



CIHR IRSC

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

International Conference on Peer Review

Canadian Institutes of Health Research

June 29-30, 2017

Discoveries for life / Découvertes pour la vie



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

Canada



Background

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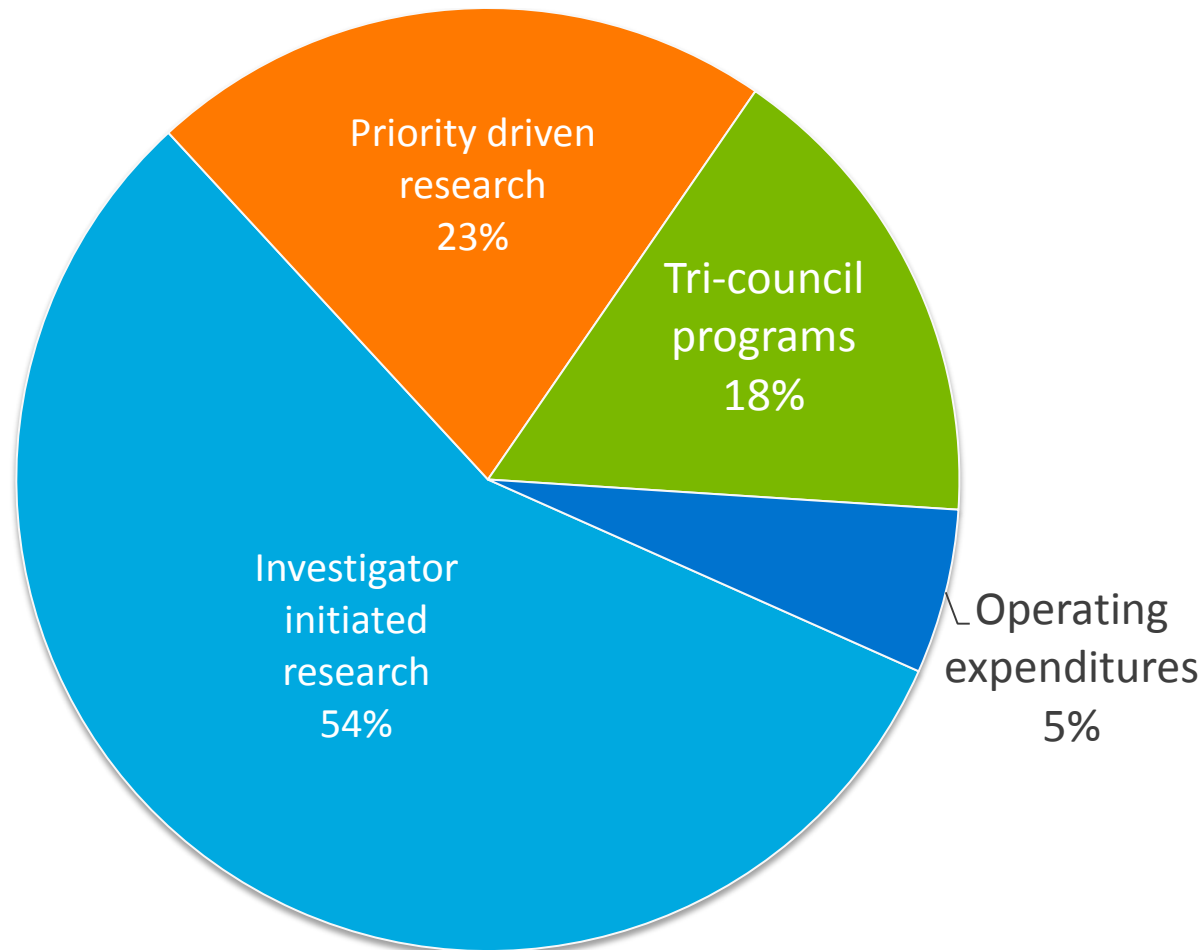
CIHR Mandate:

“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...”

CIHR was designed to respond to the evolving needs of health research and seeks to transform health research in Canada by:

- funding both investigator-initiated research and research on targeted priority areas;
- building research capacity in under-developed areas and training the next generation of health researchers; and,
- focusing on knowledge translation and impact that facilitates and application of the results of research and their transformation into new policies, practices, procedures, products and services.

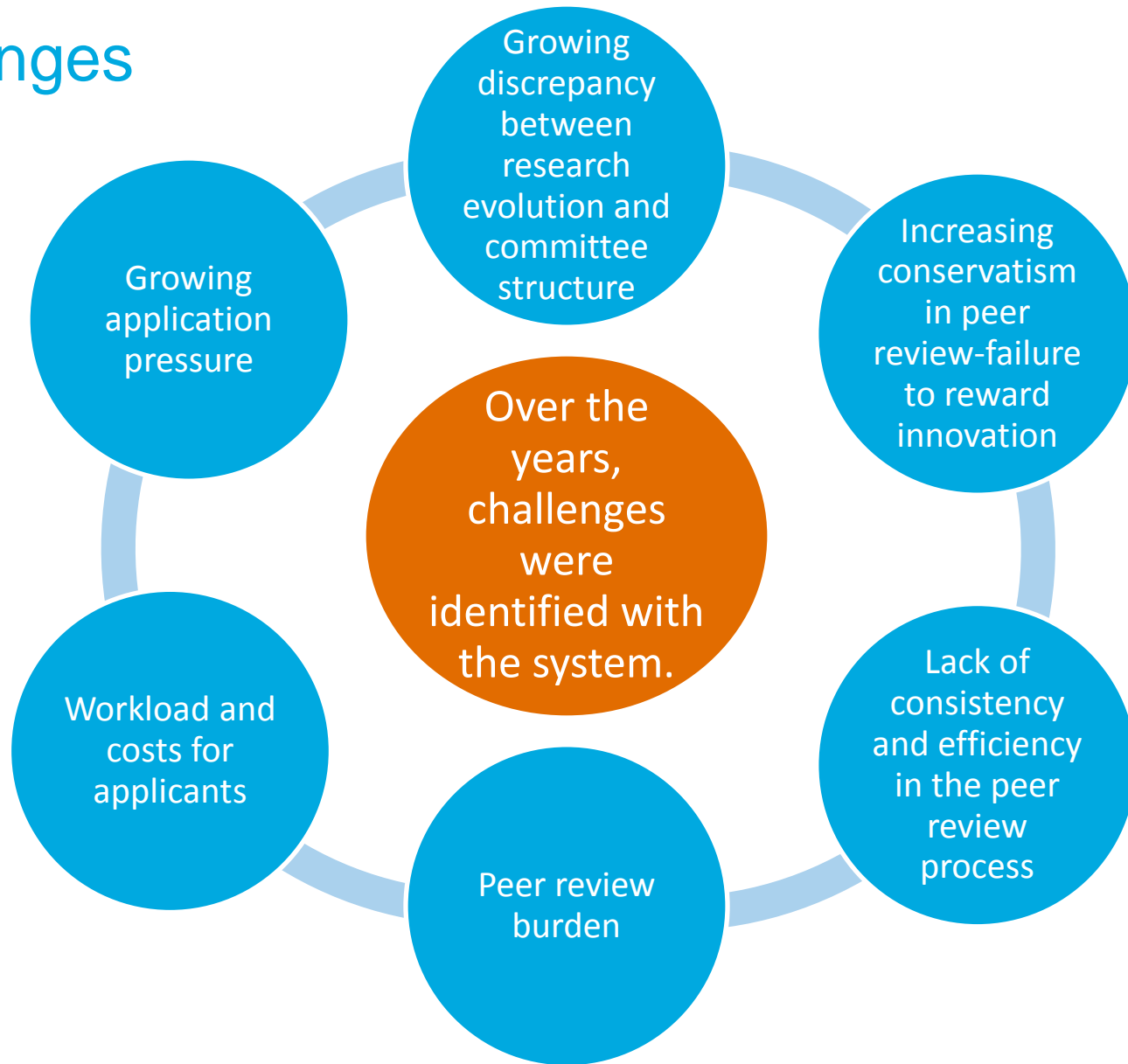
CIHR's 2017-2018 budget at a glance



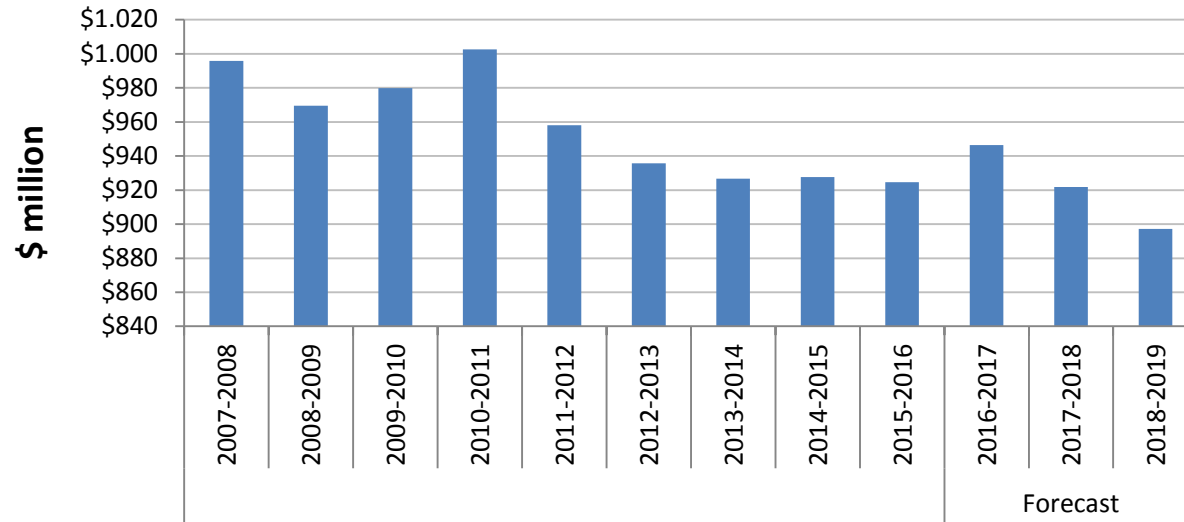


Challenges with the System

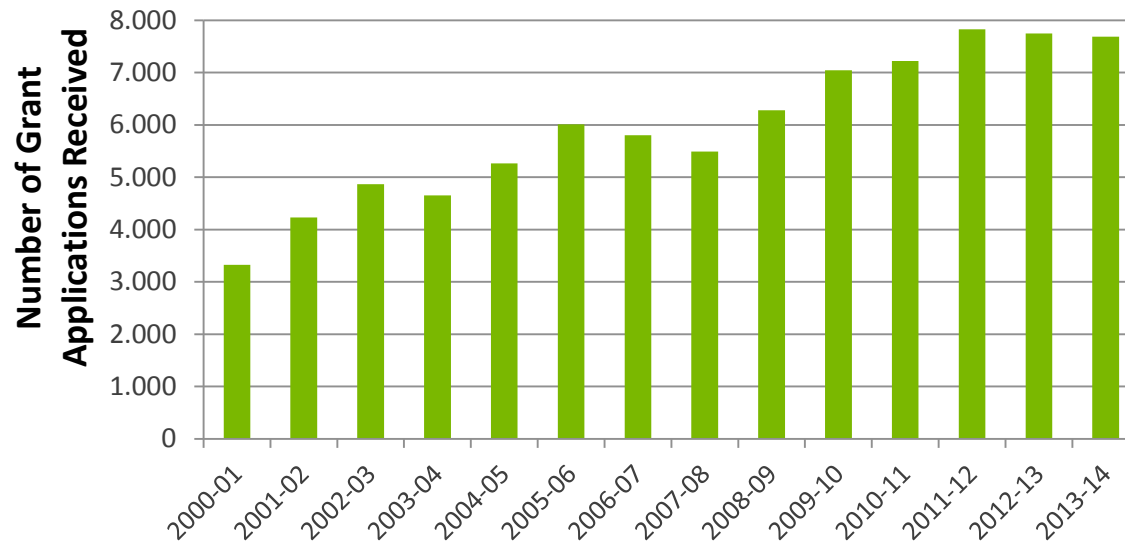
Challenges



CIHR's investments in constant 2008-2009 dollars



Increasing application pressure

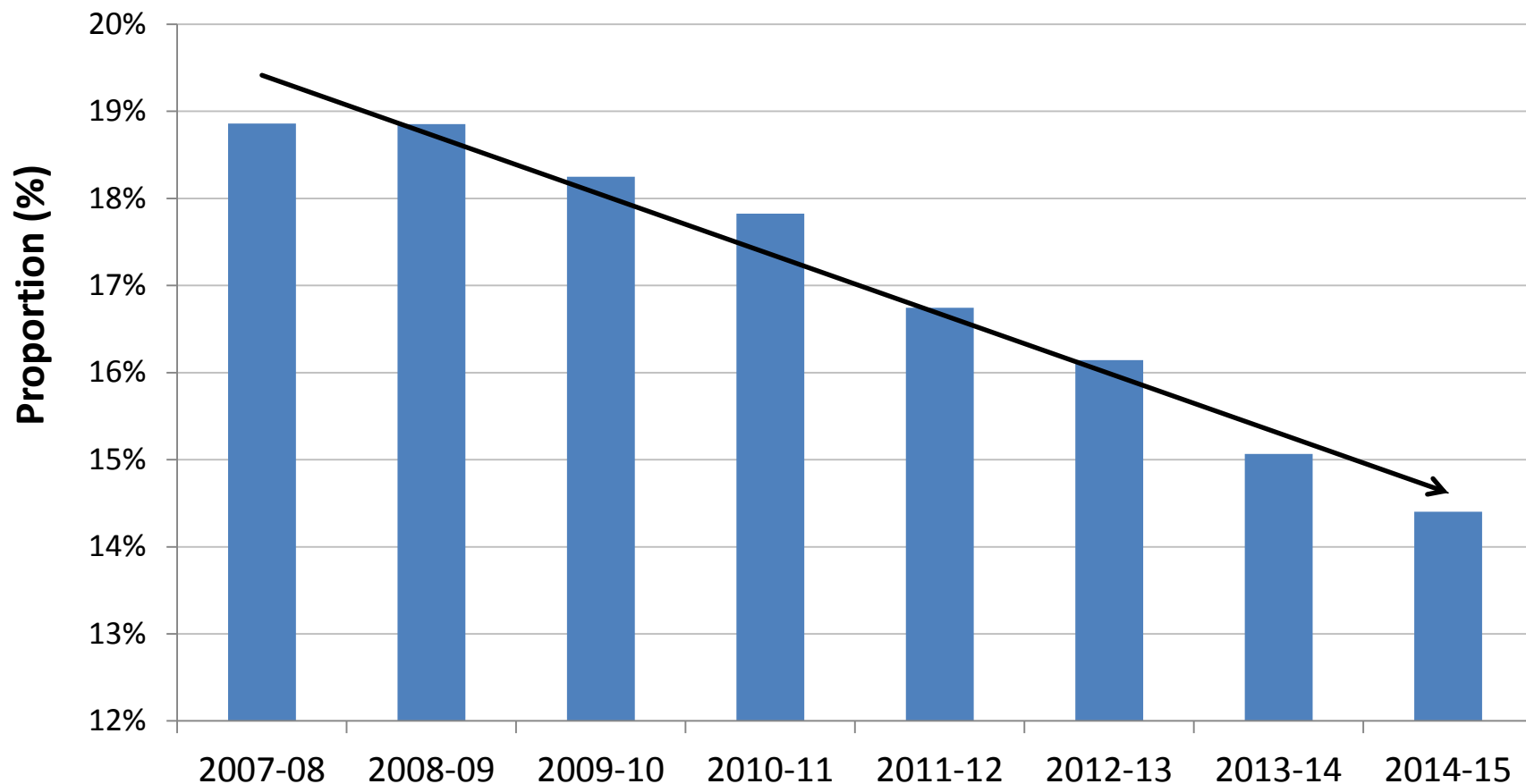


Declining success rates: All CIHR Grant Competitions (2000/01 – 2015/16)



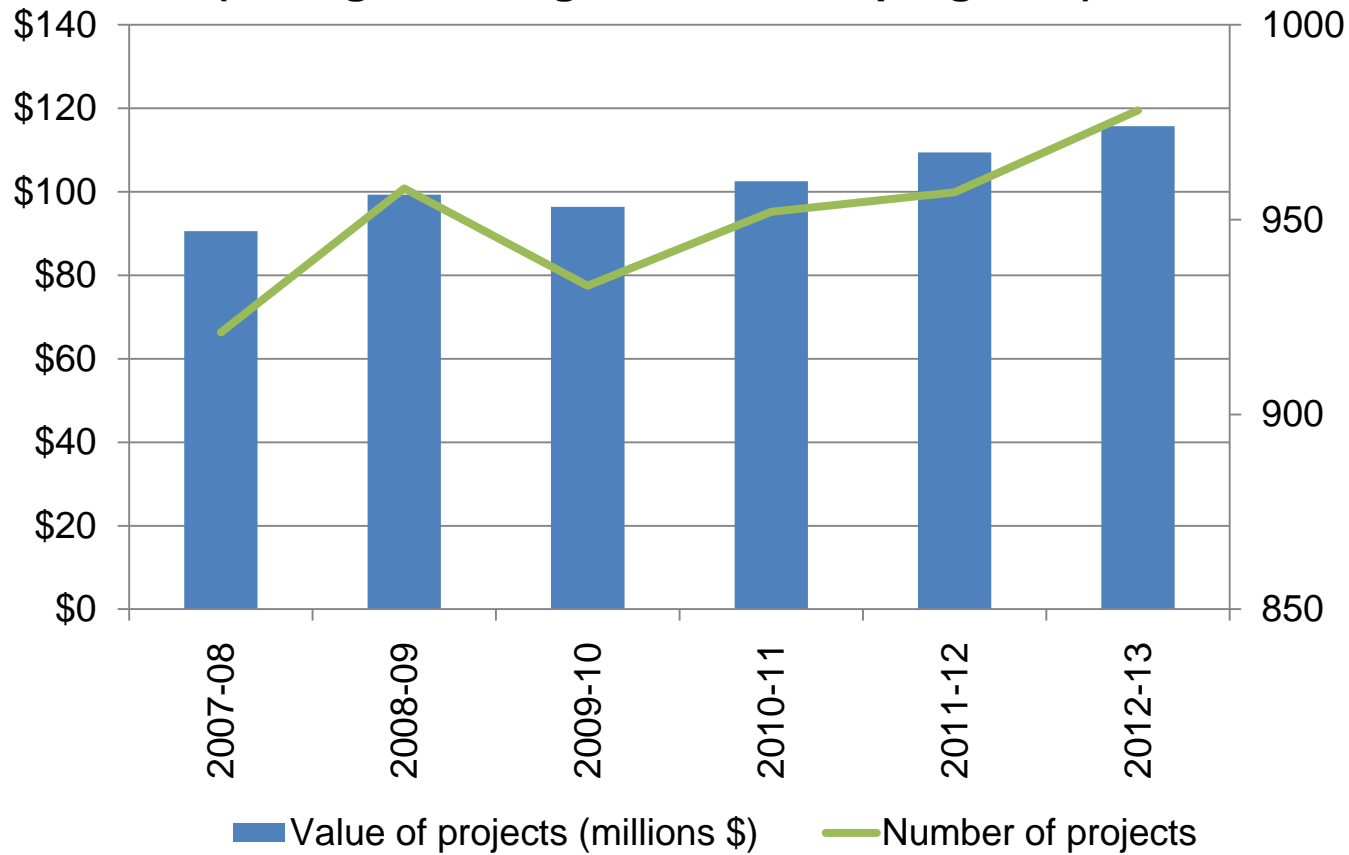
Note: Unless specified, all figures represent **within-sex success rates** to take into account the proportions of applications received from males and females.

Proportion of CIHR Grants Awarded to Early-Career Researchers



An increasing number of grants fund multidisciplinary projects

**CIHR-funded projects involving multiple disciplines
(through investigator-initiated programs)**



- Since 2007, CIHR funding of interdisciplinary research has increased by 32% overall
- During the same period, expenditures for CIHR grants that involve have 6 or more disciplines have almost doubled



Reforming Peer Review at CIHR

Objectives of the Reforms

Funding agencies around the world are being challenged to keep pace with a rapidly advancing research frontier and struggle to reduce the burden on applicants and reviewers.

The **objectives** of the reform to **CIHR's investigator-initiated programs and peer review processes** were to:

- Capture excellence across all four research pillars, from knowledge creation to knowledge translation
- Capture innovative, original and breakthrough research
- Integrate new talent to sustain Canada's pipeline of health researchers
- Improve sustainability of the long-term research enterprise

In meeting these objectives, the reform was also meant to address a number of **operational challenges**:

- Workload and costs for applicants
- Peer review burden
- Lack of consistency and efficiency of peer review process
- Growing discrepancy between research evolution and committee structure
- Program complexity

New Design

In reforming the overall peer review system, CIHR changed the program architecture as well as the adjudication process.

1. Two separate, complimentary funding schemes:

- Project Grant
- Foundation Grant

2. A peer review process that includes:

- Application-focused review
- Multi-stage review
- Structured review criteria
- Remote review of applications at the initial stage(s)

3. A College of Reviewers to support excellent peer review across the spectrum of health research

Design Elements

Multi-Stage Competition Process

- Effective screening of applications
- Decrease applicant burden and reviewer burden
- Focus reviewer attention on specific criteria for each stage of review

Application-Focused Review

- Avoid “force fitting” applications into standing committee structure
- Assign appropriate expertise to each application

Structured Review Criteria

- Minimize inconsistent/inappropriate application of review criteria
- Improve transparency of review process
- Decrease peer review burden

Remote (Virtual) Screening/Review

- Facilitate access to expertise, including international
- Improve cost-effectiveness of the process
- Minimize group dynamics and committee culture biases

College of Reviewers

The **vision** of the College is to establish an internationally recognized, centrally-managed resource that engenders a **shared commitment** across the Canadian health research enterprise to support **excellence in peer review**

The College is intended to be a **national resource** that over time will serve the peer review needs of CIHR and its partners

The College will ensure:

- systematic recruitment processes
- a more stable base of experienced reviewers from Canada & abroad
- capacity development through mentorship programs & membership progression
- ongoing learning resources
- inclusion of quality assurance approaches
- a valued recognition program
- collaborative approaches to peer review across health research funding organizations

FOUR FUNCTIONS

The College is structured around
4 main functions

- 1 Recruitment
- 2 Learning & Mentoring
- 3 Performance Management
& Quality Assurance
- 4 Membership Management,
Incentives & Recognition

Activities are based on:

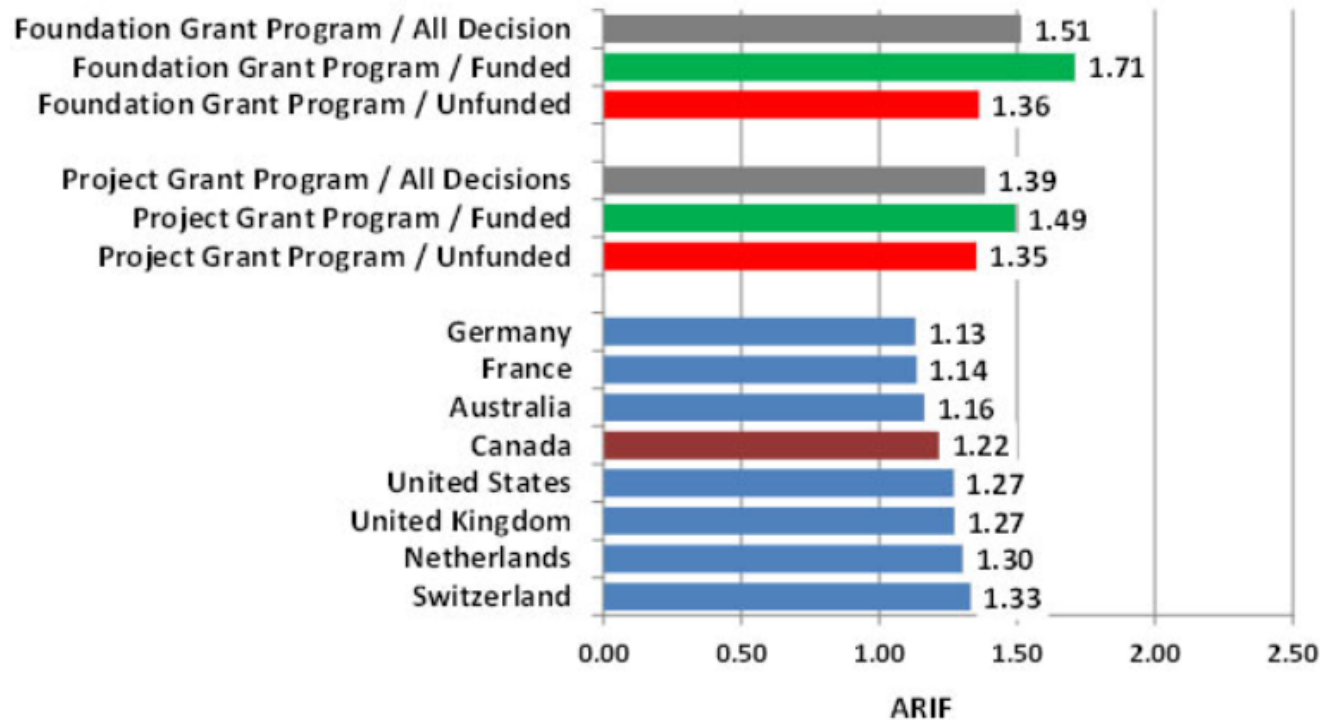
- evidence-informed decision-making
- quality of the peer review system
- stakeholder engagement
- professionalizing peer review



Successes, Lessons Learned and the Way Forward

Bibliometric Study - Benchmark Indicators

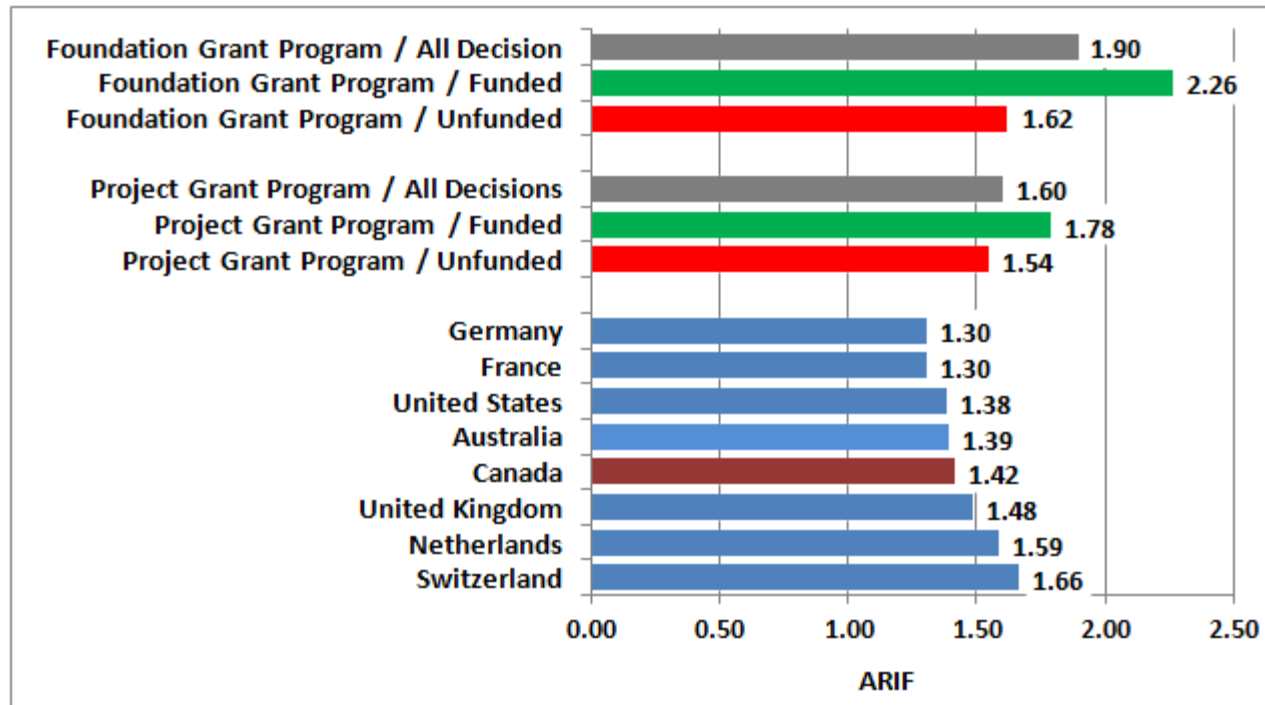
Figure 3-6 Average of Relative Impact Factors (ARIF) of Health Research Papers from Foundation and Project Grant Programs Applicants and from OECD Countries, 2008-2015



Source: Observatoire des sciences et des technologies (Web of Science, data provided by Clarivate Analytics) - CBD™ Current as of August 2016.

Bibliometric Analysis

Average of Relative Citations (ARC) of Health Research Papers from Foundation and Project Grant Program Applicants and from OECD Countries, 2008-2015






Source: Observatoire des sciences et des technologies (Web of Science, data provided by Clarivate Analytics) - CBD™ Current as of August 2016.

Issues Related to Changes

- Very high expectations of success in the Foundation Grant competitions
- Loss of predictability of review panel composition and hence of the identity of reviewers
- Lack of confidence in the online peer review process
- Difficulties encountered in the delivery of the first Project Grant competition due to unexpectedly high application pressure
- Loss of familiar landmarks in application structure (and, for reviewers, difficulty in assessing ideas)
- Nostalgia that the previous model worked well



Peer Review Working Group

- To address concerns raised regarding the peer review processes, CIHR hosted a Working Meeting with members of the health research community on July 13, 2016.
- Together, we arrived at a consensus on concrete solutions that CIHR would implement to further strengthen our peer review process:
 -  Face-to-face discussions restored and virtual discussions no longer be needed.
 -  Teams of Competition Chairs and Scientific Officers organized to oversee a group of applications throughout the process.
 -  A complementary iterative process implemented for Indigenous focused research.

International Peer Review Expert Panel

- In September 2016, CIHR launched an international Peer Review Expert Panel to examine the design and adjudication processes of CIHR's investigator-initiated programs.
- Panel members convened in Ottawa in January 2017 for a two-day series of meetings with key stakeholders and scientific community representatives.
- The Panel's final report was made public in spring 2017.
- Their recommendations will help inform refinements to the investigator-initiated programs moving forward.



Addressing Peer Review Challenges

Challenges faced by research funding agencies:

- need for more experienced researchers
- current ad hoc approach to recruitment

- lack of formal support programs to support new reviewers
- inconsistent and non-targeted peer reviewer instruction and training

- peer reviewer workload
- lack of recognition and incentives to participate
- lack of systematic approach to evaluate and improve reviewer performance

- reliability and inconsistency of reviews

The College of Reviewers is addressing these through:

Systematized Recruitment & Expertise Management

Learning & Mentoring

Member Support & Performance Management

Review Quality Assurance



Questions?