



CIHR IRSC

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

Discoveries for life / Découvertes pour la vie

CIHR-EU Partnerships in Personalized Medicine

Étienne Richer Ph.D. – CIHR Institute of Genetics

February 21, 2023



Canadian Institutes
of Health Research

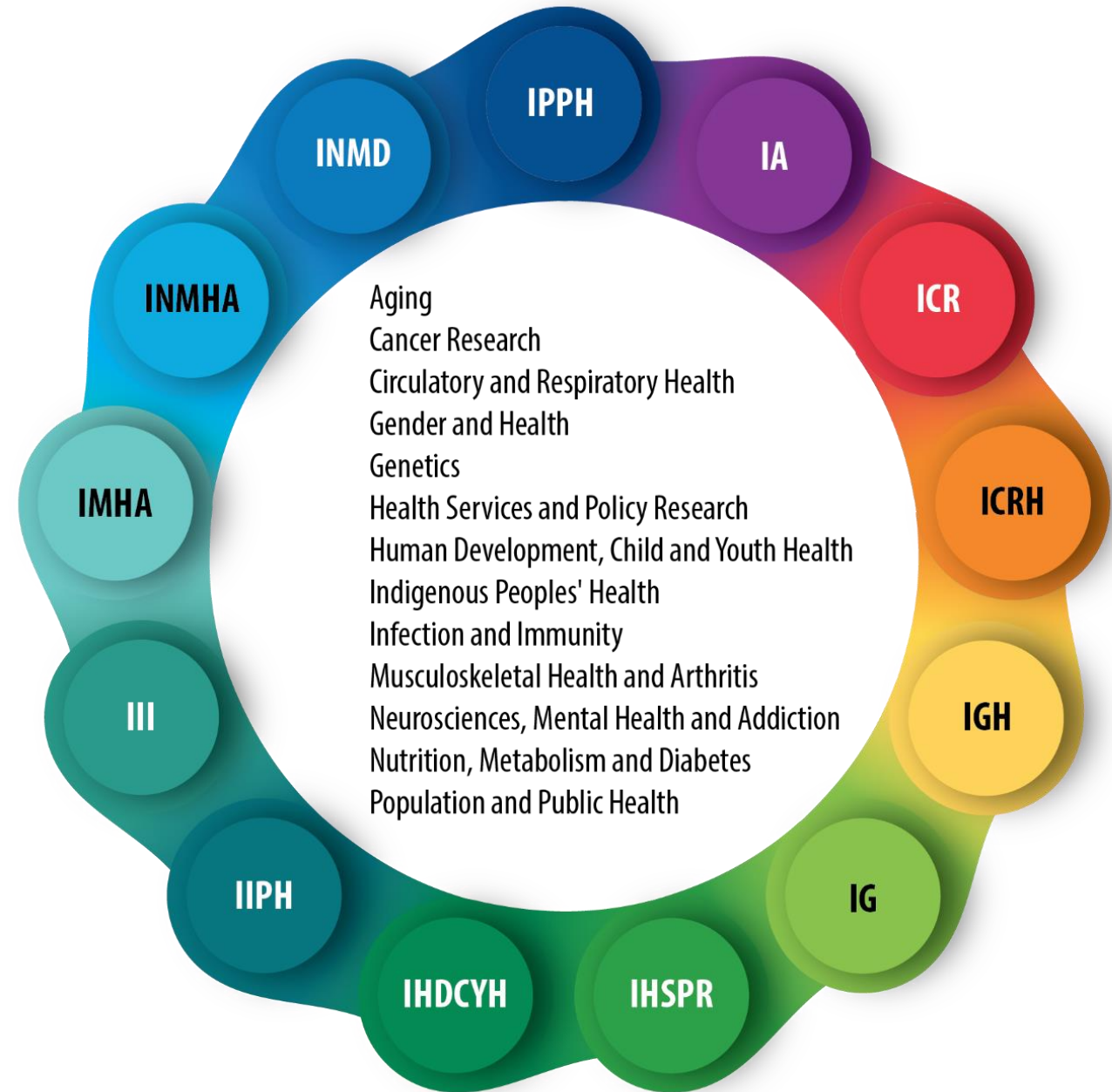
Instituts de recherche
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Canada

CIHR Institutes

Created in 2000, CIHR is a unique model for health research.

Composed of 13 virtual Institutes with wide-ranging mandates, that together with executive management form the Science Council.

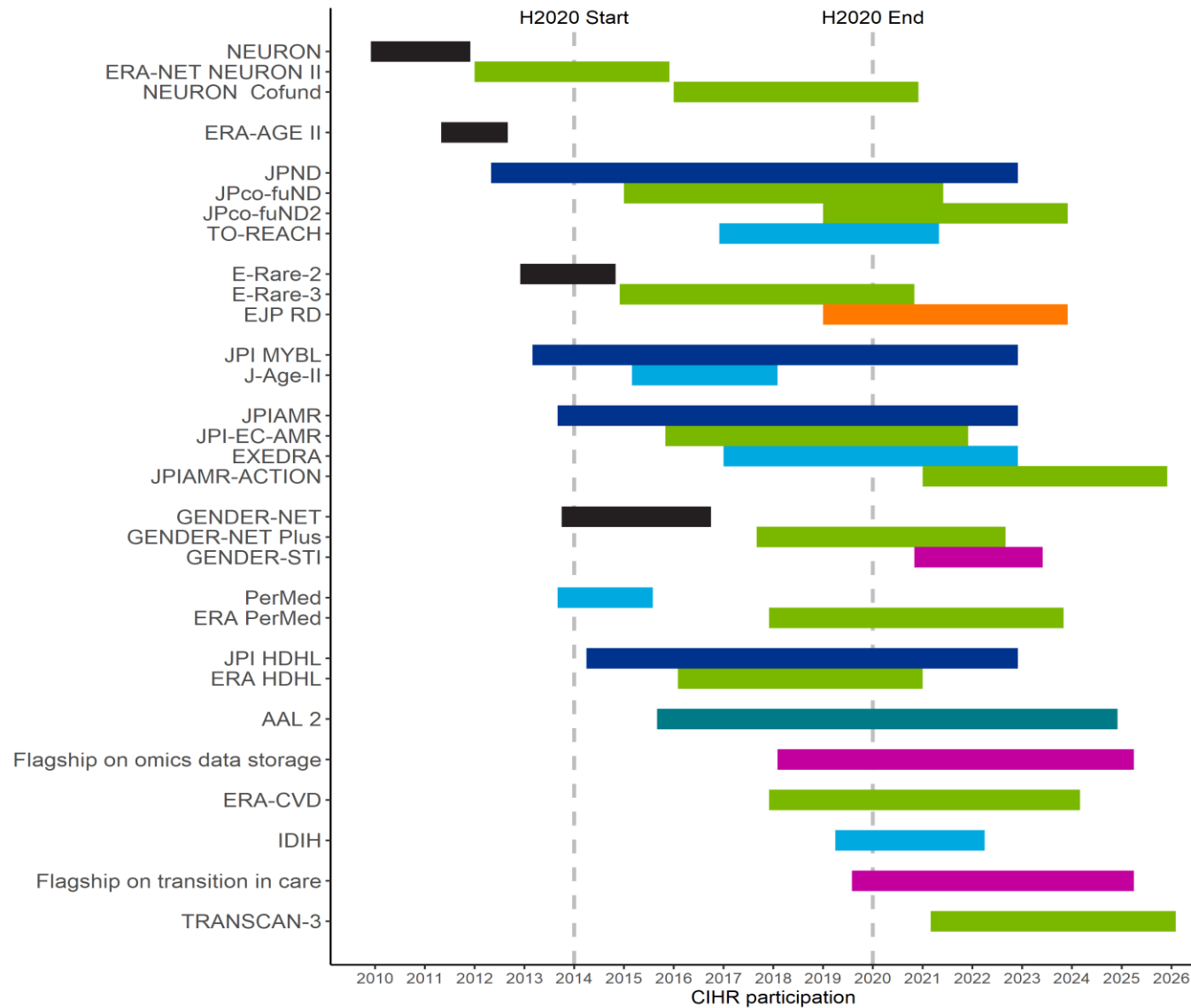


Setting the Stage: Canada & CIHR collaboration with the European Union



- EU is a strategic partner and government priority for Canada
 - Canada-EU S&T Agreement - 1996
 - EU-Canada Joint S&T Cooperation Committee - 2003
 - Canada-European Trade Agreement (CETA) - 2016
 - Canada-EU Program Level Cooperation Task Force – 2018
 - CRCC 2020 Horizon Global Platform Competition - 2019
- EC-Canada have excellent history of cooperation in health research
 - Strong alignment of health research priorities and similar healthcare systems
 - Increasing CIHR participation in European Partnerships since 2010
 - Rich collaboration through multilateral research initiatives (e.g., GACD, GloPID-R, IRDiRC, IC PerMed IHEC)
 - EC has noted Canada's excellence in several research areas, including health, and attaches importance to Canada's participation in *Horizon Europe*

CIHR Partnership in EU Public-to-Public Networks



30

P2P Networks

Article 169/185: 1

CSA: 5

EJP Cofund: 1

ERA-NET: 4

ERA-NET Cofund*: 12

JPI: 4

RIA: 3

*Some Cofunds are initiated by JPis

*Includes active and non-active P2P network/partnerships



CIHR IRSC Discoveries for life
Découvertes pour la vie

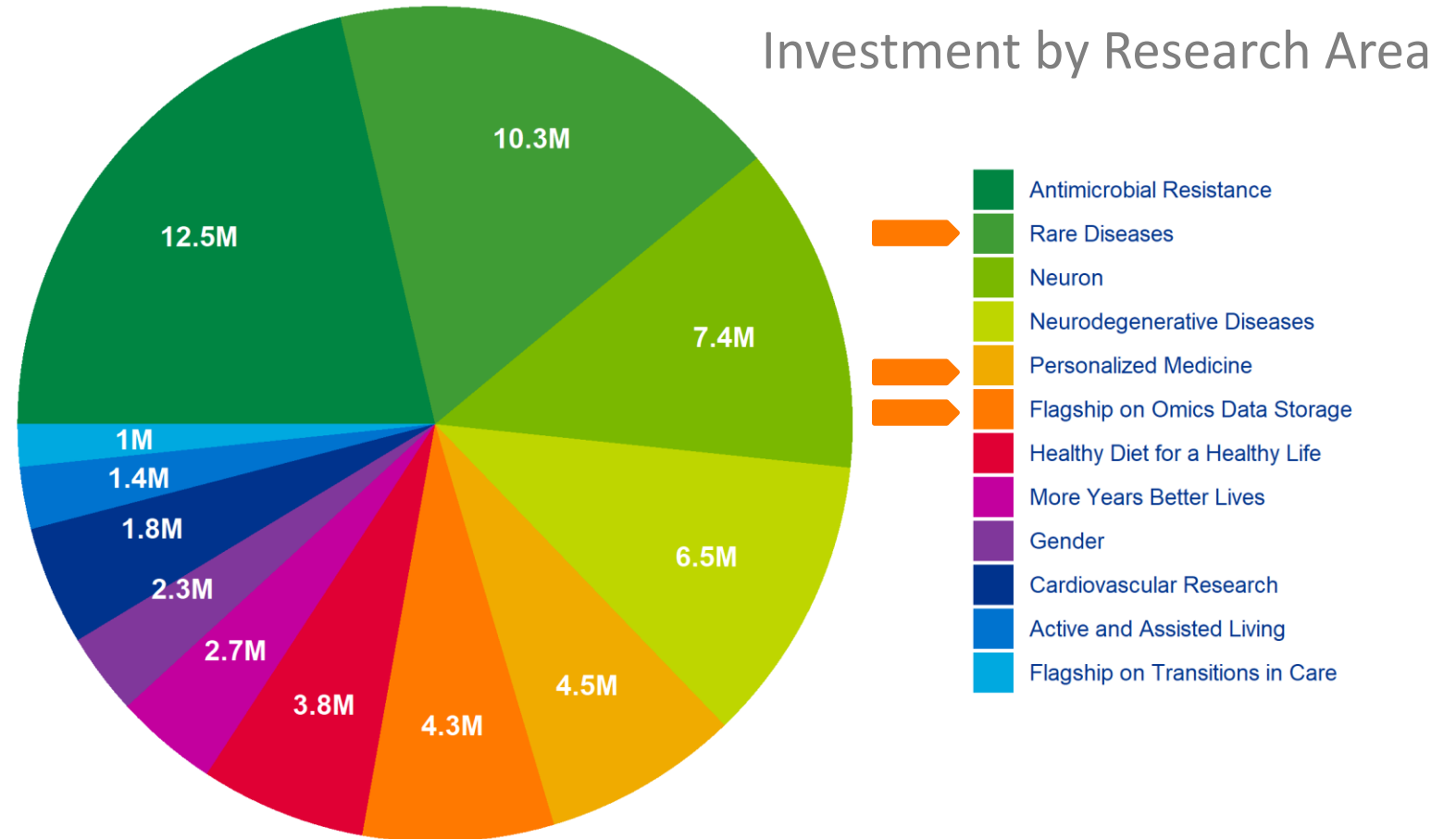
CIHR investments in Horizon P2P Networks


\$ 39 M
 Total Investment


+\$ 5.3 M
 2021 Joint Calls


\$ 135 M
 Leveraged


176
 Funded Networks



 **31 countries**

 **73 partners**

 **367+ researchers**

Personalized Medicine Portfolio



Overview

- Member of the CSA PerMed, leading to the PerMed SRIA
- Directly led to the establishment of IC PerMed and ERA PerMed
- Culminated in the development of the Flagship collaboration for human data storage, integration and sharing RIA



Benefits

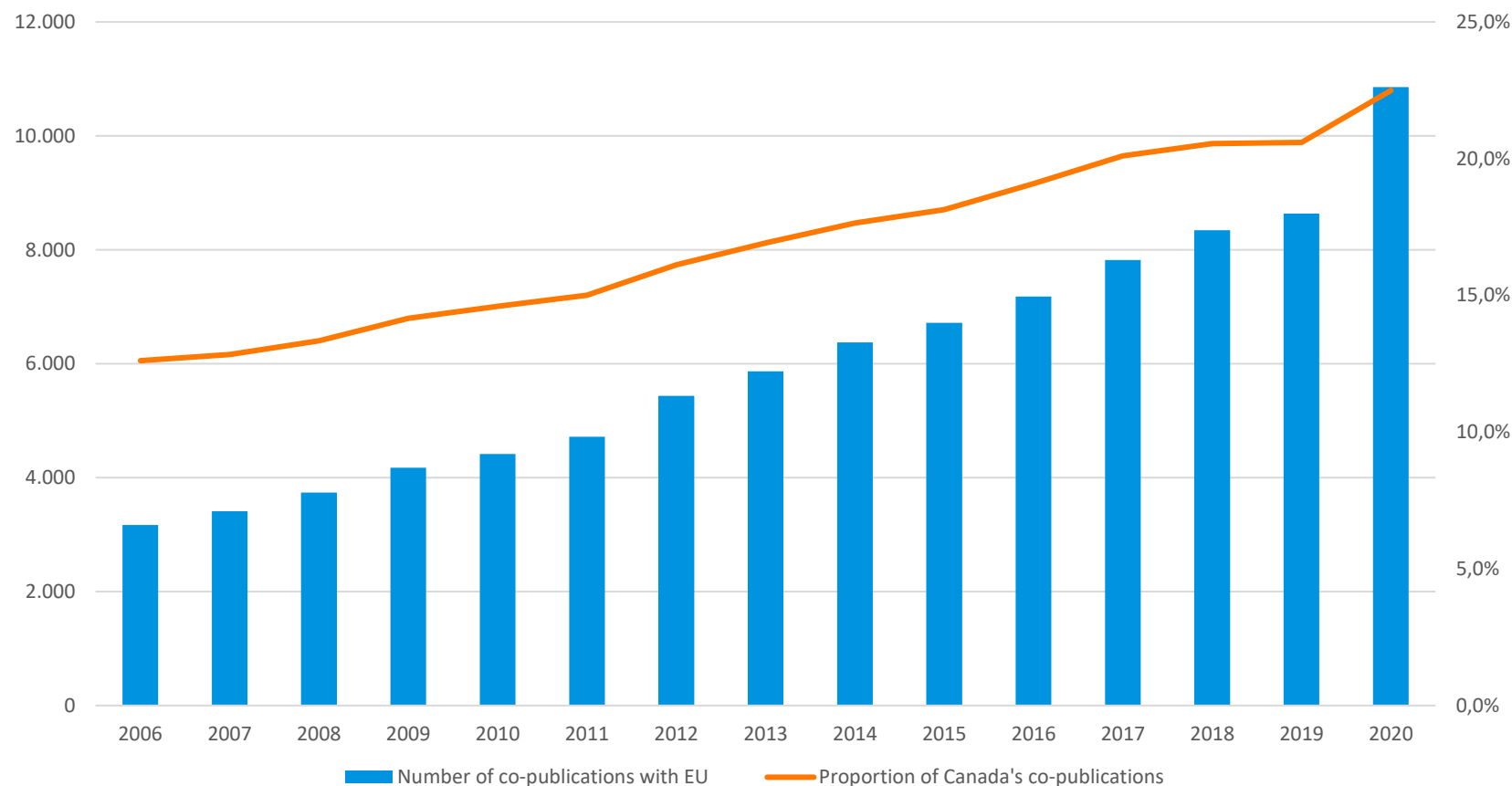
- Achieving goals of CIHR Strategic Plan
- Informed the development of CIHR Signature Initiative in Personalized Health, and its alignment with EU activities



Lessons

- On-going, sustained partnerships development creates new opportunities
- Cultural and health system alignment between Europe and Canada maximizes the value of such collaborations
- Structures recruited against SARS-CoV-2

Canada and EU Co-publications



EU framework programmes proved powerful for research & innovation impact

“3X more often among top 1% cited publications compared to output in EU Member States.”

Statistic from Horizon 2020 evaluation and monitoring and *Framework Programme 7 JRC research paper

Benefits of participating in EU Framework Programs



Canadian researchers: Create **pathway to collaboration** with all European countries & beyond



Canadian & European researchers: **High success rate** for Canadian researchers (Canada=18%, EU Members=12%)



CIHR: **Advance CIHR Priorities** in ways that wouldn't be possible if working alone & avoid duplication



CIHR: **Influence policy** of international organizations in line with Canadian standards (e.g., EDI, patients engagement).



CIHR: Build **international network** and establish long-standing trust-based relationships



CIHR: Leverage central project management for **operational efficiency** (e.g., externally-led peer review)



Research community: High impact **scientific advancements**



Research community: Advances in **research infrastructure** (e.g., tools, databases, models)

Challenges/Risks of participation in EU Framework Programs



Collaboration model Requirement to sign two legally binding documents



Problematic agreement clauses (e.g. GDPR, Consortium Agreement, Belgium/International Law)



Structure

Complex structure & large number of European Partnerships



Administrative burden

Participation requires support across multiple Branches in addition to strategic lead



Budget limitations

Participation can rely mostly on Institutes' funds



Access to EU Funding

1. Indirect Costs
2. EU top-up funding



Governance

As 3rd Country, do not participate in Commission-level programme governance decision-making committees



Communication

1. Commission and CIHR
2. CIHR/Canada & researchers



Towards CIHR'S Personalized Health Initiative

2012



Personalized Medicine Initiative

- Enhance health outcomes through patient stratification approaches by integrating evidence-based medicine and precision diagnostics into clinical practice
- \$240M (\$85M from CIHR)
- 110 competition and application partners, including Genome Canada



eHealth Innovation Initiative

- Enhance health outcomes and health care delivery, through the implementation, evaluation and scale-up of eHealth innovations
- \$34.4M (\$16.2M from CIHR)
- 77 application partners



2016



Personalized Health Initiative

- Drive evidence-based implementation of PH that will identify solutions that can contribute to more cost-effective and sustainable healthcare
- Investments currently planned : \$82M (\$61M from CIHR)
- Alignment with IC PerMed

Multilateral Collaborations

Shaping the way Canadian research is performed



IG participation in E-Rare has changed the way Canadian scientists approach RD research by nurturing collaboration.

- Six joint calls between 2013 – 2022; \$11 million announced to fund 42 teams
- EJP Rare Diseases: JTC2023 - Canadian Commitment \$1.8M (CIHR \$1.2M; Ataxia Canada \$450K; CF Canada \$150K)



CIHR's Personalized Health Initiative in partnership with the PerMed International Consortium

- 31 partners from 22 countries and cofunded by the EC
- \$4.6 From CIHR and FRQS million to fund 10 teams
- JTC2019 - Canadian Commitment \$1.85M (CIHR \$1.35M; FRQS \$500K)



*Flagship Program:
Human data storage*

Building a framework for long-term cooperation of stakeholders in Europe and Canada

- Flagship collaboration on human data storage
- Funding: \$5.5M Canada (\$5M CIHR; \$500k FRQS); €40M EC

Sequencing Our Future

Institute of Genetics Strategic Plan 2022-2027



Commitment A:
Enabling Genomic
Medicine



Commitment B:
Improving Genetic
Disease Diagnosis and
Therapies



Commitment C:
Embracing Diversity,
Inclusion, and Indigenous
Rights



Commitment D:
Strengthening the
Community

Facilitate genomic medicine

Towards Predictive and Personalized Medicine

- Genomic medicine
- Health data
- From monogenic towards polygenic and multi-omics

Preventing Adverse Events

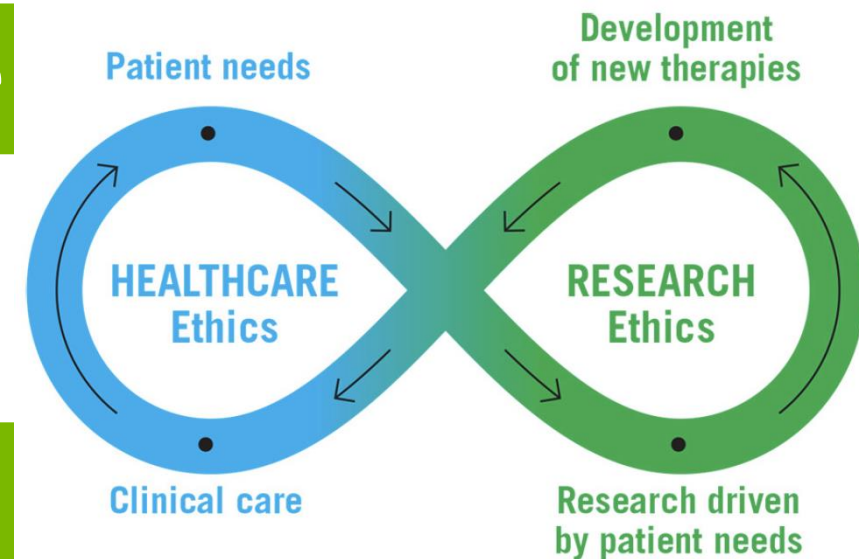
- Pharmacogenomic

Response to Emerging Health Threats

- Genomic data and analysis capacity

International Genomic Data Sharing

- Ethical and technical standards





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