



CIHR IRSC

Canadian Institutes of Health Research Instituts de recherche en santé du Canada

Discoveries for life / Découvertes pour la vie

Remarks from the Canadian Institutes of Health Research

Dr. Brian H. Rowe

Professor, Department of Emergency Medicine and School of Public Health, University of Alberta
and

Scientific Director, CIHR Institute of Circulatory and Respiratory Health



Canadian Institutes
of Health Research

Instituts de recherche
en santé du Canada

Canada

“I want to acknowledge that the Ottawa region is the unceded, unsurrendered Territory of the Algonquin Anishnaabeg Nation whose presence here reaches back to time immemorial.

I pay respect to the Algonquin Peoples, who are the traditional guardians of this land.

I pay respect to all First Nations, Inuit and Métis Peoples who have come to live and work in this region, from all nations across Canada, who call Ottawa home, and for their past and ongoing contributions to our society.”

Canadian Institutes of Health Research



Karim Khan
Musculoskeletal Health and Arthritis



Angela Kaida
Gender and Health



Brian H. Rowe
Circulatory and Respiratory Health



Samuel Weiss
Neurosciences, Mental Health and Addiction



Jane Rylett
Aging



Vacant
Population and Public Health



Vacant
Indigenous Peoples' Health



Norman Rosenblum
Nutrition, Metabolism and Diabetes



Fei-Fei Liu
Cancer Research



Rick Glazier
Health Services and Policy Research



Christopher McMaster
Genetics



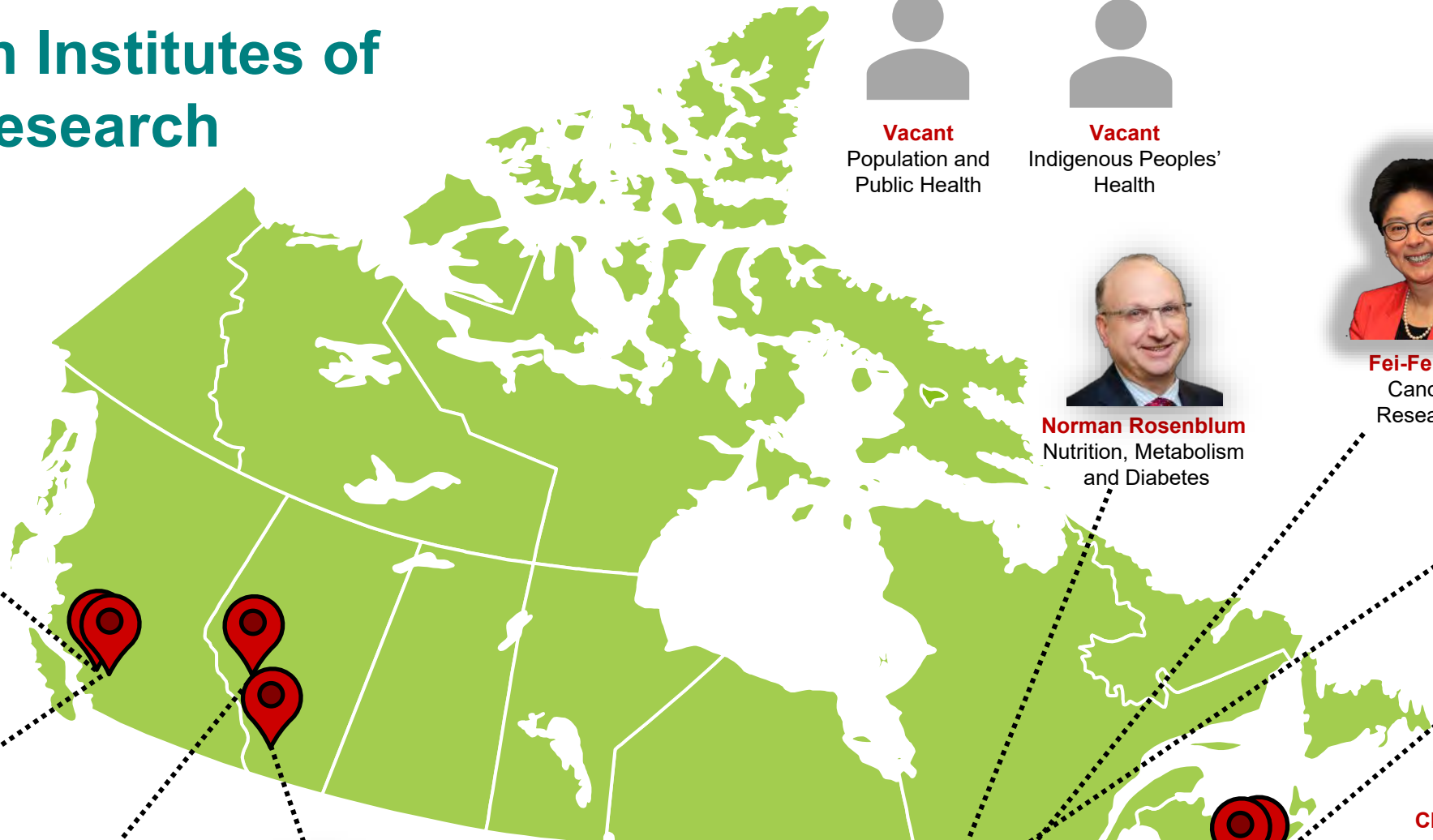
Christine Chambers
Human Development, Child and Youth Health



Charu Kaushic
Infection and Immunity



Headquarters



Canadian Institutes of Health Research



Karim Khan
Musculoskeletal Health and Arthritis



Angela Kaida
Gender and Health



#couldthisbeyou
Circulatory and Respiratory Health



Samuel Weiss
Neurosciences, Mental Health and Addiction



Jane Rylett
Aging



Charu Kaushic
Infection and Immunity



Vacant
Population and Public Health



Vacant
Indigenous Peoples' Health



Norman Rosenblum
Nutrition, Metabolism and Diabetes



Fei-Fei Liu
Cancer Research



Rick Glazier
Health Services and Policy Research



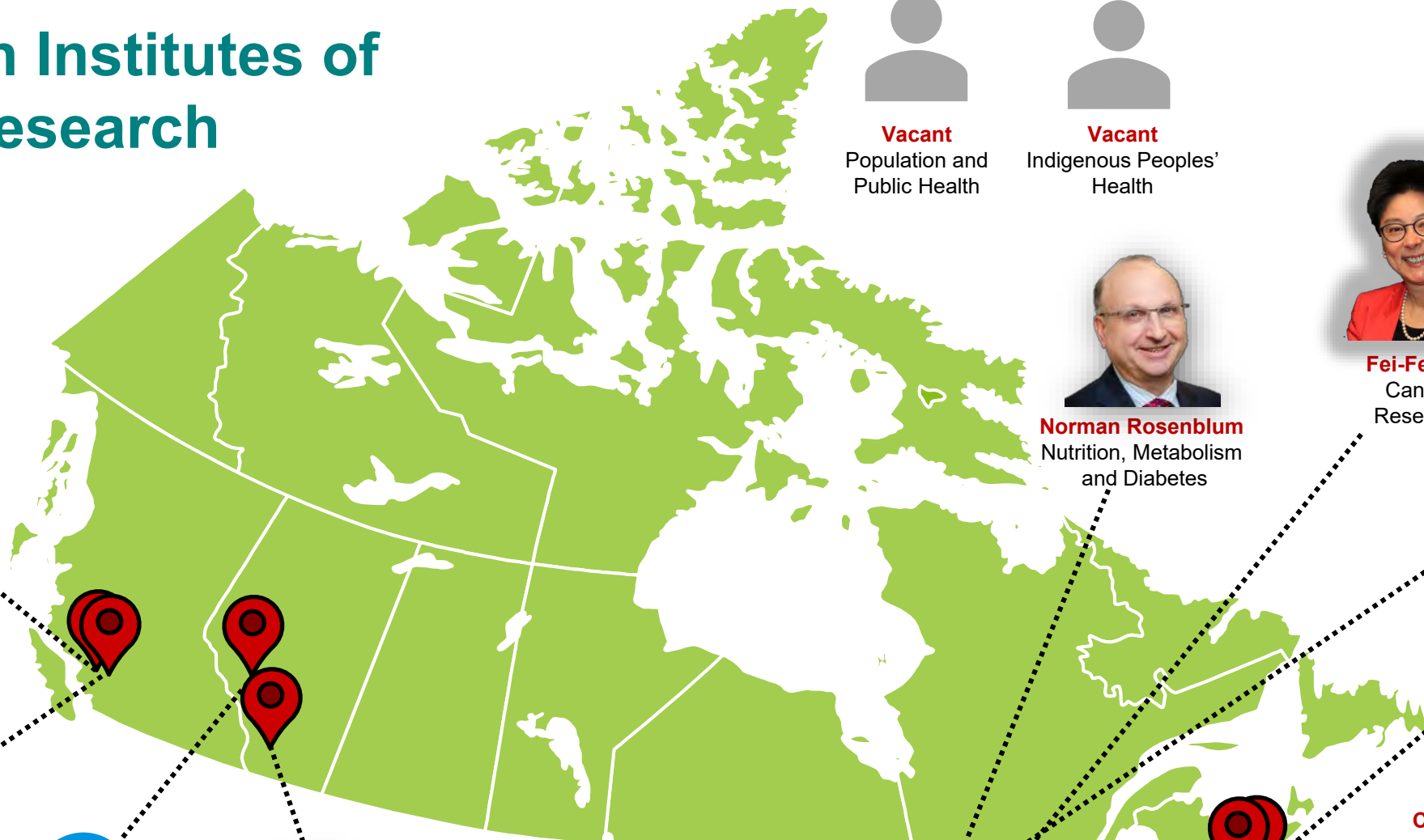
Christopher McMaster
Genetics



Christine Chambers
Human Development, Child and Youth Health



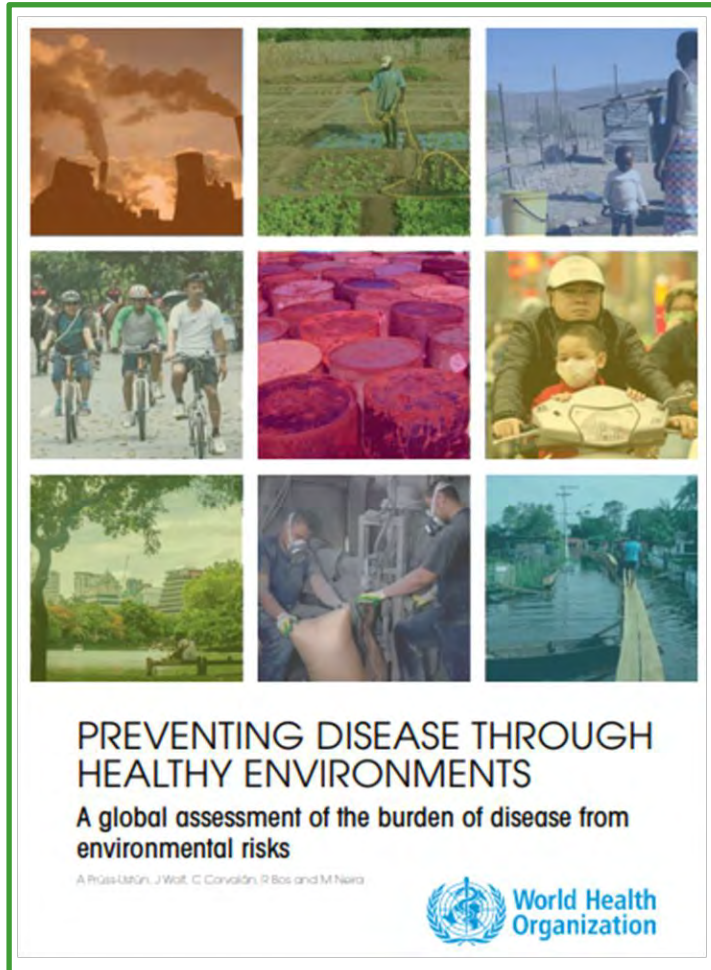
Headquarters



“In nature nothing exists alone.”

- Rachel Carson, Silent Spring

Environments and Health Signature Initiative - Context



The physical, social, cultural and built environments in which we live, work, and play are critical to our health, development and wellbeing over the course of our lives.

These environmental factors intersect and contribute both positively and negatively to our health.

In 2013, Canada ranked 15th out of 17 peer countries and scored a “C” grade on its environmental performance report card.

The EHSI was launched in 2014.

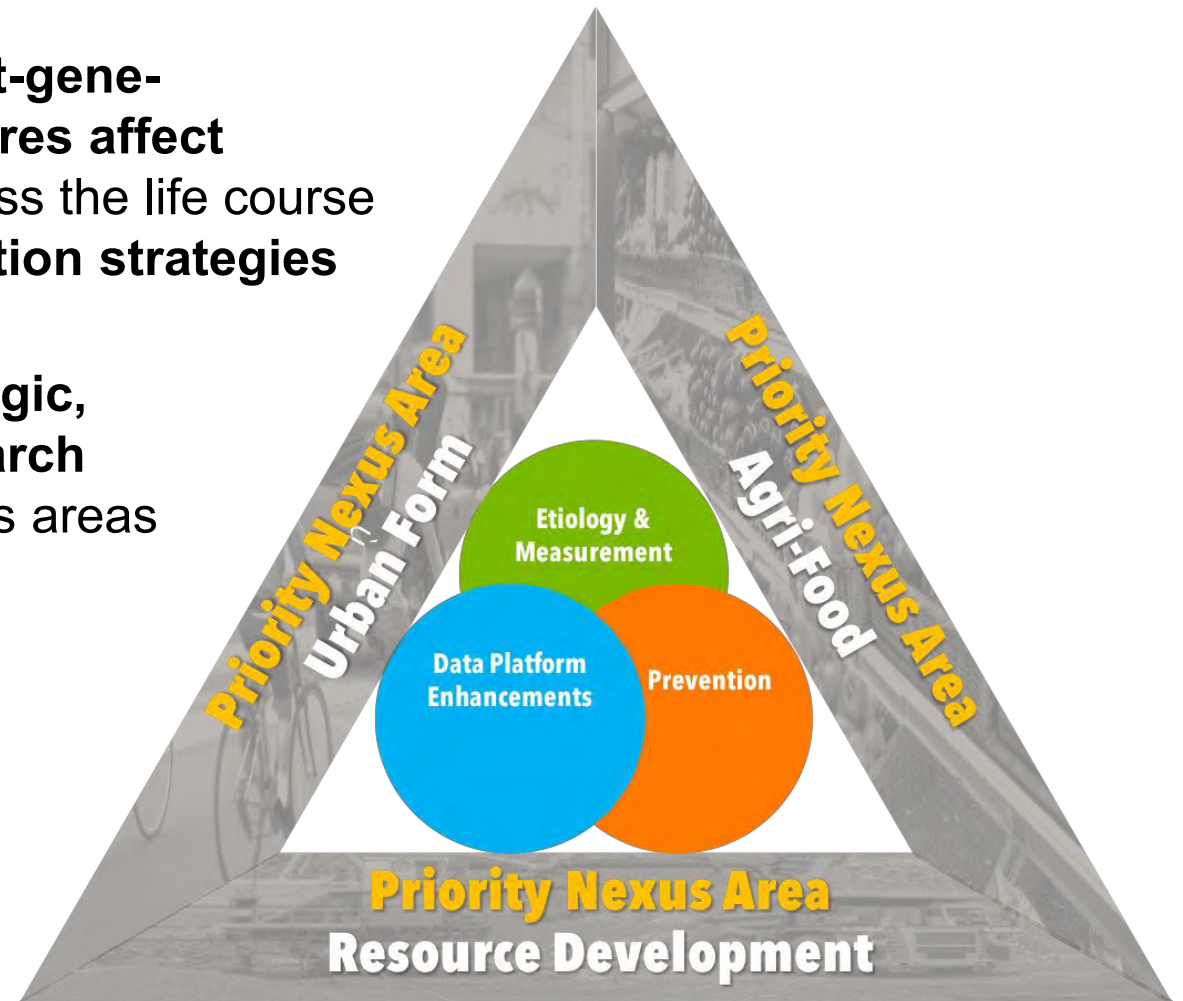
WHO analysis shows that 24% of global deaths (28% of deaths among children under 5) are due to modifiable environmental factors. (WHO, 2016)

Goals of core research components of EHSI

To advance our understanding of **how environment-gene-microbiome interactions and cumulative exposures affect chronic disease patterns and human health** across the life course and develop more **effective treatment and prevention strategies**

To leverage and enhance **data platforms for etiologic, measurement and intersectoral prevention research** that have the greatest relevance to the priority nexus areas

To advance our understanding of **how to prevent and mitigate environmental threats and promote healthful environments in population health and health equity** in Canada and globally by preventing, mitigating, reducing and/or enhancing resilience to harmful environmental exposures



Nexus Approach

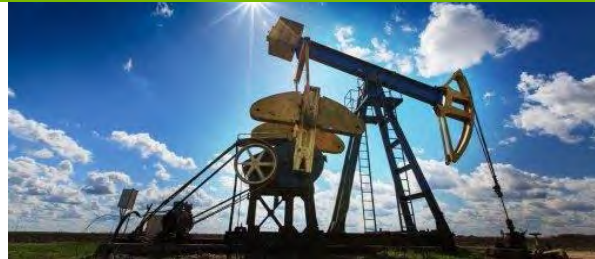
Because actions in one system can affect other systems

Agri-Food



Effects of farming intensification practices on anti-microbial resistance and quality food supply

Resource Development



Community engagement and mitigation strategies to reduce occupational and community exposure to toxins

Urban Form



Public health impacts of transportation policy, use, and municipal planning processes on active travel

EHSI

Core Research Components

Etiology & Measurement

- Understand the causes
- Environment-Gene-Microbiome Interactions

Data Platform Enhancements

- Align, connect and integrate health and environment databases

Prevention

- Examine interventions to develop solutions

Funding Opportunities

Environments, Genes and Chronic Diseases

IA, INMD, IHDCYH & III

Environmental Urban Health Research Consortium

ICRH & IHDCYH

Intersectoral Prevention Research

III & IPPH

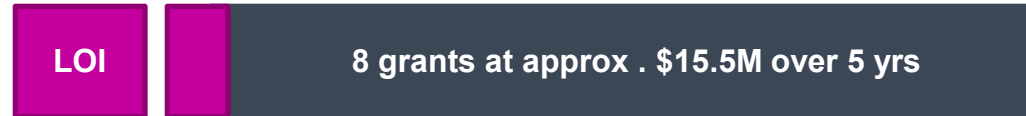
Also engaged

IGH & IIPH

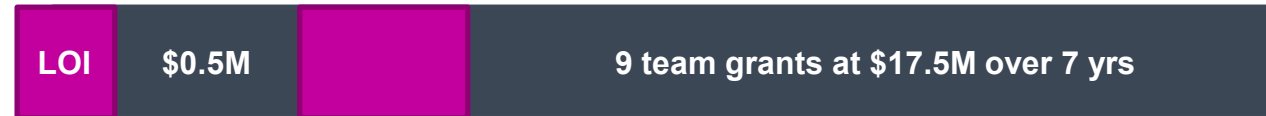
EHSI Timeline



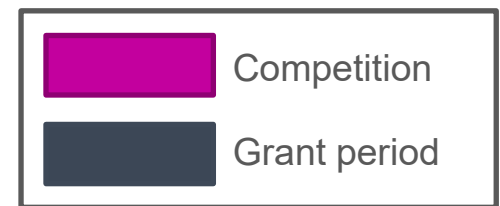
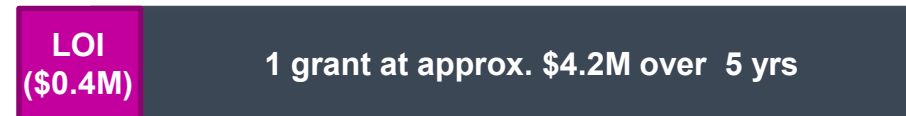
Programmatic Grants
Environments Genes
and Chronic Disease



Intersectoral
Prevention
Research



Urban Health
Research
Consortium



Environments, Genes and Chronic Diseases



Environments, Genes and Chronic Diseases

LOI

20 developmental grants

Full application

Approx. \$16M for 5 years

8 teams grants @ \$400k/year

Funding Start Date: Nov 2015

End of funding: Oct 2020

- Highlights at mid-point:
- Progress is being made towards the objectives of the Funding Opportunity and towards the goals of the EHSI Research Components.
- There are important linkages between research funded in EGCD and CANUE.
- 7 of 8 grants leveraged additional grants, including Genome Canada Large Scale Applied Research Grants and Canadian Microbiome Initiative 2 (CMI2)
- Several interesting linkages with CMI2 Core, Children with Intestinal and Liver Diseases IBD Network (also a CIHR collaboration)

Environments, Genes and Chronic Disease

EHSI Project (Steinberg) describing the detailed molecular mechanisms regulating liver lipid synthesis and the development of liver cancer were important for a new small molecule targeting this pathway. This drug, developed by Nimbus pharmaceuticals, was purchased by Gilead Life Sciences and is in phase 2 clinical trials for NASH.

Environmental Urban Health Research Consortium

Data Platform
Enhancements

CANUE

Full application \$4,165,000 for 5 years
1 grant

Funding Start Date: June 2016
End of EHSI funding: May 2021

- Highlights at mid-point:
- Data from the CANUE platform was requested more than 200 times (~ one request per week) and has supported over 45 peer-reviewed publications on environmental health research across the life course.
- Publications are expected to increase as projects complete analyses.
- The platform has expanded and increased efficiency of environmental health research in Canada with a specific focus on improving health and equity in cities.

Urban Health Research Consortium

CIHR's Healthy Cities Research Initiative extended CANUE's funding for 1 year (\$895K) to allow them to continue developing a sustainability strategy while maintaining the current platform and ensuring uninterrupted access to the data.

Intersectoral Prevention Research

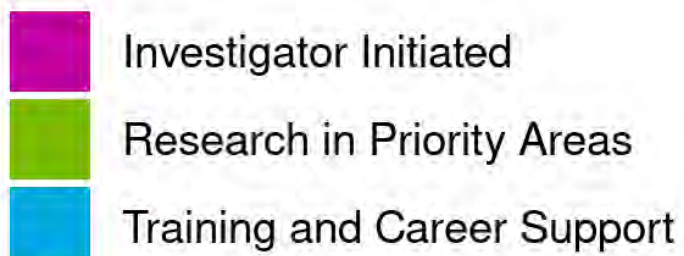
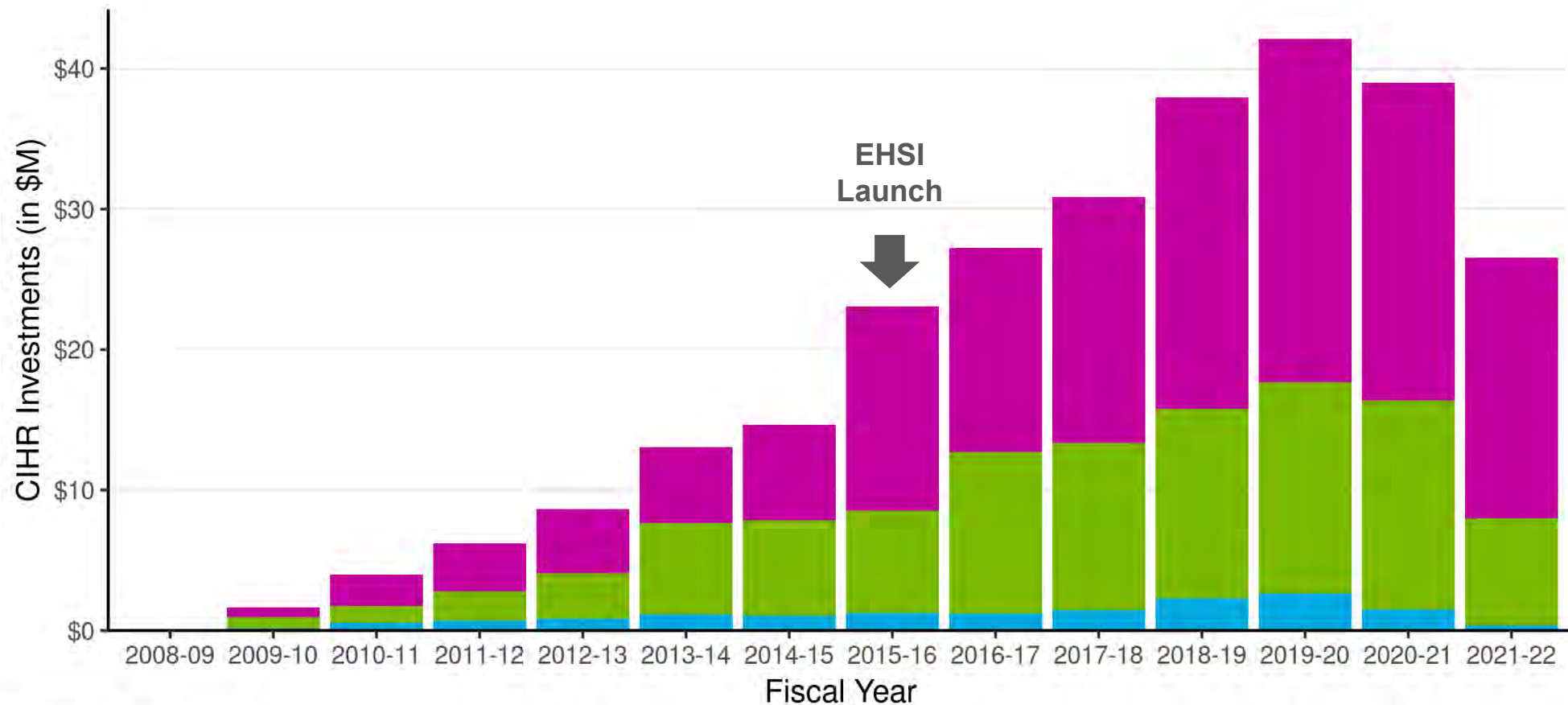


- **Highlights at mid-point:**
- Conditions are in place for most of the teams to meet the program objectives
- Several teams reported that the research collaborations they established were already influencing environmental health policies and practices.
- The maturity and size of a network appear to influence the teams' ability to produce new knowledge and train new researchers to perform intersectoral work.

Intersectoral Prevention Research

EHSI project (Harper) employs decolonizing methodologies, knowledge co-production, and incorporation of different ways of knowing into scientific research practices, as a novel approach to research with and for Arctic communities.

CIHR Investments in environments and health research overall



Source: CIHR Funding analytics

CIHR Investments: Current

- **Through Budget 2017**, CIHR received \$12M over five years to support the *Climate Change and Health Research Initiative*, comprised of two targeted components:
 - [Food Security and Climate Change in the Canadian North Initiative](#)
 - [National Research Network on Lyme Diseases](#)
- CIHR via its [Healthy Cities Research Initiative](#) has put \$43M+ into understanding the health promoting potential of cities
- In January, the Canada Research Coordinating Committee (CRCC) launched the [International Joint Initiative for Research in Climate Change Adaptation and Mitigation](#) through the New Frontiers in Research Fund. It represents a \$60M investment with additional funding confirmed from several international funding agencies, IDRC and the FRQ.
- [The Catalyst Grant: Chief Public Health Officer 2022 Report Funding Opportunity](#) was launched in December to catalyze research aligned with the opportunity for key climate change actions identified in the report. This FO is presently in peer review and represents a \$1.625M investment.

And more to come!



CIHR IRSC

Canadian Institutes of
Health Research

Instituts de recherche
en santé du Canada

Discoveries for life / Découvertes pour la vie