

CIHR's Research Excellence Framework



Research Excellence: Current Context

There is significant and growing interest in Canada and internationally in what is meant by research excellence, and how it impacts the research ecosystem.^{1,2} This has been made clear through calls for more responsible research assessment^{3,4,5}, a re-imagining of what is considered excellent^{6,7}, acknowledgement that research culture can be problematic^{8,9}, and that current incentive structures are biased.¹⁰

CIHR is legislated through the *CIHR Act* to “excel, according to internationally accepted standards of scientific excellence, in the creation of new knowledge and its translation into improved health for Canadians, more effective health services and products, and a strengthened Canadian health care system”.¹¹ While CIHR’s expectations for agency-funded research have evolved over time – as exemplified through its actions related to [sex and gender in research](#), [equity, diversity and inclusion](#), [Indigenous Health Research](#), [official languages](#), [patient-oriented research](#), [knowledge mobilization](#), [open access](#), [research data management](#), and [training and mentorship](#) – the agency has never explicitly described how it views research excellence. However, CIHR’s 2021–2031 Strategic Plan includes a commitment to advance research excellence in all its diversity, in part through championing a more inclusive concept of research excellence, and so a formal definition is needed.

Research Excellence: Understanding the Issue

To inform its conceptualization of research excellence, CIHR undertook several evidence-gathering activities: a comprehensive literature review; an international environmental scan; and an initial series of discussions with the health research community. These activities informed CIHR’s understanding of how problematic behaviours, barriers and biases are limiting what is currently conceptualized as excellent research and who are considered excellent researchers (Figure 1).

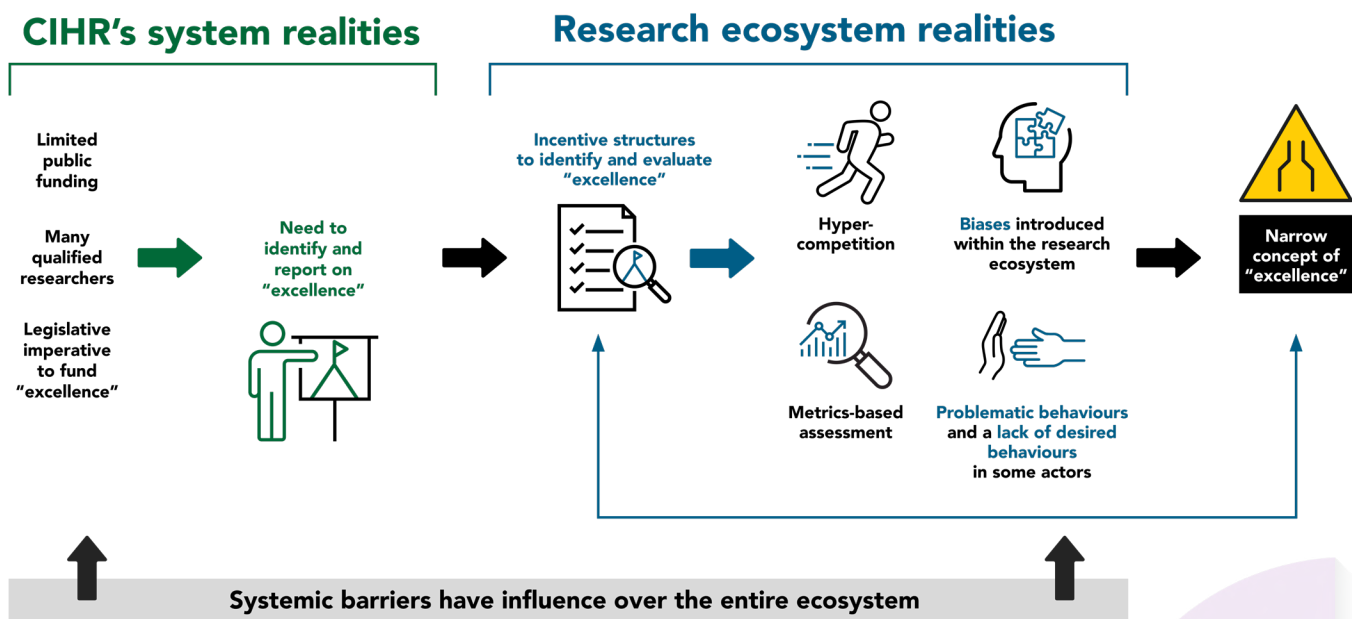


Figure 1: Biases, behaviours and perpetuation of systemic barriers associated with a narrow concept of research excellence

Evidence demonstrates that existing incentive structures designed to identify excellence have resulted in a hypercompetitive environment and reliance on metrics-based assessment of outputs (such as journal impact factors). Many biases (e.g., racial^{12,13}, gender^{14,15}, language^{16,17}, program design¹⁸, and assessment practice biases^{19,20}) and behaviours (e.g., contributions to a toxic research environment^{21,22,23}, limited knowledge mobilization^{24,25}, and inadequate mentoring and training^{26,27}) perpetuate a narrow concept of excellence²⁸ — one that does not inherently recognize and value diversity among researchers, research or the full range of research contributions that can address scientific and societal problems. Furthermore, systemic barriers (e.g., physical, geographical, or social) have had a negative impact over the entire research ecosystem and consequently in how research excellence has been defined, pursued, and assessed.^{29,30,31,32}

Collectively, these biases, behaviours and barriers reduce the diversity of perspectives, methods and contributions that are rewarded within the research ecosystem, resulting in research waste¹ and minimizing the potential impact of already scarce research funds. Therefore, it is imperative that CIHR broaden its concept of excellence, to ensure agency-funded research has impacts that benefit all people in Canada, including those historically underrepresented in the health research funding system.

New CIHR Research Excellence Framework

CIHR's strategic plan envisions that, by 2031, Canadian health research will be internationally recognized as inclusive, collaborative, transparent, culturally safe, and focused on real world impact. To align CIHR's activities and investments towards this vision, CIHR has crafted a definition of research excellence, based on three guiding principles and comprising eight key components. CIHR recognizes that many other research funders and organizations are exploring the concept of research excellence and ways to reward a broader range of contributions and outputs. As such, CIHR's approach to research excellence will continue to be evidence-informed and will evolve as part of ongoing dialogue with national and international partners as well as the Canadian health research community.

Definition

CIHR believes that excellent research is rigorous, inclusive and conducted in ways that meaningfully integrate a diversity of perspectives, disciplines, and methods in order to maximize impact and benefit to society.

Excellent research recognizes that biological, socio-economic, cultural and experiential differences impact health and should be considered for research and related activities to be of benefit. An inclusive concept of research excellence positively influences who sets research priorities; who conducts, participates in and benefits from research; how research is conducted; and how it is assessed.

¹ Research waste refers to poor-quality research output that fails to advance scientific understanding, provides limited or no return on investment, and is often perceived as of minimal use to policy makers and clinicians.

Guiding Principles

The following foundational principles will guide CIHR's work in integrating a more inclusive approach to research excellence across its programs, policies and practices:

Holistic: Research excellence is broad and spans how research is conceptualized, prioritized, taught, carried out, assessed, funded and used.

Adaptable: Research excellence is not one-size-fits-all, but rather context- and content-specific. Flexible, catered approaches are required to recognize and incent the breadth of research within CIHR's mandate.

Evergreen: Research excellence is a concept designed to be adjusted as new evidence emerges, and as science and society evolve.

Key Components

The following key components should be considered and addressed within all CIHR-funded research whenever relevant and appropriate:

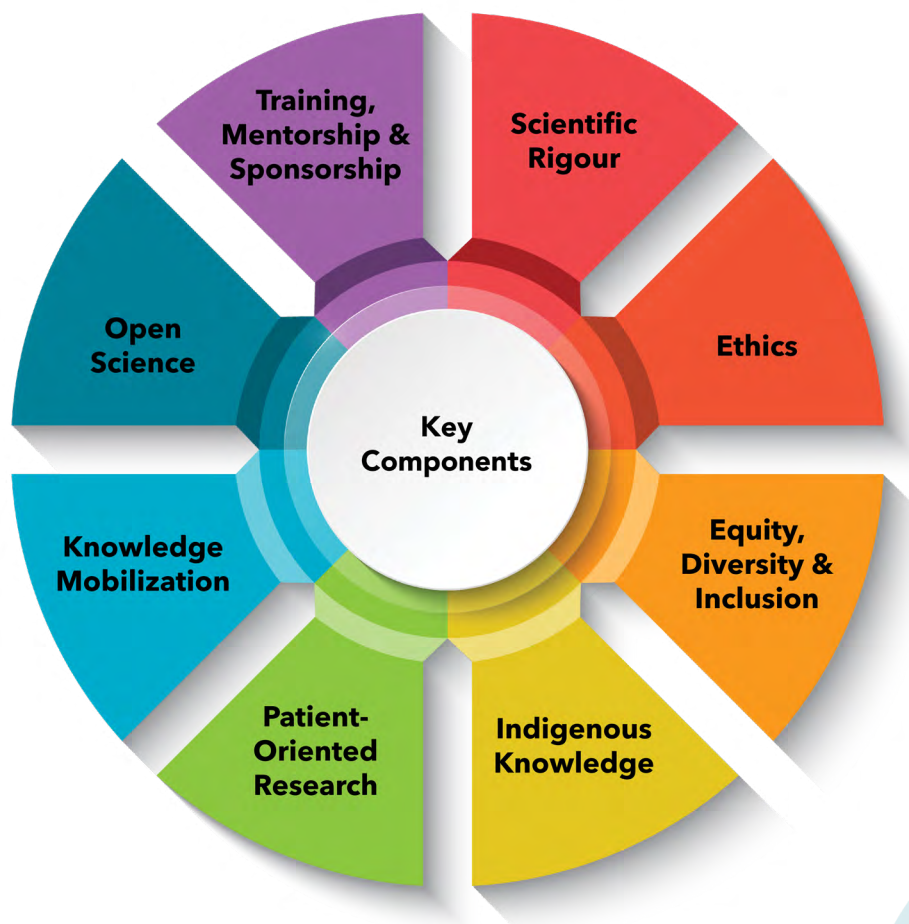


Figure 2: CIHR's key components of research excellence

Ethics: Excellent research must meet international standards of ethics.

Equity, Diversity, and Inclusion (EDI): Research is excellent when it is inclusive, equitable, diverse, anti-racist, anti-ableist, and anti-colonial in approach and impact. Excellent research reflects the diversity of scientific talent in Canada, empowers participation of communities historically marginalized and disadvantaged in health research (including but not limited to women, Francophone researchers, Indigenous Peoples and organizations, persons with disabilities, and Black and other communities marginalized by race), and supports inclusion across the lifespan for research involving humans. Within this component, it should be especially noted that the right to conduct research in the official language of one's choice, which is protected through the *Official Languages Act*, is a key pillar of inclusion.

Indigenous Knowledge: Guided by a spirit of reconciliation and co-existence, research must prioritize requirements of First Nations, Inuit and Métis communities and respect the self-determination of Indigenous Peoples. This involves building trust, respect and relationships with communities; recognizing Indigenous knowledge systems; learning and understanding culture; co-producing research to ensure questions and approaches are shaped by community priorities and remain in the community; presenting findings using accessible and community-centric approaches; and respecting Indigenous data sovereignty.

Patient-Oriented Research: Excellent research includes meaningful engagement of patients, people with lived and living experience, and other knowledge users as partners throughout the entire research process. This approach helps to ensure questions and results are relevant and enhance the integration of findings into the health care system and clinical practice, with the goal of improving patient experiences and outcomes.

Knowledge Mobilization: Excellent research employs tailored approaches for optimizing the impact of agency-funded research. Excellent research involves co-designing research priorities and questions with knowledge users, and/or mobilizing findings via a broad range of accessible and equitable formats to inform health-related decisions by policy makers, practitioners, patients and communities.

Open Science: Excellent research incorporates open science practices that enable timely access and sharing of research findings, data and other outputs, in order to maximize the use and impact of agency-funded research.

Scientific Rigour: Excellent research must use robust research designs that minimize bias across methodologies, analysis, interpretation and transparent reporting of results.

Training, Mentorship and Sponsorship: CIHR recognizes the importance of training, mentorship and sponsorship in creating and supporting the diversity of talent needed to conduct excellent research. This includes valuing efforts to address gaps in training and support across all career stages, transitions, and paths, and to build capacity amongst groups currently underrepresented in the health research ecosystem.

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References

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- 5 [The Hong Kong Principles for assessing researchers](#)
- 6 [Research on Research Institute \(RoRI\): 'Excellence' in the Research Ecosystem](#)
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- 33 [Enhancing Reproducibility through Rigor and Transparency](#)