale and spread of AI in the health sector. CIHR-IHDCYH's investment in this initiative will be directed to research within our mandate.



# Mental Health

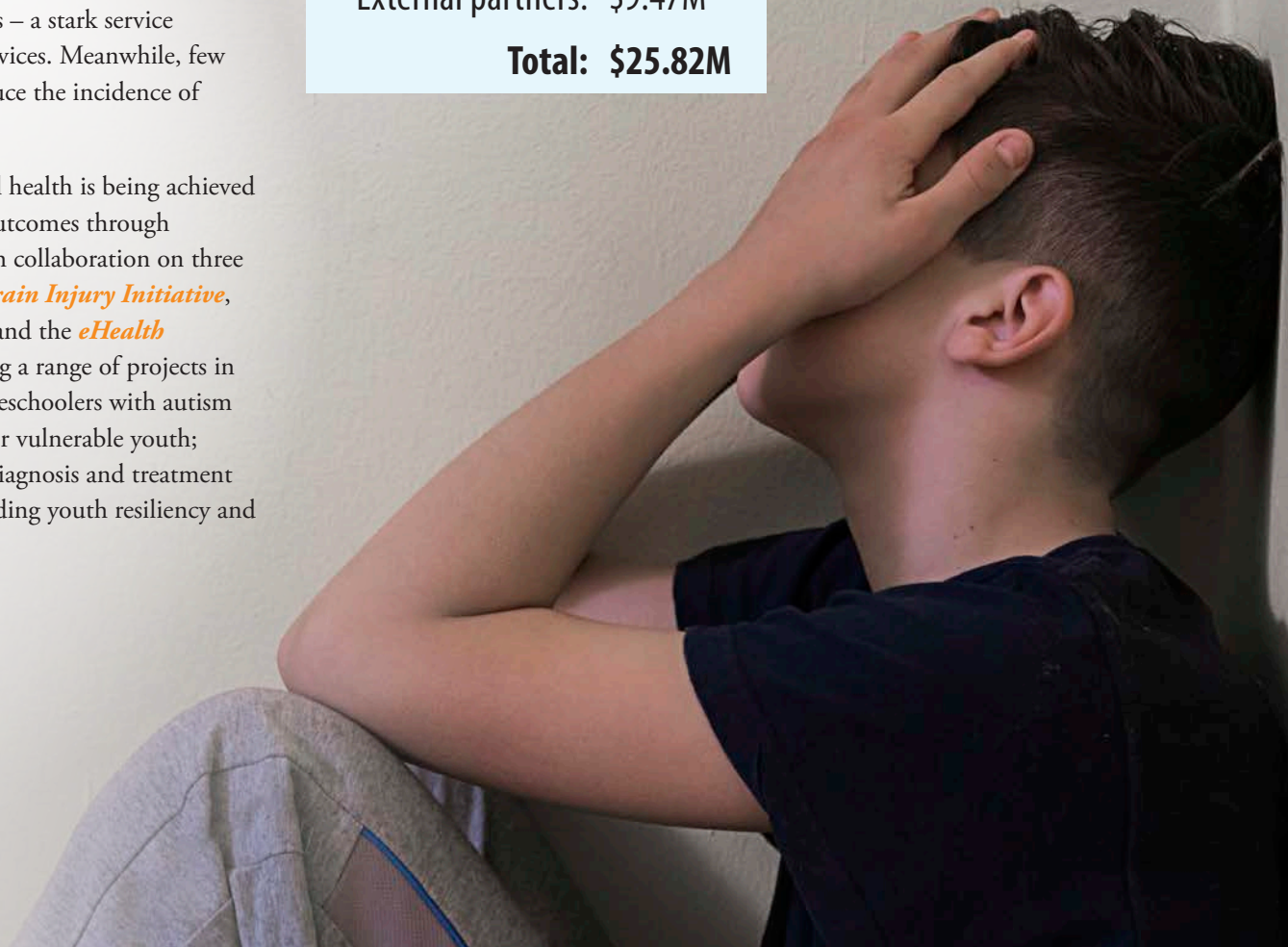
**There is an urgent need to improve mental health outcomes for children and youth in Canada.**

Current estimates indicate that as many as 1 in 4 children and youth are facing mental health challenges, and there are particular challenges in Indigenous communities, with an urgent need for suicide prevention measures in the face of a suicide rate that has reached epidemic proportions. It is estimated that as many as 75% of children and youth with mental disorders do not receive specialized treatment services – a stark service shortfall compared with children’s physical health services. Meanwhile, few investments are made in prevention programs to reduce the incidence of mental health issues starting in childhood.

CIHR-IHDCYH’s impact in child and youth mental health is being achieved via a program focused on improving health system outcomes through partnership with the health system, as well as through collaboration on three multi-institute strategic initiatives, the *Traumatic Brain Injury Initiative*, *Pathways to Health Equity for Aboriginal Peoples* and the *eHealth Innovations* initiative. These programs are supporting a range of projects in mental health research including interventions for preschoolers with autism spectrum disorder; access to mental health services for vulnerable youth; developing better tools and policies for prevention, diagnosis and treatment of concussion; and suicide prevention including building youth resiliency and promoting community wellness.

## From 2013 to 2017

Teams:	43
CIHR-IHDCYH:	\$2.22M
Other CIHR sources:	\$14.14M
External partners:	\$9.47M
<b>Total:</b>	<b>\$25.82M</b>



As described under our Healthy Pregnancy strategic priority, a multi-institute initiative supporting research into the impact of the legalization of cannabis use will be launched in 2018.

Alongside a need to better understand the impact of cannabis use during the earliest stages of life, an emerging priority for CIHR-IHDCYH with regards to mental health will be advancing our understanding of and addressing the impact of the legalization of cannabis on neurodevelopment and mental health in children and youth. While the federal government is proposing many measures to protect people younger than 18 from accessing cannabis, there is still likely to be an impact on health and social outcomes for those younger than 18, as well as youth aged 18 to 25 following legalization. It is therefore a priority to understand how cannabis use in children and youth will change following legalization, what any associated harms may be and how to mitigate those harms.

## Moving Forward: 2018-2020

Identify the impact of cannabis use and legalization on the health of children and youth







# Enabling Tactics

# Enabling Tactics

Delivery of our strategic priorities is supported by five core enabling tactics.

- Develop, foster and sustain **effective partnerships and collaborations**
- Facilitate **integrated knowledge translation** to ensure better evidence creation and application
- Enhance **research capacity** to ensure a healthy and vibrant research community
- Facilitate **data sharing** to ensure collaborative, robust, easily accessible and reliable data for evidence-informed decisions
- Embrace **global health** to inform strategic initiatives



# Supporting Effective Partnerships and Collaborations

As well as investing in research, CIHR-IHDCYH has an important role to play as a convener and catalyst for the maternal, reproductive, child, and youth health community.

By collaborating directly with funding partners and other organizations both national and international—including the **World Health Organization (WHO)**, the **National Natural Science Foundation of China**, the **Indian Department of Biotechnology**, and the **South African Medical Research Council**—CIHR-IHDCYH is able to build strong and lasting partnerships that leverage significant funds for investment in research, such as the \$42.68M invested in *HeLTI*. We also actively seek to promote linkages between researchers, funders, community members, policy makers and other stakeholders. Between 2013 and 2017 we funded 29 planning grants to bring researchers together to develop new research ideas. On an ongoing basis, we also engage with professional organizations

and stakeholder groups at conferences, such as the **Canadian Association of Paediatric Health Centres**, **Canadian Paediatric Society**, **Canadian National Perinatal Research Meeting**, and **Society of Obstetricians and Gynaecologists of Canada**, several of whom also partner on our grants to support networking and knowledge translation.

Moving forward, over 2018 to 2020 we will continue to work with existing partners and seek additional partnerships to maximize opportunity across CIHR-IHDCYH's strategic priorities. Additionally, we will focus on supporting early career investigators and other community members to develop their own partnerships. This will include a specific effort to support Indigenous early career investigators in partnership with the CIHR Institute of Indigenous People's Health.



# Facilitating Knowledge Translation

Translating knowledge into practice is a key component of the work CIHR-IHDCYH funds, as such we support and conduct a variety of activities to facilitate knowledge translation.

During 2013 to 2017 we hosted several in-person knowledge translation activities including our *Innovating Child and Family Health Conference* in 2014, the *Policy Research Dialogue in Injury Prevention* in 2015, and *Café Scientifiques* discussing research on sleep disturbance and brain development; bullying; child and youth mental health services; and hidden chemicals in household products. Through our partnerships with professional organizations and stakeholder groups we support activities at conferences that are designed to enhance research and the translation of evidence-based messages. These activities include poster sessions for trainees, awards, and concurrent sessions of relevance to CIHR-IHDCYH's mandate. CIHR-IHDCYH also provides online and social-media-based supports and knowledge translation opportunities to our community through our ebulletin, [Twitter](#), [website](#), [IHDCYH Talks](#) video competition and [YouTube channel](#).

Moving forward over 2018 to 2020 we will build on and expand our online and social media-based supports and knowledge translation activities, which showcase the impact of the research we invest in.





## Enhancing Research Capacity

**Building research capacity to ensure a healthy and vibrant research community is a critical element to the achievement of CIHR-IHDCYH's strategic goals.**

We have taken an integrated approach to building capacity, targeting areas of specific concern at the early/mid-career level and using a number of tools to increase overall capacity through training. Investments designed to build capacity include our *Applied Chairs in Reproductive and Child Health Services and Policy Research*, *Clinician-Investigator Teams in Obstetrics and Maternal-Fetal Medicine* and **early career investigator** programs.

The *Applied Chairs* program is supporting mid-career faculty (5-15 years' experience) who conduct reproductive, child and youth health services and policy research, and are also dedicated to training and mentoring students, fellows, junior faculty and others seeking career opportunities in applied

health services and policy research. The *Clinician-Investigator Teams* are bringing new blood into the field of obstetrics and maternal-fetal medicine research. By providing practicing early and mid-career clinicians who have limited protected time to undertake research with the resources they need to establish teams, the program is taking a new approach to enhancing research capacity. We also have two dedicated mechanisms for supporting early career investigators – our *CIHR Early Career Investigators in Maternal, Reproductive, Child and Youth Health program* and our long-standing partnership with the *SickKids Foundation New Investigator Research Grants* program. CIHR-IHDCYH is also dedicated to providing educational activities and resources to trainees and early career investigators, including early career investigator workshops, travel awards, conference-related activities such as poster sessions and prizes, and information webinars.

### From 2013 to 2017

Chairs: 6

Teams: 5

Early career investigators: 62

Awards and other training grants: 264

CIHR-IHDCYH: \$11.82M

Other CIHR sources: \$1.91M

External partners: \$10.81M

**Total: \$24.54M**

**One important effort that remains for CIHR-IHDCYH in enhancing research capacity is to increase the number of Indigenous Peoples working in health research.**

CIHR-IHDCYH is partnering with the other CIHR Institutes to support the *Network Environments for Indigenous Health Research (NEIHR)* initiative, which will invest \$89.4M over 15 years. The *NEIHR* initiative will take a broad approach to capacity building not just by supporting trainees and researchers but also by concentrating on Indigenous communities and social structures to establish a solid foundation for Indigenous health research driven by and grounded in Indigenous communities in Canada.

Over the next three years CIHR-IHDCYH will also work to ensure the sustainability of our *Early Career Investigators in Maternal, Reproductive, Child and Youth Health* program, so that the Institute is able to run an annual competition in the long term. We will also monitor the outcomes and impact of our *Applied Chairs* and *Clinician-Investigator Teams* program, particularly in the case of the *Clinician-Investigator Teams* program, which takes a new approach to supporting practicing clinicians to undertake research. Should the *Clinician-Investigator Teams* be successful, there is potential this program could be expanded to other fields of research besides obstetrics and maternal-fetal medicine. These and any future capacity building activities will be aligned with CIHR's *Strategic Action Plan on Training*, particularly with regards to the need to build expertise in priority areas including data intensive research, health professional scientists, research with/by Indigenous Peoples, and patient-oriented research.



# Facilitating Data Sharing

Even though Canada has a wealth of data systems across the country, many of which have been established and/or supported by CIHR funding, access to data is an ongoing challenge for researchers.

Over the last five years, CIHR-IHDCYH has focused on facilitating data cataloguing, sharing, and dissemination through several of our research investments, most notably *HeLTI*. Data harmonization, access and linked analysis will be a core principle for the four *HeLTI Linked International Interventional Cohorts*, while the *Canadian DOHaD Cohort Registry* will provide a platform that can facilitate larger and better-powered studies among relevant cohorts.

Moving forward we will use the *Canadian DOHaD Registry Cohort* as a first step in building a more comprehensive system/infrastructure for cataloguing, sharing and disseminating data. We will also address the issue of data harmonization and linkage with regards to data relevant to preterm birth research. These efforts will be integrated into current and ongoing initiatives, such as the *SPOR SUPPORT Units*.

# Embracing Global Health

## Lower-income countries face unique challenges compared with those faced by high- and middle-income nations.

Research also indicates that low-income countries can generate effective solutions for today's global health challenges, and can help inform health systems in developed countries. As such, over 2013 to 2017 CIHR-IHDCYH has taken a strategic approach to investment that considers the

opportunities offered by global health research. The greatest example of this is *HeLTI*, which partners Canadian researchers with researchers from three other countries to identify interventions against non-communicable diseases that will have applications worldwide. Moving forward we will continue to support the growth of *HeLTI* and look for additional opportunities to embrace global health.





# Concluding Remarks

**With this refresh of our strategic plan, CIHR-IHDCYH has a clear path forward that builds on our achievements to date and is clearly aligned with CIHR's strategic plan, *Health Research Roadmap II*.**

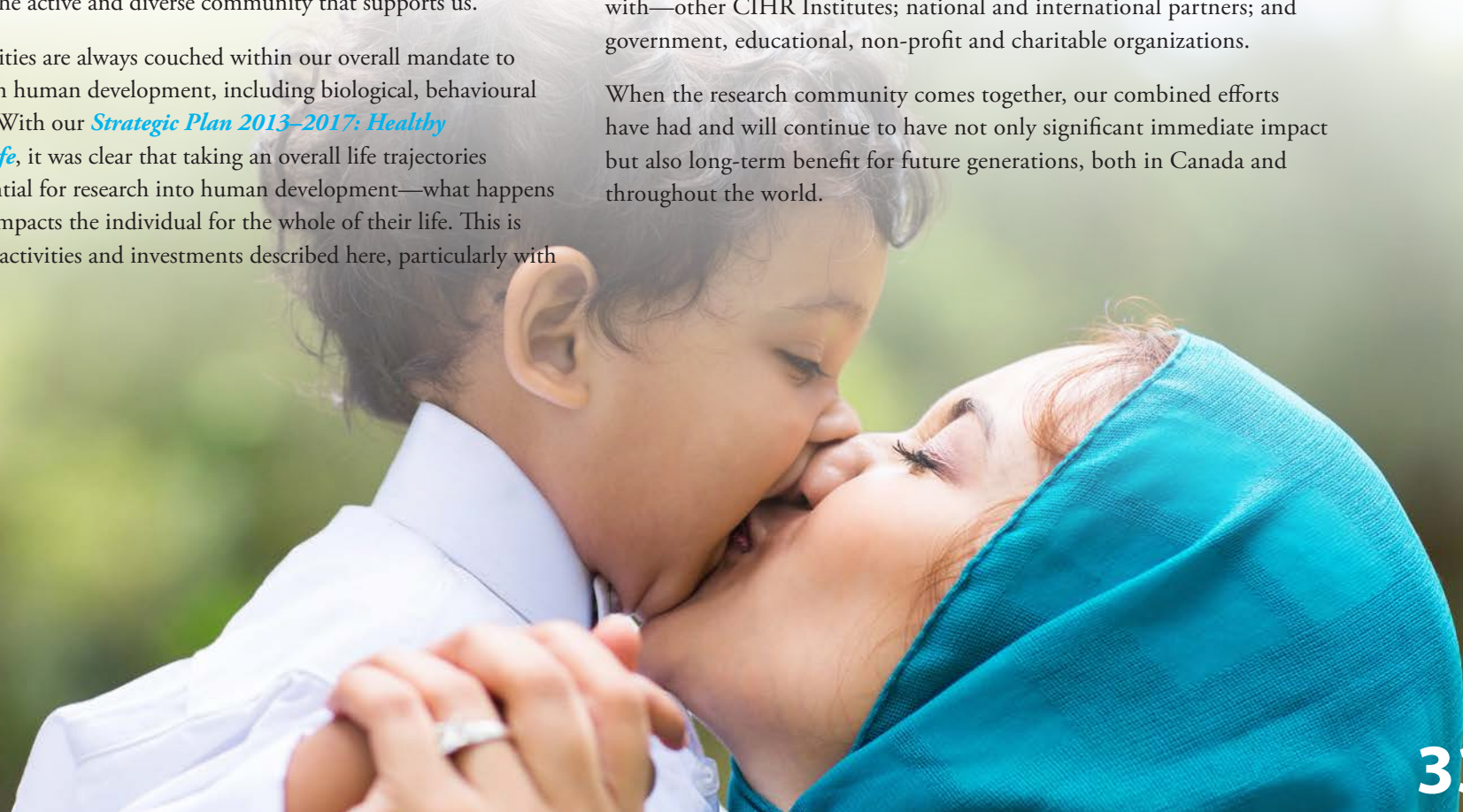
Through our funding opportunities and capacity building programs we have focused on creating an enabling environment, so that researchers at all career stages can pursue innovative ideas and approaches that will have a transformational impact not only on a national scale but also globally. This is possible only because of the efforts we have made to get to this point in conjunction with the active and diverse community that supports us.

Our strategic priorities are always couched within our overall mandate to support research on human development, including biological, behavioural and social factors. With our *Strategic Plan 2013–2017: Healthy Foundations of Life*, it was clear that taking an overall life trajectories approach was essential for research into human development—what happens at the start of life impacts the individual for the whole of their life. This is reflected in all our activities and investments described here, particularly with

*HeLTI*, our *Preterm Birth Initiative* and our support for research in policy, health services and systems. Not only are we targeting research that will better elucidate the mechanisms underlying human development, but we are also supporting interventional research and optimization of services and systems that will improve health and patient experiences in the long term. As we move forward, this approach will remain our central focus.

The scale of the work that needs to be done to ensure that everyone has a healthy start to life cannot be addressed by CIHR-IHDCYH alone. As such, partnerships are and will continue to be incredibly important to the work we do. We are very grateful to those organizations we work with—other CIHR Institutes; national and international partners; and government, educational, non-profit and charitable organizations.

When the research community comes together, our combined efforts have had and will continue to have not only significant immediate impact but also long-term benefit for future generations, both in Canada and throughout the world.



## Appendix

# Strategic Plan Refresh Methodology

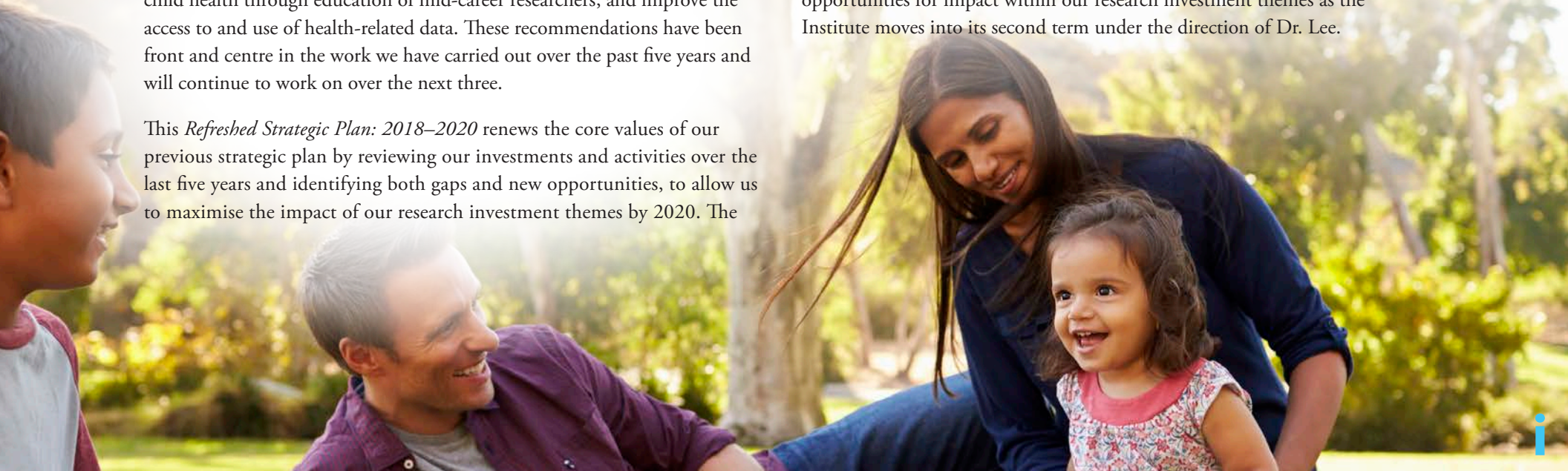
**CIHR-IHDCYH's *Strategic Plan 2013–2017: Healthy Foundations of Life* was developed through broad consultations with more than 1,000 community members during 2012, at the beginning of Dr. Lee's tenure as Scientific Director.**

Our three *research investment themes* were then crystallised during a Strategic Planning Retreat by integrating our community's feedback with an environmental scan of key documents, in the context of CIHR's overall 2009/10 to 2013/14 strategic plan *Health Research Roadmap: Creating innovative research for better health and health care* and information from CIHR's *2011 International Review*. Recommendations for CIHR-IHDCYH from the *International Review* included to focus on research across developmental processes and on multidisciplinary partnerships, enhance institute capacity in health services and policy research, develop the next generation of researchers, create additional research capacity in maternal-child health through education of mid-career researchers, and improve the access to and use of health-related data. These recommendations have been front and centre in the work we have carried out over the past five years and will continue to work on over the next three.

This *Refreshed Strategic Plan: 2018–2020* renews the core values of our previous strategic plan by reviewing our investments and activities over the last five years and identifying both gaps and new opportunities, to allow us to maximise the impact of our research investment themes by 2020. The

first step in developing the plan was an in-depth analysis of the investments and activities of the Institute between 2013 and 2017. The analysis was followed by an iterative consultation with key stakeholder groups including researchers, clinicians, health care decision makers, knowledge users and family representatives, who were asked to assess whether the Institute had achieved what was set out in the 2013 to 2017 strategic plan, identify where gaps remain, and suggest possible directions for future investments between 2018 and 2020. This consultation process also included consideration of *Strategic Direction 1: Promoting Excellence, Creativity and Breadth in Health Research and Knowledge Translation* and the four research priorities of *Strategic Direction 2: Mobilizing Health Research for Transformation and Impact* in the current CIHR strategic plan *Health Research Roadmap II*.

The consensus from our stakeholder consultation was that the strategic priorities identified in *Healthy Foundations of Life* are still relevant and appropriate for the Institute to be addressing. While CIHR-IHDCYH has made significant investments over the past five years, there are still important opportunities for impact within our research investment themes as the Institute moves into its second term under the direction of Dr. Lee.



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