

# A National Vision to Transform Health Research in Canada



HealthCareCAN is the national voice of action for hospitals, health authorities, healthcare, and health research organizations across Canada. We advocate to support health research and innovation; to enhance access to high-quality health services for Canadians; and to empower health professionals through our best-in-class learning programs.

HealthCareCAN supports a vibrant health research and innovation ecosystem of Canada's network of research hospitals, emerging health research institutes, governments, incubators, start-ups, companies, investors, health charities, patient groups and postsecondary institutions working in collaboration to advance science and develop solutions to improve the health and wellbeing of all people living in Canada and world-wide.

**HealthCareCAN wishes to acknowledge the extensive input from our [Vice Presidents of Health Research Committee](#) in the preparation of this vision document targeting key, urgent actions that will strengthen Canada's health research leadership by 2030.**

## **Vision for Health Research in Canada**

An innovative and collaborative health research ecosystem that leads new discoveries and drives solutions for improved health outcomes.

# What will Success Look Like in 2030?

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Canada is a global leader in health research, with a robust health research and innovation ecosystem that fosters innovation, addresses global health challenges, and improves health outcomes for all Canadians. Through increased investment, strategic partnerships, and a focus on leveraging data and technology, Canada ranks in the OECD top 10 for access to high quality and safe care for patients, and other key healthcare performance metrics. Canada drives breakthroughs in medical treatments and enhances people-centred care.

## Summary of Health Research Vision

### Objective 1: Establish Canada as a Global Research and Innovation Hub



Canada must elevate its commitment to research and development by increasing spending on research and development to match other G7 countries' average by 2030. Canada must provide leadership in health research and innovation by strategically allocating funds to health systems to support research, encouraging international partnerships, and tackling pressing global issues.

### Objective 2: Accelerate the generation of new knowledge through Innovative Research



Canada must use research methodologies that incorporate social determinants, environmental influences, and people-centred care. Through the integration of cutting-edge technologies, Canada will lead in the global health research and innovation landscape, promoting accessibility, affordability, and excellence in healthcare delivery.

### Objective 3: Empower a Diverse and Sustainable Research Workforce



Canada must support early-career researchers and cultivate future talent through initiatives that attract, train, and retain scientists, biomedical and clinician scientists, community health researchers, and health system investigators to ensure a diverse and sustainable research community.

### Objective 4: Revolutionize Health Outcomes through Innovative Adoption, Translation and Implementation of Research



Canada must prioritize the expansion of public-private partnerships between all levels of government, health providers, academic institutions, and industry players. By nurturing existing partnerships and cultivating new ones, Canada will harness the collective expertise of clinicians, patients and caregivers, cross-disciplinary researchers, and industry to accelerate the pace of innovation.

As Canada navigates this journey, collaboration, partnerships, and strategic investments will shape a research landscape that addresses immediate challenges and positions Canada as an innovation leader on the world stage.

# Integrating Indigenous-led Health Research and Collaboration

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The vital contributions of First Nations, Métis, and Inuit peoples to the health research ecosystem must be acknowledged and better supported. Indigenous-led health research is essential in addressing the unique health priorities of Indigenous communities, which continue to face challenges stemming from colonization.

The CIHR's Network Environment for Indigenous Health Research (NEIHR) is one such initiative that supports Indigenous researchers across Canada. NEIHR advances Indigenous-led health research through dedicated funding, capacity-building initiatives, and the promotion of culturally relevant methodologies. The June 2024 Report of the Standing Committee on Science and Research entitled "Incorporating Indigenous Knowledge and Science in Canadian Research and Policy Development" outlines 15 recommendations for further supporting Indigenous-led health research.<sup>1</sup>

## Strategic Actions for Supporting Indigenous Health Research:

- **Investment in Indigenous-led Research:** Increase funding and support for Indigenous-led health research projects that address the specific health needs of Indigenous communities.
- **Capacity Building:** Develop training and mentorship programs to empower Indigenous researchers and build research capacity within Indigenous communities.
- **Community Partnerships:** Establish and strengthen partnerships with Indigenous organizations and communities to ensure that research is conducted in a manner that respects Indigenous sovereignty and knowledge systems.

By prioritizing Indigenous-led health research and boosting meaningful collaborations with First Nations, Métis, and Inuit peoples, Canada can create an inclusive, equitable, and responsive health research ecosystem. This commitment aligns with our broader goal of positioning Canada as a global leader in health research and innovation by 2030 and must be interwoven in the following four objectives outlined in this document.

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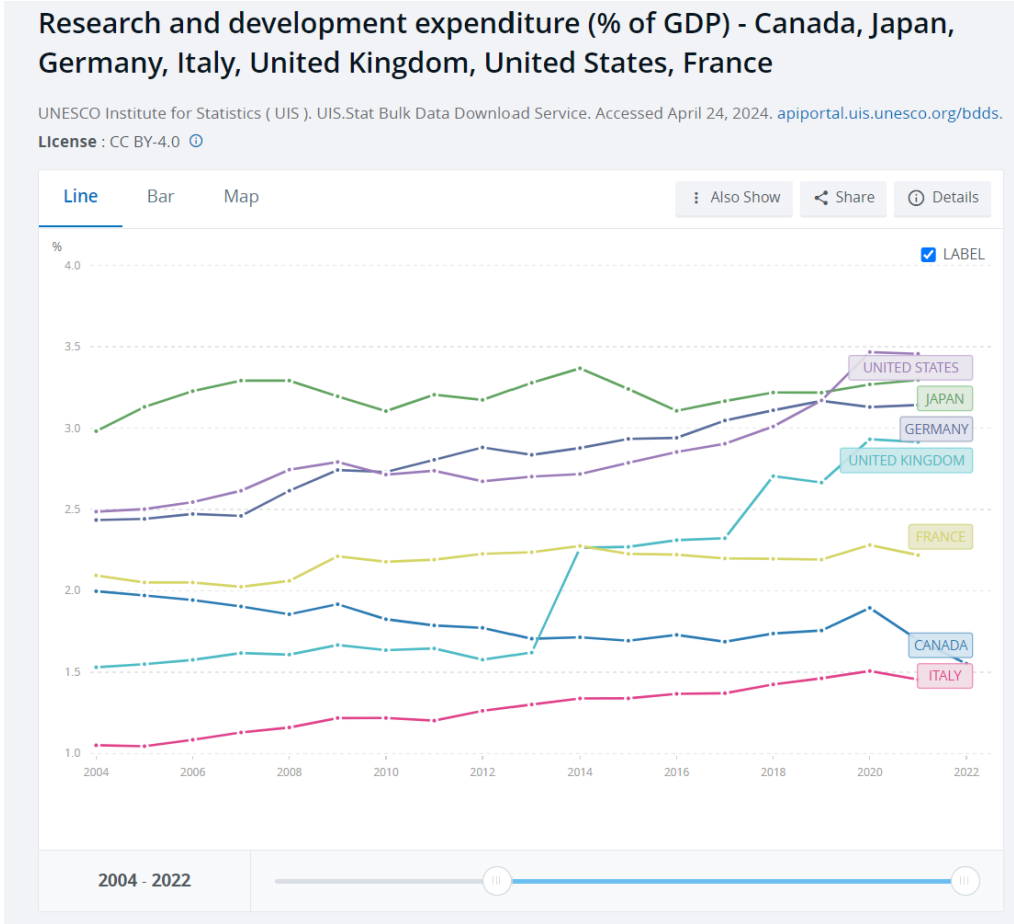
<sup>1</sup> Report of the Standing Committee on Science and Research. "Incorporating Indigenous knowledge and science in Canadian research and policy development". June 2024. <https://www.noscommunes.ca/documentviewer/en/44-1/SRSR/report-11/page-24>

# OBJECTIVE 1: ESTABLISH CANADA AS A GLOBAL RESEARCH AND INNOVATION HUB

## Strategic Investment in Research

Canada’s health and biosciences sector is a major economic contributor and generator of good, high-quality jobs, constituting 1.8% of the country's GDP and 3% of total employment<sup>2</sup>. However, it is not adequately supported as Canada is severely underfunding research and development in comparison to other countries.

In 2021, the latest year for which data is available, Canada invested 1.7% of the nation’s GDP on research and development, while the OECD average was 2.95% and the United States invested 3.5%<sup>3</sup>. On health research specifically, Canada lags in the percentage of total public spending on health devoted to health research at 1.5%, compared to the United States at 5.9% and Australia at 3.3%<sup>4</sup>.



<sup>2</sup> Sabar, Karimah Es. “How to ensure Canada’s health sector remains an engine of economic prosperity.” March 2021. <https://www.corporateknights.com/health-and-lifestyle/canadas-growing-health-sector-is-an-engine-for-post-pandemic-economic-prosperity/>

<sup>3</sup> World Bank Group. Research and development expenditure (% of GDP) – Canada, France, Japan, Germany, Italy, United Kingdom, United States. [https://data.worldbank.org/indicator/GB.XPD.RSDV.GD.ZS?end=2022&locations=CA-JP-DE-IT-GB-US-FR&name\\_desc=false&skipRedirection=true&start=2004&view=chart](https://data.worldbank.org/indicator/GB.XPD.RSDV.GD.ZS?end=2022&locations=CA-JP-DE-IT-GB-US-FR&name_desc=false&skipRedirection=true&start=2004&view=chart)

<sup>4</sup> Research Canada. “Get the Facts: Research in Canada is in Trouble”. <https://rc-rc.ca/get-the-facts-research-in-trouble/>

Countries like the U.S., Japan, South Korea, Germany and Switzerland have consistently invested in research and development well above the OECD average (as a percentage of GDP) for the past two decades and are known to have flourishing life sciences industries. Canada's competitiveness in healthcare innovation and infrastructure development will be severely compromised if it is not similarly supported. Canada is also at risk of brain drain to more competitive countries as warned in the 2023 Report of the Advisory Panel on the Federal Research Support System<sup>5</sup>, which will limit to Canada's capacity to address critical health challenges effectively.

To fulfill Canada's potential to be a leader in health research and innovation on the global stage, the federal government must, at a minimum, increase its investment in research and development, aiming to reach the other G7 countries' average of 2.43%<sup>6</sup> on research and development by 2030.

Over the longer term, a comprehensive roadmap created through collaboration between the health research ecosystem and all levels of government should be developed to increase funding across key sectors critical to addressing global health challenges, enhancing innovation and excellence.

In addition, Canada must develop targeted incentive programs and offer grants and fellowships to researchers in fields such as biotechnology, precision medicine and clinical research. These programs should prioritize collaboration between institutions worldwide, knowledge exchange and breakthrough discoveries. By attracting top talent to contribute to Canada's research landscape, Canada can enrich our pool of experts and advance innovation and collaboration.

## **HealthCareCAN recommends that for Canada to achieve a world-leading research and innovation ecosystem, Canada must:**

### **1. Boost research and development funding**

- Increase Canada's research and development investment to, at minimum, match the G7 countries' average and create a roadmap for strategic funding across key sectors.

### **2. Address brain drain and enhance competitiveness**

- Combat brain drain by increasing investment in research and development, improving health outcomes, and leveraging the health and biosciences sector to drive economic growth and job creation.

### **3. Implement targeted incentive programs**

- Develop grants and fellowships for researchers in fields like biotechnology and clinical research, prioritize international collaboration, and streamline regulatory processes to attract top talent and further innovation.

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<sup>5</sup> Report of the Advisory Panel on the Federal Research Support System. 2023. <https://ised-isde.canada.ca/site/panel-federal-research-support/en/report-advisory-panel-federal-research-support-system>

<sup>6</sup> Business Council of Alberta. "Weekly EconMinute—Research and development (R&D) spending as a percentage of GDP". 2023. <https://businesscouncilab.com/insights-category/economic-insights/weekly-econminute-research-and-development-rd-spending-as-a-percentage-of-gdp/>

## International Collaboration for Impact

Canada must forge additional strategic international partnerships and find pathways to collaborate in ongoing initiatives in the EU, U.S. and other countries and with global organizations. Streamlining regulatory processes and removing barriers to international collaboration will improve the exchange of knowledge, resources, and technologies, and enhance Canada's capacity to address complex health challenges while contributing meaningfully to global research endeavours. Promoting joint research initiatives between Canadian institutions and international partners can enhance research capabilities and help create a culture of collaboration and knowledge exchange. By facilitating data sharing and standardization, establishing uniform practices or protocols for collecting, formatting, and organizing data, researchers from different countries can leverage shared data to address pressing health challenges more effectively.

To establish Canada as a global research and innovation hub, it is crucial to promote and facilitate public-private partnerships (PPP) and private investment in driving research and innovation forward. By creating an environment conducive to PPPs and collaborations between government entities, academic institutions, and private industry, Canada can capitalize on the strengths of each sector, accelerating the translation of research findings into tangible solutions. Promoting PPPs can enhance the efficiency and effectiveness of research initiatives by aligning them with market needs and industry priorities. This alignment will ensure the relevance and applicability of research outcomes and drive innovation-driven solutions to real-world needs. Supporting PPPs can also attract private investment into research and development initiatives, catalyzing economic growth and job creation. By incentivizing collaboration through grants, tax incentives, and streamlined regulatory processes, Canada can position itself as an attractive destination for industry partnerships and investment.

Embracing cultural competence and diversity in international collaborations ensures that research initiatives are inclusive and relevant to diverse populations worldwide. Supporting capacity-building efforts in low-resource settings through international collaborations also contributes to strengthening global research infrastructure and addressing health disparities. Advocating for global health equity further underscores Canada's commitment to promoting policies and initiatives that prioritize equitable access to healthcare and research opportunities, aligning with the overarching goal of improving health outcomes for Canadians.

### **HealthCareCAN recommends:**

#### **1. Promote public/private partnerships (PPPs)**

- Promote PPPs to leverage diverse expertise, align research with market needs and attract private investment into research and development initiatives.
- Enhance the efficiency and effectiveness of research initiatives by aligning them with market needs and industry priorities, leading to innovations driven by real-world needs.

#### **2. Enhance global research collaboration and data sharing**

- Facilitate data sharing and standardization, promote joint research initiatives with international partners, and embrace cultural competence to ensure inclusive and relevant research.



## OBJECTIVE 2: ACCELERATE THE GENERATION OF NEW KNOWLEDGE THROUGH INNOVATIVE RESEARCH

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### A Comprehensive Approach to Health Research

To have an advanced health research sector, both mission-driven and investigator-led research endeavours need support. Mission-driven research, guided by overarching healthcare goals and priorities, plays a crucial role in addressing pressing health challenges and advancing public health agendas. Investigator-led research advances innovation, creativity, and breakthrough discoveries driven by the curiosity and expertise of individual researchers. Both forms of research are essential components of a vibrant and dynamic research ecosystem. Mission-driven research ensures alignment with societal needs and strategic healthcare objectives, while investigator-led research stimulates scientific exploration, fuels discoveries, and pushes the boundaries of knowledge.

To further both forms of research, Canada needs more dedicated funding programs aimed at driving revolutionary advancements in health research. These funding streams will prioritize interdisciplinary projects focused on developing innovative healthcare delivery methods, breakthrough medicines, and transformative technologies to enhance the health and well-being of communities across Canada. Establishing centres of health innovation hubs has shown tremendous promise, for example in Ottawa<sup>7</sup> and the [Nova Scotia Health Innovation Hub](#), which stress interdisciplinary research and are dedicated to accelerating the translation of research discoveries into real-world health solutions. Healthcare entities need to be equal partners in the hubs and there needs to be equal support for investigator-initiated research and health systems-initiated research.

Canada must maintain its commitment to a comprehensive approach to health research, incorporating equity, diversity and inclusion and integrating social determinants, environmental factors, and people-centred care perspectives into research strategies. Facilitating interdisciplinary collaborations among health professionals, scientists, engineers, and social scientists is pivotal for advancing comprehensive research practices nationwide is also vital. Canada's research and innovation ecosystem must also strengthen community-engagement strategies by incorporating the perspectives of the community, patients and caregivers and the broader public into research endeavours. This inclusive approach ensures that research priorities closely align with the needs and experiences of those directly affected by health conditions.

The Canadian health research ecosystem must enhance diversity and inclusivity in clinical trials to ensure that research outcomes accurately represent the broader population. This commitment involves addressing participation barriers, actively including underrepresented groups, and developing inclusive trial designs that consider demographic diversity. Community engagement throughout the research process, along with educational outreach, will further support equitable, accessible, and representative research outcomes.

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<sup>7</sup> Ottawa Health Innovation Hub. “The impact of Excellence”. 2021. <https://www.ottawa-innovation.ca/>



## HealthCareCAN recommends:

### 1. Promote both mission-driven and investigator-led research endeavours

- Launch dedicated funding programs aimed at driving revolutionary advancements in health research and prioritize interdisciplinary projects.
- Create interdisciplinary research hubs or centres dedicated to accelerating the translation of research discoveries into real-world health solutions. Healthcare entities need to be equal partners in the hubs and there needs to be equal support for investigator-initiated research and health systems-initiated research.

### 2. Ensure sustainable and cost-effective research

- Research innovations should be environmentally, socially and economically sustainable. Research and solutions must meet the needs of Canadians today while planning for future generations.

### 3. Engage stakeholders in health policy development

- Involve a diverse range of stakeholders, including policymakers, people-centred care advocates, and industry leaders in the development of policies that support and promote health research and innovation.

## Community-engagement in the research ecosystem

The research ecosystem in Canada must be more engaged with the community and involve patients, caregivers and the broader community when conducting research. This would increase the likelihood that research priorities align with the needs and experiences of those that are directly impacted by health conditions.

To be better engaged, researchers must have access to training on effective ways to engage with diverse communities, create clear and transparent communication strategies and create accessible materials to share research findings. The creation of physical or virtual spaces where community members, researchers, and healthcare professionals can discuss research initiatives will help to facilitate ongoing dialogue, collaboration, and knowledge exchange. Help to build long-term relationships that are appropriately funded that go beyond specific projects, can also promote ongoing engagement and trust-building.

Integrating People-Centred Care to better understand mutual needs through the principles of integrity, transparency, inclusion, and humility<sup>8</sup> can also lead to more impactful and meaningful research outcomes.

Canada must also continue to remove systemic barriers and biases to recruitment and participation from underrepresented groups to ensure research findings are relevant to all Canadians.

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<sup>8</sup> Accreditation Canada. "People-Centred Care Program." <https://accreditation.ca/assessment-programs/people-centred-care-program/>

## **HealthCareCAN recommends:**

### **1. Establish community advisory boards that incorporate people-centred care principles**

- Form advisory boards comprising community members, and caregivers focused on people-centred care to provide meaningful input and guidance on research priorities, study design, and implementation. Additionally, ensure diverse representation on these Boards to capture a wide range of perspectives.
- Integrate People-Centred Care into every stage of the research process from initial planning, study design, data collection to dissemination solutions.
- Conduct focus groups, interviews, or workshops to gather people-centred care perspectives on research questions, study design, and outcomes.

### **2. Develop community-researcher partnerships**

- Facilitate partnerships between researchers and community organizations to collaboratively identify knowledge gaps, determine research priorities and design studies. Additionally, build long-term relationships that are appropriately funded that go beyond specific projects, promoting ongoing engagement and trust-building.

### **3. Promote communication**

- Implement clear and transparent communication strategies to inform the community about ongoing research activities.
- Collaborate on the creation of accessible and people-centred care-friendly materials to share research findings with the broader community.

### **4. Educate researchers on community engagement**

- Provide training and ongoing support for researchers to help them engage effectively with diverse communities.

### **5. Promote public outreach and education**

- Promote public awareness campaigns to educate communities about the importance of research and their potential role in shaping it and creating space for a dialogue to researchers can learn community needs. Additionally, address misconceptions, build trust, and emphasize the direct impact of research on community well-being.

### **6. Ensure best practices in equity, diversity, and inclusion in both research practice and design**

- Help reduce systemic barriers to recruitment and participation from underrepresented populations. These may include women, racialized minorities, Indigenous Peoples, persons with disabilities and members of LGBTQ2+ communities.

## Advanced Technologies for Transformative Impact

With investment in cutting-edge technologies, Canada will lead the world in the adoption and development of advanced technologies, such as artificial intelligence, genomics, and digital health solutions, while also bolstering the infrastructure needed to support health research endeavours. Public and private investments will drive research, development, and implementation, positioning Canada as a global leader in health innovation. HealthCareCAN's Vision to Transform Health Research in Canada includes a healthcare system integrated with technology to enhance people-centred care, streamline processes, and improve overall efficiency.

With telehealth solutions, innovative diagnostic tools, to robust digital infrastructure to support health research, Canada can create a tech-enabled health ecosystem prioritizing accessibility, affordability, and quality of care, while promoting interdisciplinary collaborations between healthcare professionals, researchers, and industry experts. Investment in advanced technologies can profoundly impact the health research ecosystem through faster processing of data, complex pattern analyses and advanced predictions and modeling.

Canada needs targeted investments across the technology sector, including building digital infrastructure to support digital health strategies that are homegrown and enable data-driven advances in research and healthcare.

### HealthCareCAN recommends:

#### 1. Invest in cutting-edge technologies

- Canada should prioritize public and private investments in advanced technologies such as AI, genomics, and digital health solutions to lead global innovation.
- Build robust digital infrastructure to support these technologies and enable data-driven healthcare advances.

#### 2. Promote tech-enabled health solutions

- Encourage technological advancements among healthcare professionals, researchers, and industry leaders to improve healthcare outcomes.
- Emphasize accessibility, affordability, and quality of care in developing and deploying tech-enabled healthcare solutions.

#### 3. Strategically invest for transformative impact

- Develop and implement digital health strategies tailored to Canadian needs, aiming to improve healthcare accessibility and quality.

## Empowering Emerging Health Research Institutes

Emerging Health Research Institutes (EHRIs) play a pivotal role in advancing healthcare research and services, particularly for underserved populations and regions. With a focus on addressing knowledge gaps and delivering specialized health services, EHRIs serve communities, such as those in rural and northern areas, which may otherwise lack access to larger academic centres. These institutes are instrumental in serving population groups facing health disparities due to linguistic barriers, sociodemographic factors, or geographical remoteness, Indigenous peoples, seniors, and marginalized individuals.

Substantial potential exists for advancing clinical research within EHRIs, research hospitals, and health authorities. Embracing and nurturing these research centres not only enhances the breadth and depth of clinical investigations but also yields profound benefits for communities, people-centred care, staff, and the institutions involved. By strengthening collaboration between large academic centres and smaller, emerging research institutes, the collective impact of their endeavours can be magnified.

By tailoring research efforts to the specific needs and health concerns of regional communities and priority populations, EHRIs ensure that people-centred care from all regions, provinces, and territories can participate in research activities conveniently close to home. Moreover, EHRIs collaborate closely with academic researchers to ensure that research outcomes align with the priorities of people-centred care, caregivers, communities, and government stakeholders, thus maximizing the value and impact of research endeavours and ultimately bettering health outcomes.

However, EHRIs encounter significant challenges in securing funding and resources, particularly amidst a competitive landscape dominated by larger, established research institutions. Obtaining external grant funding and sustainable operational funding for infrastructure remains a pressing concern, exacerbated by stringent regulations in federal and provincial grants competitions. These regulations, which often entail high matching fund requirements and criteria favouring senior investigators, create barriers to equitable access to research funding for EHRIs.

Additionally, unlike large research hospitals, EHRIs do not benefit from the stabilizing support of organizations like the Canada Foundation for Innovation (CFI) to develop and maintain essential research infrastructure. EHRIs also face formidable obstacles in recruiting, supporting, and retaining clinician, biomedical and health-services researchers, along with specialized research support roles such as biostatisticians, methodologists, and legal resources, which are vital for robust research endeavours. Despite these challenges, EHRIs remain committed to furthering innovation and advancing health research, striving to overcome obstacles and contribute meaningfully to the Canadian healthcare landscape.

EHRI initiatives could also be implemented to increase public awareness and engagement with their research findings, highlighting the relevance and impact of their work on local communities. Increasing collaboration and partnerships between EHRIs and larger research institutions can also facilitate knowledge exchange, resource sharing, and mentorship opportunities, enabling EHRIs to leverage the expertise and infrastructure of established organizations. Furthermore, streamlining grant application processes and increasing funding enhance the competitiveness and sustainability of EHRIs in the research landscape.

## **HealthCareCAN recommends:**

### **1. Enhancing collaboration and partnerships**

- Promote active collaboration between large academic research centres and smaller EHRIs. This could include joint research projects, shared resources, and mutual mentorship programs. By leveraging the expertise, infrastructure, and established networks of larger institutions, EHRIs can enhance their research capabilities and impact.
- Establish formal knowledge exchange programs where researchers from larger institutions can work with those at EHRIs. This can help in capacity building, skill development, and ensuring that the research conducted at EHRIs is of high quality and relevance.

## 2. Securing sustainable funding and resources

- Enhance grant application processes to make them more accessible to EHRIs, including reducing matching fund requirements and revising criteria that favour senior investigators.
- Create funding programs tailored to the infrastructure and operational needs of EHRIs, similar to the support provided by the Canada Foundation for Innovation.
- Encourage collaborations between government bodies and private sector organizations to secure diverse funding sources and facilitate practical application of research findings.

## 3. Building Research capacity and workforce

- Develop targeted recruitment and retention strategies to attract and support key research roles, such as clinician-researchers and biostatisticians.
- Provide ongoing training and professional development through partnerships with larger institutions, online courses, and workshops.
- Enhance public awareness and engagement with EHRI research through community outreach programs, public lectures, and media campaigns to highlight the impact of their work on local communities.

# OBJECTIVE 3: EMPOWERING A DIVERSE AND SUSTAINABLE RESEARCH WORKFORCE

## Supporting Researchers Across the Career Continuum

Canada's research ecosystem must nurture researchers at every stage, from early-career to mid-career and senior levels. By providing comprehensive support, including resources, mentorship, and opportunities for growth, Canada can ensure the sustainability and diversity of our research community.

It is also important to provide targeted funding and investment to programs specifically designed to support researchers in all stages of their careers. Early-career researchers should have access to mentorship programs that provide guidance and training initiatives for skill development, thus ensuring a strong foundation for future contributions.

By providing financial support specifically tailored for researchers, such as grants, scholarships, or fellowships and mentorship through a structured system where experienced professionals guide and advise, early-career researchers can reach their full potential. Programs focusing on career advancement, leadership development, and interdisciplinary collaboration can also empower researchers' success.

Recognizing the pivotal role of research in attracting and retaining top talent within the healthcare workforce, it is vital to support research initiatives across the continuum of organizations and systems.

Healthcare institutions can support research by providing physicians with the resources, mentorship, and infrastructure necessary to pursue their research interests. Integrating research into clinical practice not only enhances the quality of people-centred care but also creates a stimulating and fulfilling work environment for healthcare professionals. Thus,

strategic investments in research support programs and initiatives will bolster the sustainability of the healthcare workforce and drive innovation and excellence in people-centred care delivery.

## **HealthCareCAN recommends:**

### **1. Provide comprehensive support for researchers at all career stages**

- Canada should nurture researchers throughout their careers by providing resources, mentorship, and growth opportunities. This ensures sustainability and diversity within the research community.

### **2. Expand targeted funding and investment programs**

- Canada should increase financial support specifically tailored for researchers, such as grants, scholarships, or fellowships and mentorship through a structured system.

### **3. Create new programs for addressing career challenges and encouraging innovation**

- New programs should be designed to support researchers at all career stages, addressing their specific challenges. These programs should encourage novel approaches, interdisciplinary collaboration, and knowledge translation, laying a solid foundation for future research endeavours.

### **4. Promote integration of research into clinical practice**

- Healthcare institutions should support research by providing physicians with the necessary resources, mentorship, and infrastructure. This integration enhances people-centred care, attracts top talent, and creates a stimulating work environment, driving innovation and excellence in healthcare delivery.

## **Developing Future Researchers**

From trainees and early-career investigators to mid- and advanced-career researchers, a robust system of support is needed for clinician-scientists throughout their professional careers. Attracting, training, and retaining the best individuals within the Canadian research sector is essential to building a future cohort of world-class scientists. Most trainees in Canada are funded through Tri-Council grant funding which has not increased to keep pace with inflation. Meanwhile, Canada's peers, such as the United States, United Kingdom, and Germany, have announced plans to drastically increase their investment in science and research in the coming years.<sup>9</sup>

To boost the next generation of research talent, the 2024 Federal Budget proposes to provide \$825 million over five years, starting in 2024-25, with \$199.8 million per year ongoing, to increase the annual value of master's and doctoral student scholarships to \$27,000 and \$40,000, respectively, and post-doctoral fellowships to \$70,000.<sup>10</sup>

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<sup>9</sup> HealthCareCAN. "Canada at risk of losing some of its brightest health research talent". May 2023. <https://www.healthcarecan.ca/2023/05/01/canada-at-risk-of-losing-some-of-its-brightest-health-research-talent/>

<sup>10</sup> Support our Science. "Learn More: Who are grad students and post docs?" <https://www.supportourscience.ca/learn-more>



The 2024 federal budget also earmarked \$1.8 billion for the federal research granting councils over five years, starting this year, and \$748.3M annually thereafter. Although less than the doubling of funding that HealthCareCAN was seeking, it is a historic investment in research. That said, the funding is backloaded, with the three granting councils splitting \$75 million in 2024-25, \$153 million in 2025-26, \$286 million in 2026-27, \$517 million in 2027-28, and \$764 million in 2028-29. This backloading is problematic given the urgent need in the health research ecosystem.<sup>11</sup>

The allocation of \$825 million over five years, along with ongoing funding of \$199.8 million per year, reflects a sustained effort to support the next generation of scholars. This financial boost not only enhances the competitiveness of Canadian research programs but also alleviates some of the financial burdens faced by graduate students and post-doctoral students, potentially making research careers more accessible and attractive. The specific increases in scholarship and fellowship values — \$27,000 for master's students, \$40,000 for doctoral students, and \$70,000 for post-doctoral fellows — align with the cost of living and research expenses, thereby enabling recipients to focus more on their studies and research endeavours.

### **HealthCareCAN recommends:**

#### **1. Enhance financial support for researchers at all career stages**

- A comprehensive support system is needed for clinician-scientists at all career stages to attract, train, and retain top talent in Canada's research sector. This ensures the development of a future cohort of world-class scientists.

#### **2. Improve targeted funding and investment programs**

- Improve funding opportunities for graduate students, post-doctorates, and early-career researchers to attract and retain top talent. Competitive remuneration is essential to maintain a strong research workforce.

## **OBJECTIVE 4: REVOLUTIONIZE HEALTH OUTCOMES THROUGH INNOVATIVE ADOPTION, TRANSLATION AND IMPLEMENTATION OF RESEARCH**

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### **Commercialization and Economic Growth**

Canada needs better coordination, integration, efficiency and synergy within the federal research support system and the broader Canadian research and development ecosystem. This entails forging stronger partnerships and collaborations among various stakeholders, including government agencies, research funding bodies, academic institutions, healthcare organizations, and industry.

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<sup>11</sup> HealthCareCAN. "Federal Budget 2024: Analysis and Implication for HealthCareCAN Members. April 2024. <https://www.healthcarecan.ca/2024/04/16/important-new-federal-budget-research-investment-critical-to-developing-new-vision-for-health-research-in-canada/>

Promoting cross-sectoral collaboration will facilitate knowledge exchange and mobilization, accelerate the translation of research findings into clinical practice, and drive innovation across the healthcare continuum. Embracing and actively promoting a culture of collaboration and shared purpose will maximize the impact of research investments and ensure that advancements in healthcare research benefit all Canadians equitably, ultimately leading to improved health outcomes and enhanced people-centred care.

Investing in health research and innovation will support economic growth through successful commercialization, generating high-paying job opportunities and encouraging entrepreneurship within the research community. This process will bridge the gap between theory and practice, enhancing economic growth, societal progress, and scientific advancement<sup>12</sup> while facilitating the transition from research findings to impactful products and services.

It is important to establish an active and evolving research environment where funding streams facilitate the progression of innovative ideas from the initial stage of conception all the way through to their commercialization. As important, obstacles that impede a seamless transition for health research funding, innovation grants, and support commercialization for research must also be removed. This includes ensuring that research funding mechanisms and innovation grants are aligned to support the entire innovation continuum, from conception to commercialization.

By implementing joint funding programs, Canada can inspire robust public-private partnerships, collaborations among academia, industry, government, and public research institution. Supporting the development of incubator and accelerator programs that provide resources and mentorship to researchers and entrepreneurs looking to commercialize their innovations is another action that can strengthen these partnerships. These programs can help bridge the gap between academic research and commercialization by offering guidance on business development, market validation, and access to funding.

The commercialization of health-related innovations helps attract investment and boost economic growth. The strategic alignment of research endeavours with commercial goals, ensures that innovative solutions arising from health research translate into economic benefits, and reinforce Canada's position as a key player in the global health-technology market. Additionally, the Canadian research ecosystem must be an efficient and effective research-to-impact pipeline, ensuring that groundbreaking discoveries quickly translate to tangible health benefits for its citizens.

Several key tools and steps are necessary to achieve commercialization of health-related innovations. First, strategic planning and alignment are crucial and must involve market analysis and prioritization of research projects aligned with commercial goals. Technology Transfer Offices (TTOs) also play a pivotal role in identifying promising technologies, protecting intellectual property, and negotiating licensing agreements. TTOs also aim to support the commercialization of new technologies and enhance economic competitiveness<sup>13</sup>. Ultimately, regulatory and policy support is essential, as are supportive frameworks and incentives to streamline the translation of research into market-ready products. By utilizing some of these tools, groundbreaking discoveries can quickly translate into tangible health benefits while reinforcing Canada's position as a key player in the global health technology market.

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<sup>12</sup>Candela, Mariola Garcia-Canada. "Bridging the Gap: Technology Transfer from Academic Research to Market Realities". April 2024. <https://www.pluginandplaytechcentre.com/resources/bridging-the-gap-technology-transfer-from-academic-research-to-market-realities/>

<sup>13</sup> Borras, S. et. Al. Technology transfer offices in the diffusion of transformative innovation: Rethinking roles, resources, and capabilities. *Technological Forecasting and Social Change*, Volume 200, March 2024. <https://www.sciencedirect.com/science/article/pii/S0040162523008429>

Technology transfer initiatives and start-up support are pivotal components to accelerate transformation of research breakthroughs into viable commercial ventures.<sup>14</sup> Establishing dedicated mechanisms for identifying, protecting, and leveraging intellectual property arising from health research is crucial. By implementing processes for patenting innovation and negotiating licensing agreements with industry partners, Canada can better identify, protect, and leverage intellectual property arising from health research. By streamlining technology transfer from research institutions to businesses, newly established businesses can accelerate the process of translating research breakthroughs into viable commercial ventures. Supports could include offering entrepreneurship training, mentorship programs, and access to funding and incubator resources. By facilitating collaboration with industry and attracting diverse talents, Canada can rapidly advance innovative health technologies, create jobs, stimulate economic growth, and enhance its competitiveness globally.

It is also important to recognize collaborative efforts involving various stakeholders. Beyond the crucial support of early-career researchers and clinician scientists, industry partners also play a pivotal role. As of 2018, there were more than 900 Canadian firms, collectively employing over 91,000 people, actively involved in translating and commercializing basic scientific discoveries into practical solutions for Canada and the global community<sup>15</sup>. A paradigm shift is necessary in our approach to these companies, moving beyond viewing them as transactional entities to embracing a model that treats them as true collaborators. The 2018 report from the Health Biosciences Economic Strategy Table serves as a foundation on which the federal government can build greater collaboration between research institutions, early-career researchers, and industry.<sup>16</sup>

## **HealthCareCAN recommends:**

### **1. Provide avenues for greater alignment between research and commercialization**

- Optimize regulatory, policy supports and TTOs to support the commercialization of new technologies and enhance economic competitiveness.
- Support economic growth through the successful commercialization of health research, generating high-paying job opportunities and fostering a culture of entrepreneurship.

### **2. Provide avenues for greater alignment between research and commercialization**

- Optimize regulatory, policy supports and TTOs to support the commercialization of new technologies and enhance economic competitiveness.
- Support economic growth through the successful commercialization of health research, generating high-paying job opportunities and fostering a culture of entrepreneurship.

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<sup>14</sup>Noujam, J. Technology Transfer: Turning Research Into Growing Startups. September 2018. <https://beryltech.org/technology-transfer/>

<sup>15</sup> ISED. Report from Canada's Economic Strategy Tables: Health and Biosciences. 2018. <https://ised-isde.canada.ca/site/economic-strategy-tables/en/report-2018/report-canadas-economic-strategy-tables-health-and-biosciences>

<sup>16</sup> Research Canada. Investing in a Health Research and Innovation Ecosystem Strategy: Submission to the Pre-Budget Consultations in Advance of the 2022 Budget. 2022. <https://www.ourcommons.ca/Content/Committee/441/FINA/Brief/BR11510800/br-external/ResearchCanadaAnAllianceForHealthDiscovery-e.pdf>

### **3. Establish an evolving research environment with aligned funding streams from conception to commercialization**

- Ensure funding mechanisms facilitate the progression of innovative ideas from their initial conception through to their commercialization, creating a seamless transition for health research funding and innovation grants.

### **4. Strengthen public-private partnerships with joint funding programs and incubator initiatives**

- Strengthen collaborations among academia, industry, and government by implementing joint funding programs and developing incubator and accelerator programs that provide resources and mentorship for researchers and entrepreneurs.

## **Clinical Trials**

Clinical trials stand as the cornerstone of health research, providing a rigorous framework for testing and validating innovative treatments and medical approaches before they reach the broader healthcare landscape. It is essential to recognize the pivotal role that clinical trials play in driving advancements in healthcare, advancing people-centred care outcomes, and improving health and well-being.

The impact of clinical trials extends far beyond the realm of scientific inquiry, exerting profound effects on societal health, economic prosperity, and overall health outcomes. By facilitating the introduction of new and improved treatments, clinical trials also contribute to the reduction of disease burden, and extension of life expectancy. Furthermore, clinical trials stimulate economic growth and innovation, driving investment in research and development, and creating job opportunities.

Advancing clinical trials in Canada requires a commitment to innovation, inclusivity, and excellence in research. For future advancement, clinical trials must be seamlessly integrated into our healthcare system, accessible to all Canadians, and aligned with the evolving needs of people-centred care and communities. Participation in clinical trials must include diverse populations, including underrepresented groups and marginalized communities. Partnerships with community organizations, healthcare providers, and people-centred care advocacy groups will ensure equitable access to clinical trials across geographic, socioeconomic, and cultural barriers.

Embracing emerging technologies and innovative trial designs, such as decentralized trials, adaptive trial methodologies, and real-world evidence generation, is another important measure to enhance the efficiency, flexibility, and inclusivity of clinical research. Leveraging digital health platforms, artificial intelligence, and big data analytics streamlines trial processes, improves people-centred care and accelerates the translation of research findings into clinical practice.

Finally, encouraging collaboration and knowledge exchange among stakeholders across the clinical trials ecosystem is crucial. This includes researchers, clinicians, industry partners, regulatory agencies, and healthcare organizations. By establishing multidisciplinary research networks and PPPs, Canada can leverage complementary expertise, resources, and infrastructure to advance clinical research priorities and unmet medical needs more effectively. The development of common templates for research contracts, reciprocity of research ethics boards or their consolidation, and the ability to mine patient data registries across provinces and territories to identify appropriate individuals to participate in large, definitive trials will increase Canada's competitiveness.

## HealthCareCAN recommends:

### **1. Integrate clinical trials into the healthcare system for accessibility and increased participation**

- Ensure clinical trials are seamlessly integrated into the healthcare system, making them accessible to all Canadians and increasing participation among diverse populations, including underrepresented and marginalized groups.

### **2. Partner with community organizations to ensure equitable access across barriers**

- Collaborate with community organizations, healthcare providers, and advocacy groups to guarantee equitable access to clinical trials, overcoming geographic, socioeconomic, and cultural barriers.

### **3. Leverage emerging technologies and innovative trial designs to enhance efficiency and inclusivity**

- Utilize decentralized trials, adaptive trial methodologies, digital health platforms, artificial intelligence, and big data analytics to streamline trial processes, improve people-centred care, and accelerate the translation of research findings into clinical practice.

## Intellectual Property and the Regulatory Environment: Enhancing Translation and Commercialization

In the realm of health research, the protection of intellectual property (IP) rights and the regulatory landscape are instrumental in facilitating the translation of scientific discoveries into tangible healthcare solutions. Intellectual property rights, including patents, trademarks, and copyrights, provide researchers and innovators with the necessary incentives and protections to invest in groundbreaking research. By safeguarding innovations, IP protection gives rise to a conducive environment for collaboration between academia, industry, and government, essential for driving translation and commercialization efforts in the health sector.

A robust regulatory framework is critical for ensuring the safety, efficacy, and quality of healthcare products, services and innovative therapies being brought to market. However, navigating the regulatory pathway can be complex and time-consuming, often posing challenges for researchers and industry stakeholders seeking to commercialize health innovations. Therefore, harmonizing regulatory processes, promoting transparency, and enhancing communication between regulatory agencies and stakeholders are critical to streamlining the translation and commercialization of health research.

Integrating and aligning IP protection strategies with regulatory objectives is incredibly important for optimizing the translation of health research into viable commercial products and services. A cohesive approach that considers both IP and regulatory requirements ensures that innovations are not only protected, but also meet the necessary standards for required market approval. Collaboration between IP experts, regulatory professionals, researchers, and industry partners is essential for navigating the complexities of IP and regulatory landscapes.

Initiatives aimed at promoting technology transfer, supporting startups, and providing funding and resources for early-stage ventures play a pivotal role in bridging the gap between research and commercialization. By nurturing a dynamic ecosystem that encourages collaboration, risk-taking, and innovation, the health research community can unlock the full potential of scientific discoveries and deliver meaningful impact on healthcare delivery and people-centred care outcomes.

### **HealthCareCAN recommends:**

- 1. Provide robust intellectual property protections to incentivize investment and collaboration**
  - Ensure strong IP protections, including patents, trademarks, and copyrights, to incentivize researchers and innovators to invest in groundbreaking research and generate collaboration between academia, industry, and government.
- 2. Maintain a strong regulatory framework to ensure safety, efficacy, and quality**
  - Develop and uphold a robust regulatory framework that guarantees the safety, efficacy, and quality of healthcare products and services, while harmonizing regulatory processes to promote transparency and enhance stakeholder communication.
- 3. Align IP protection strategies with regulatory objectives to optimize commercialization**
  - Integrate intellectual property protection strategies with regulatory requirements to ensure innovations are both protected and meet necessary market approval standards, leading to a culture of innovation and entrepreneurship within the health research ecosystem.



## SUMMARY: A CALL TO ACTION

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Acknowledging the invaluable contributions of our [Vice Presidents of Health Research Committee](#), HealthCareCAN envisions a Canada in 2030 where the nation emerges as a global leader in health research. This vision requires strategic investments, interdisciplinary collaboration, and robust partnerships to revolutionize health outcomes, empower a diverse and sustainable research workforce, and accelerate the translation of research into impactful solutions. Through collaborative efforts and strategic investments, the aim for Canada is to shape a research landscape that addresses immediate challenges to provide the best innovative healthcare for the people of Canada and propels innovation on the global stage.

## CONTACT

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