



2013 REPORT ON RESULTS

An analysis of investments in
research infrastructure

ABOUT the Canada Foundation for Innovation

Created by the Government of Canada in 1997, the Canada Foundation for Innovation (CFI) strives to build our nation's capacity to undertake world-class research and technology development to benefit Canadians.

The CFI's expected results are to enhance the capacity of institutions to:

- attract and retain the world's top research talent;
- enable researchers to undertake world-class research and technology development that leads to social, economic and environmental benefits for Canada;
- support private-sector innovation and commercialization; and
- train the next generation of researchers.

Since its creation, the CFI has committed more than \$6 billion in support of 8,132 projects at 141 research institutions in 68 municipalities across Canada (as of June 2013). For more information about the CFI, please visit innovation.ca.

THE REPORT ON RESULTS

The purpose of the Report on Results is to provide a summary of the outputs and outcomes achieved through CFI-funded infrastructure as they relate to the overall objectives of the CFI, based on information provided through annual Project Progress Reports (PPRs). The PPR is an online questionnaire which is completed by the project leader and submitted by the host institution. Institutions are required to submit a PPR for each funded project by June 30 each year, for up to five years after the infrastructure becomes operational. The data collected pertains only to the past year (CFI fiscal year April 1 to March 31). Data is self-reported, and not independently verified.

For information on the composition of the 2013 PPR sample, see the Appendix.

Acronyms used in the report

CFI: Canada Foundation for Innovation
PPR: Project progress report
HQP: Highly qualified personnel
PDF: Post-doctoral fellow

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FIGURE 1

Researcher attraction

Among 287 project leaders who submitted a report for the first time, 51% (146) reported that they were newly recruited to the institution. 99% of them stated that the availability of CFI-infrastructure was **an important factor in their decision to join the institution.**

Importance of infrastructure in decision to join the institution

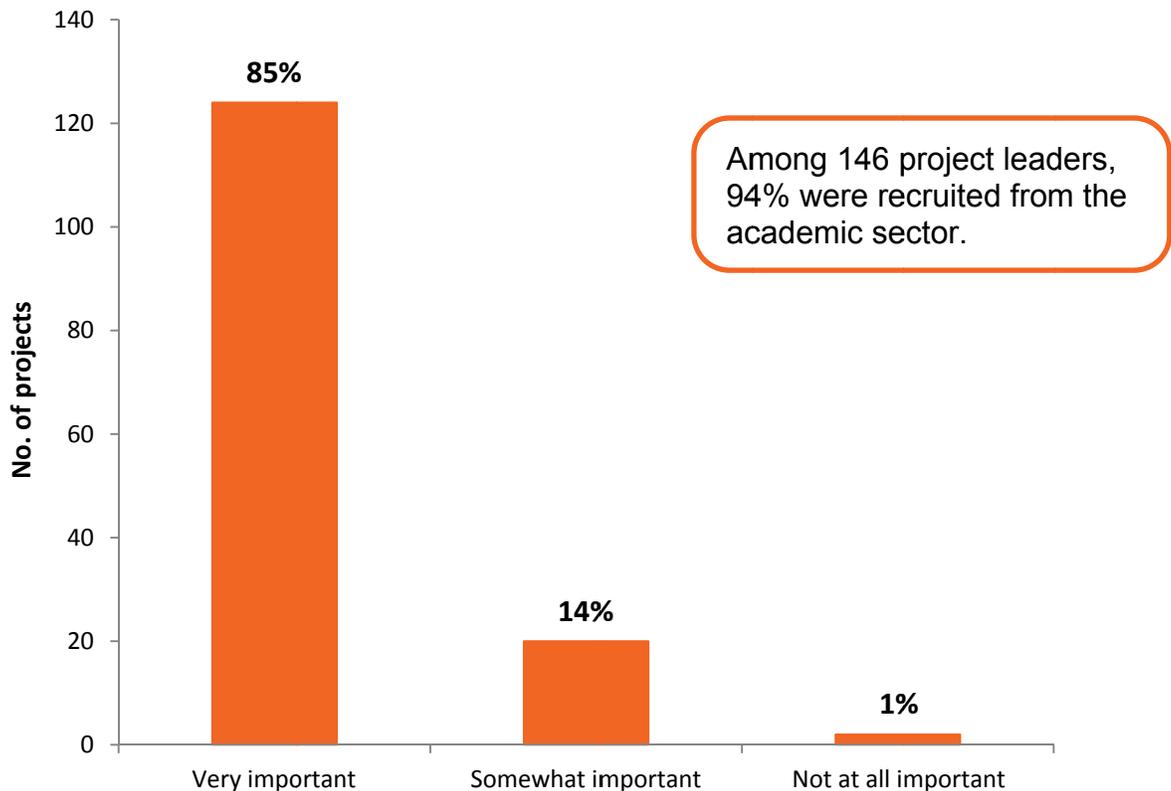
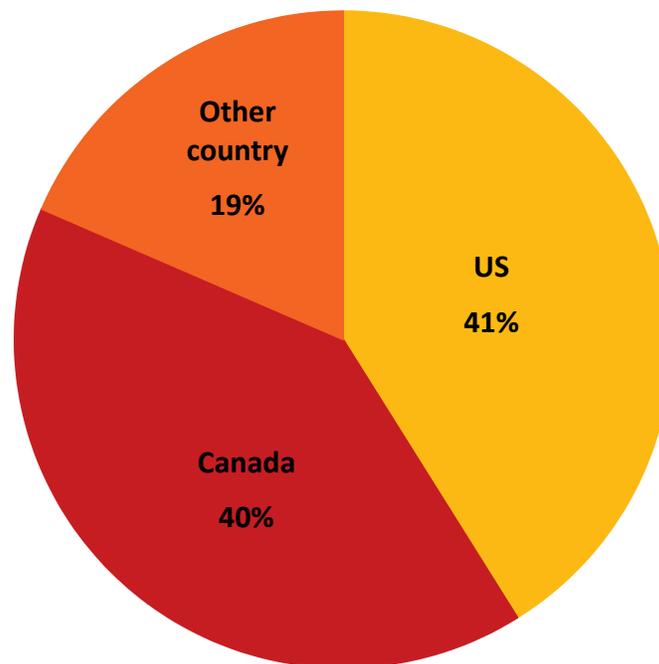


FIGURE 2

International talent

Among the 146 project leaders newly recruited to the institution, 60% were coming from outside Canada. Of those, nearly half were foreign citizens, suggesting CFI-funded infrastructure **contributed to attracting international talent**.

Country from which project leaders were recruited



Researcher retention

94% of project leaders reported that CFI-funded infrastructure was important in their decision to stay at their institution. This demonstrates that infrastructure **plays a key role in the retention of some of Canada's best researchers.**

Importance of infrastructure in decision to stay at institution

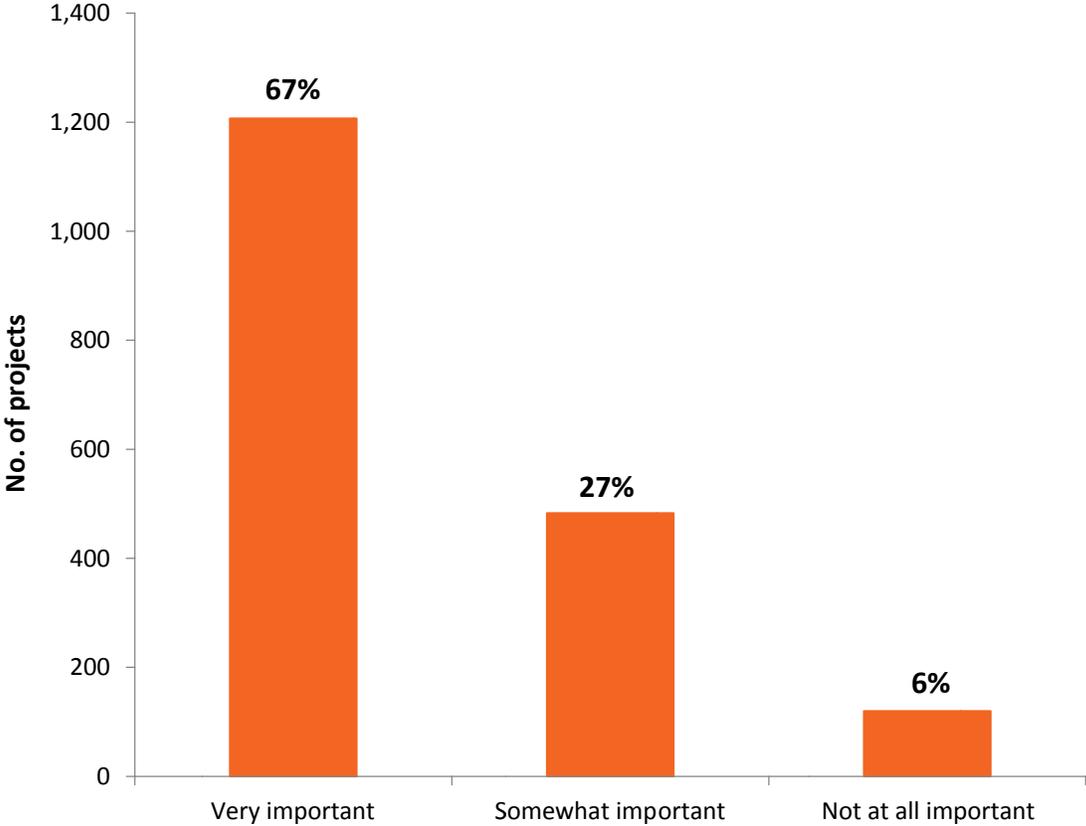
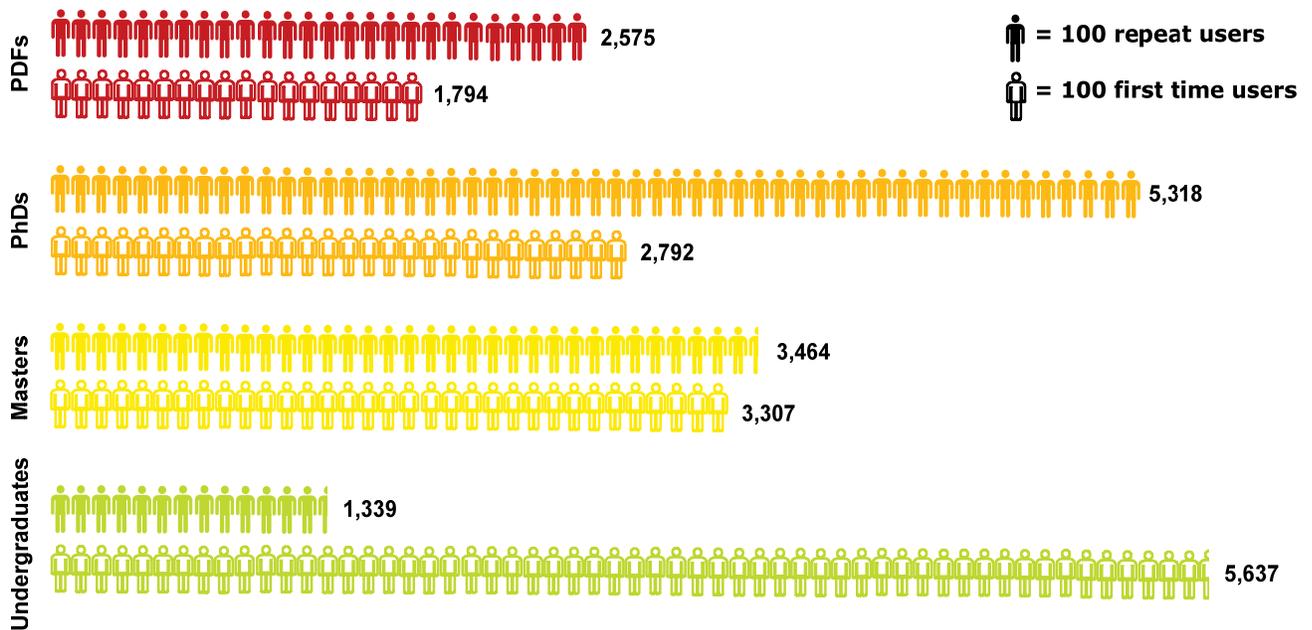


FIGURE 4

HQP using infrastructure

97% of project leaders reported that CFI-funded infrastructure was **a key resource for trainees**.

Trainees using infrastructure



26,226 post-doctoral fellows (PDFs) and higher education students had **the opportunity to expand their research skills using CFI-funded infrastructure**. On average, 52% of them used the infrastructure for the first time.

Quality of training environment

91% of project leaders credited their infrastructure with having a high or very high impact on the quality of the training environment.

Impact on training

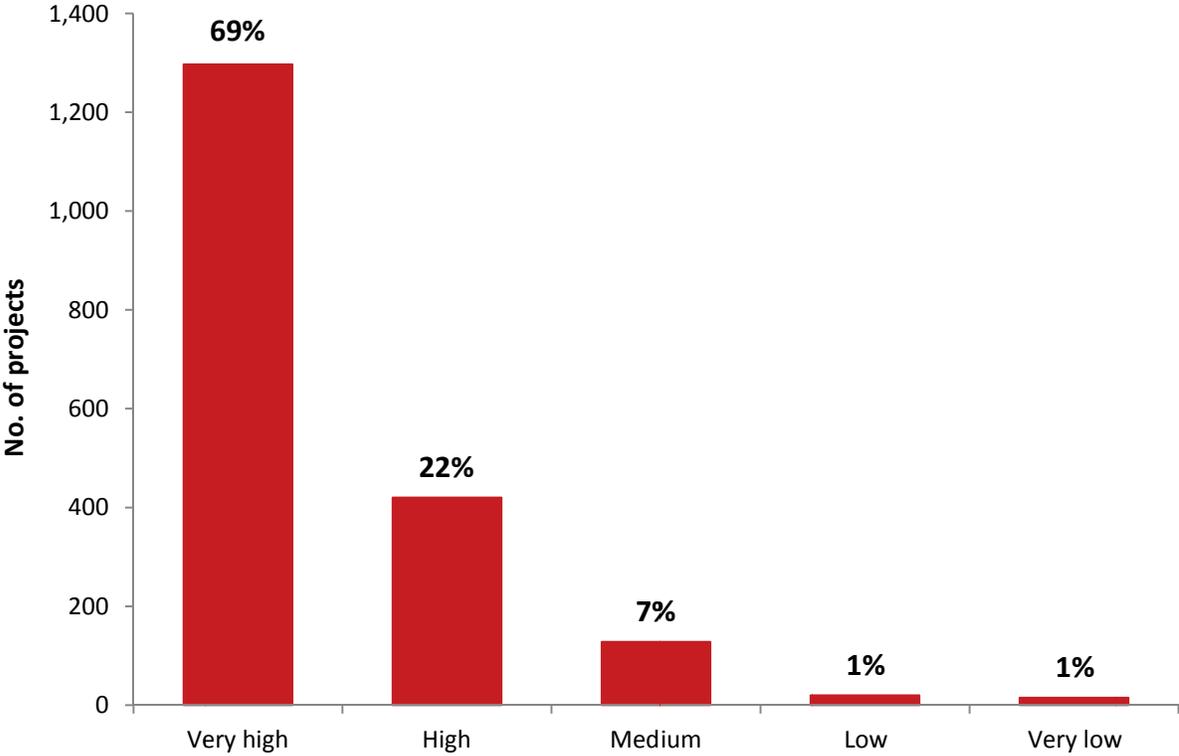
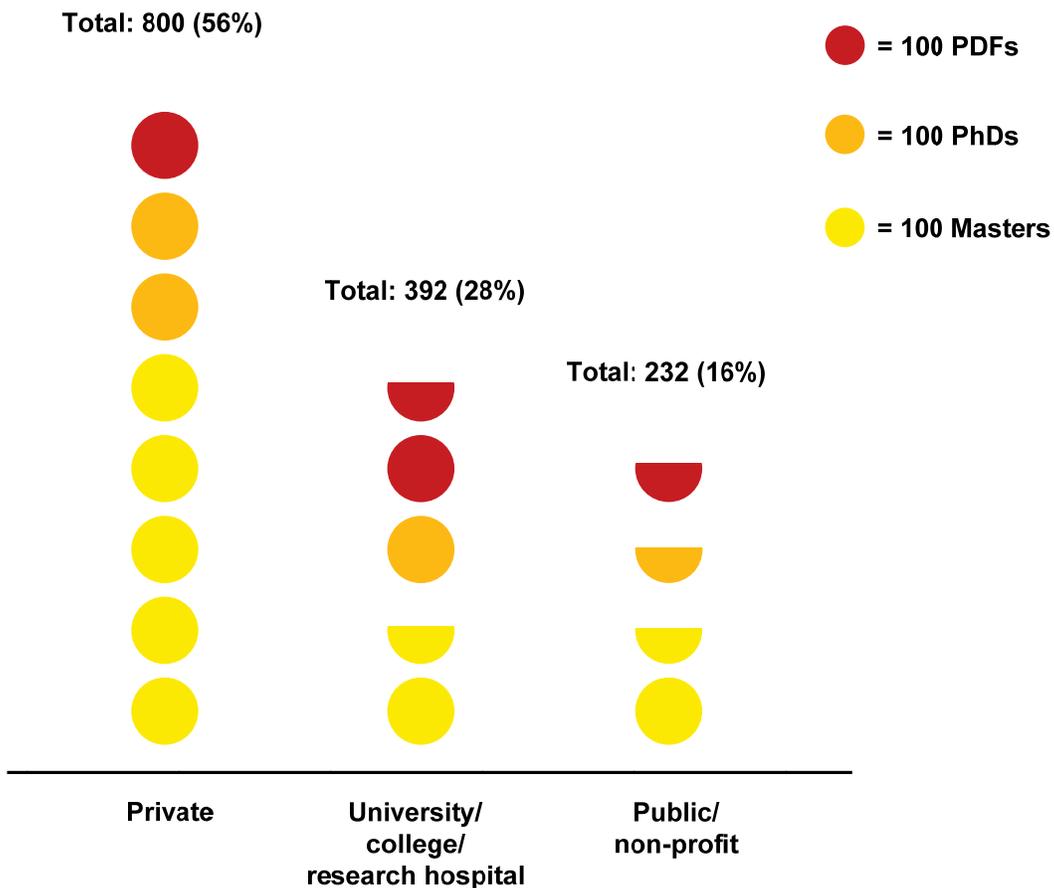


FIGURE 6

HQP employment

Highly qualified personnel who have trained on CFI-funded infrastructure **support economic growth in Canada.**

Employment in Canada by sector

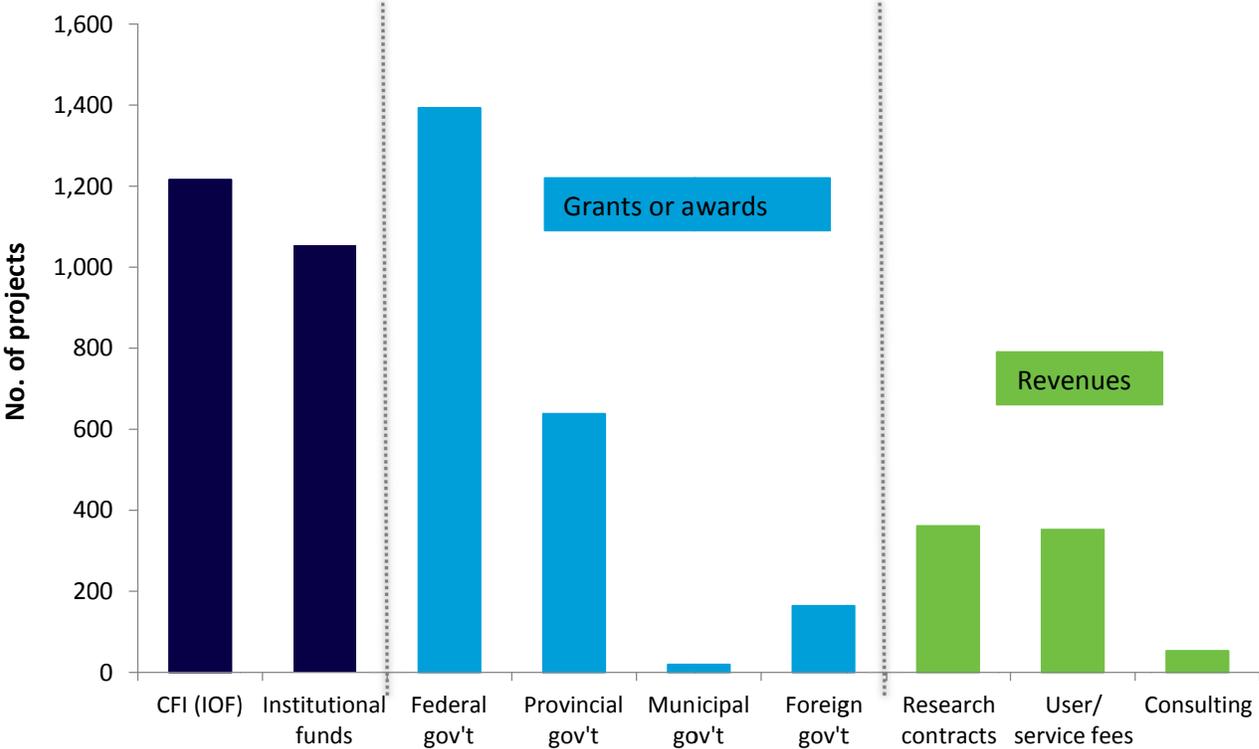


1,843 PDFs and graduate students using the infrastructure last year completed their training and moved into the workforce. Among them, a large proportion (77%) stayed in Canada, while the remaining 23% were reported as working abroad.

Operation & maintenance

84% of project leaders reported that they **had both adequate financial and human resources** for the operation and maintenance (O & M) of the infrastructure.

Sources of funds for O & M



Use of diverse funding sources, including research contracts and user fees, contributes to the sustainability of the infrastructure.

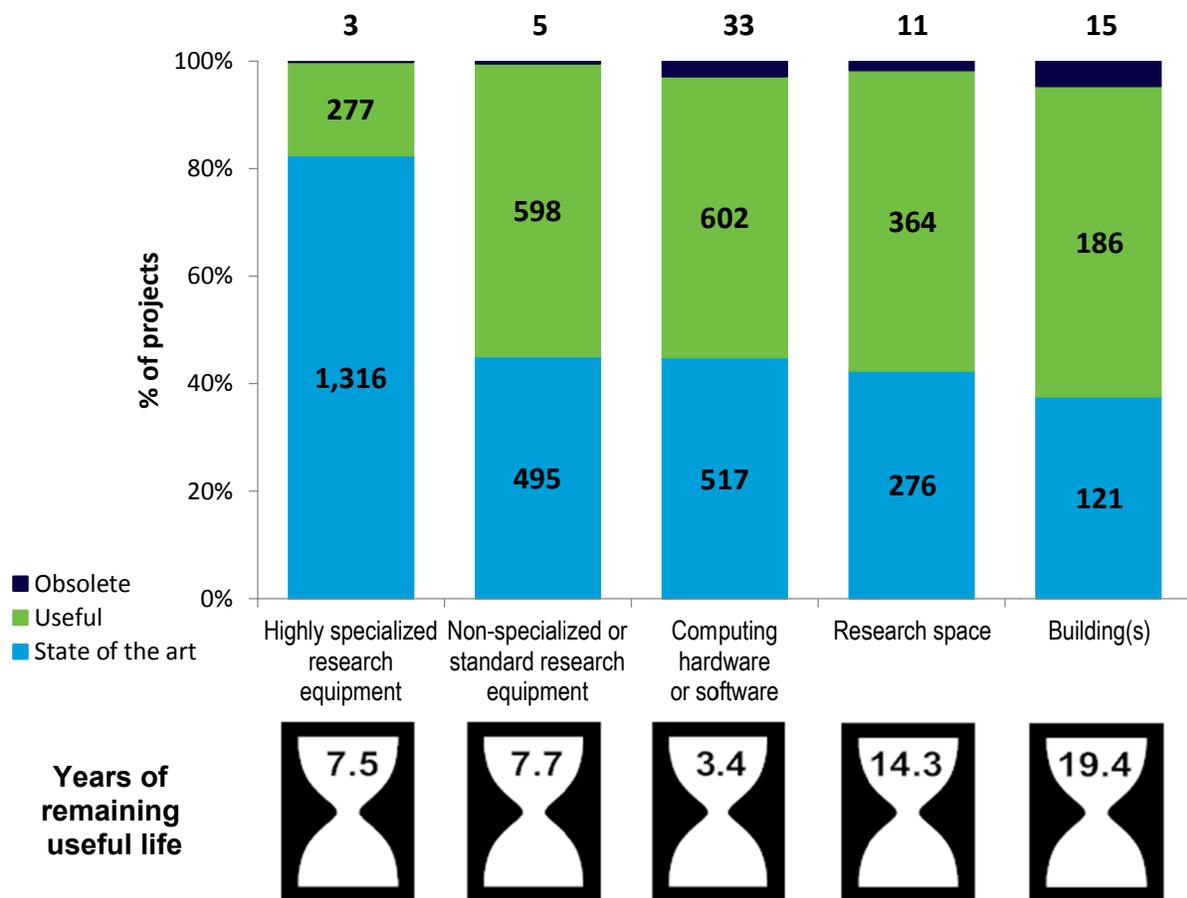
Technical personnel
 47% of project leaders reported a total of 2,346 technical personnel who were trained for the first time last year on the use and maintenance of the infrastructure.

FIGURE 8

Infrastructure quality & useful life

The quality of CFI-funded infrastructure was highly rated overall, with 82% of highly specialized research equipment reported as “state-of-the-art.”

Infrastructure quality and remaining years of useful life



Infrastructure use

The majority of project leaders reported **full utilization of infrastructure across research sectors**, suggesting that infrastructure is appropriately located.

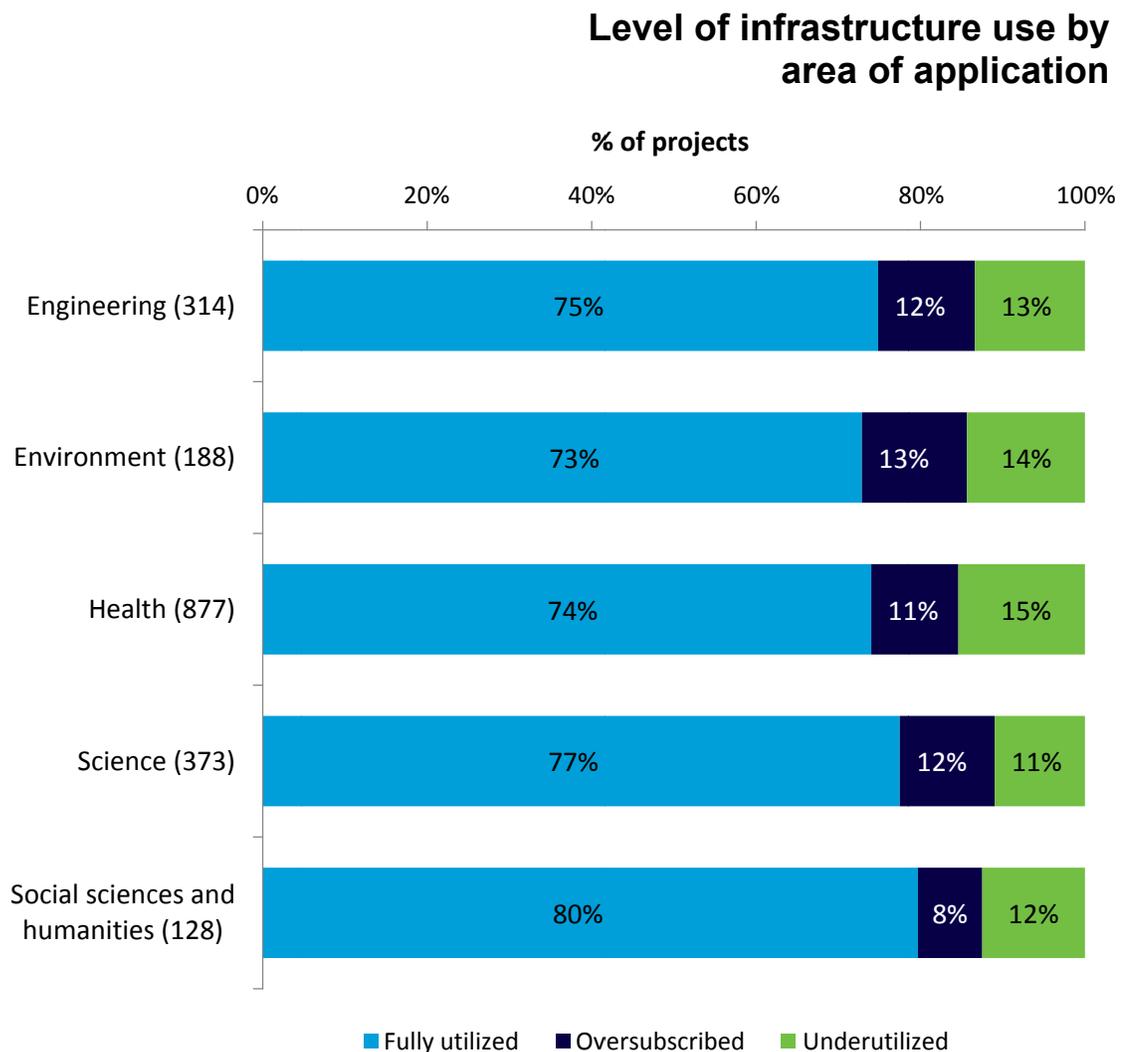
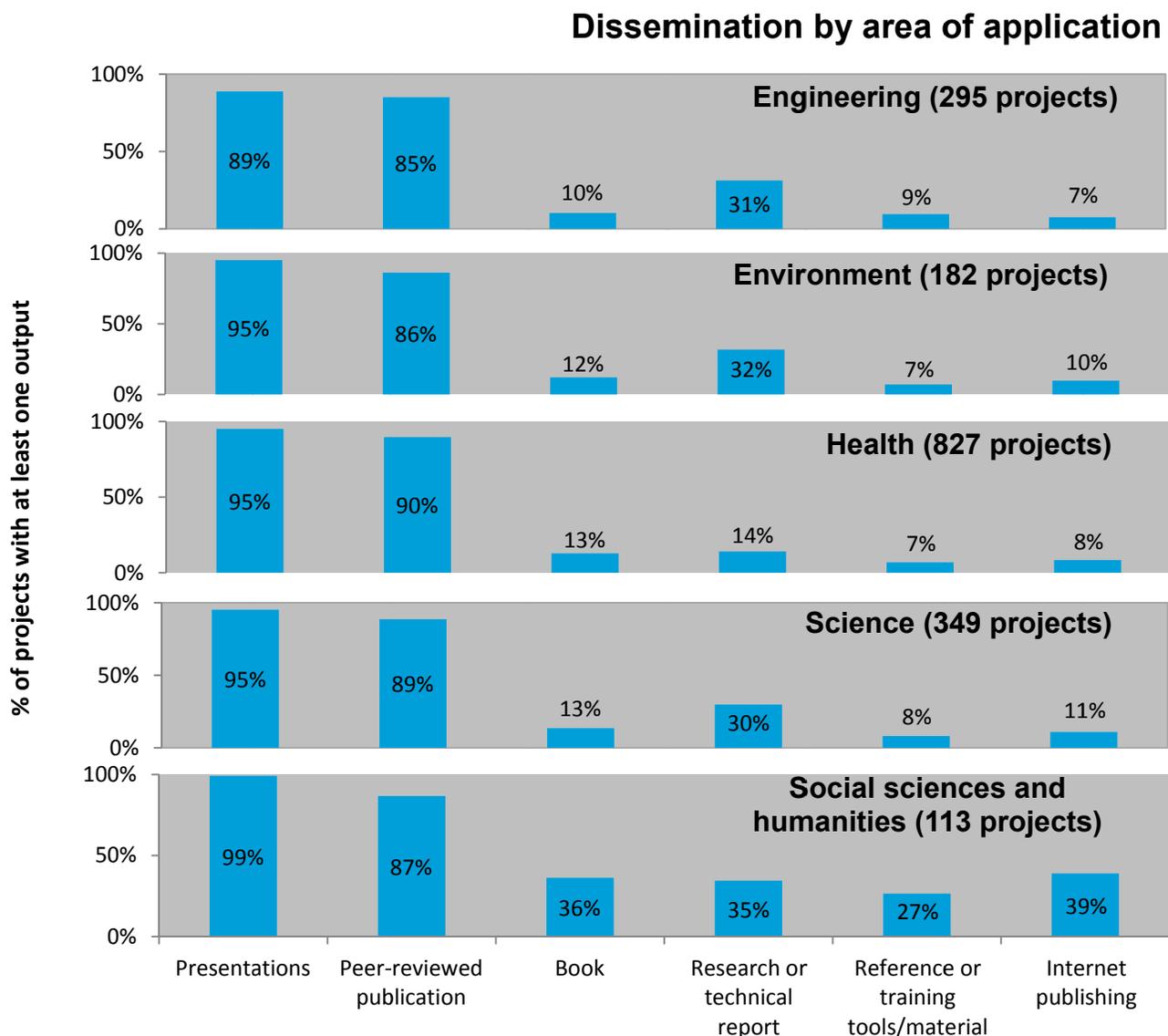


FIGURE 10

Sharing research results

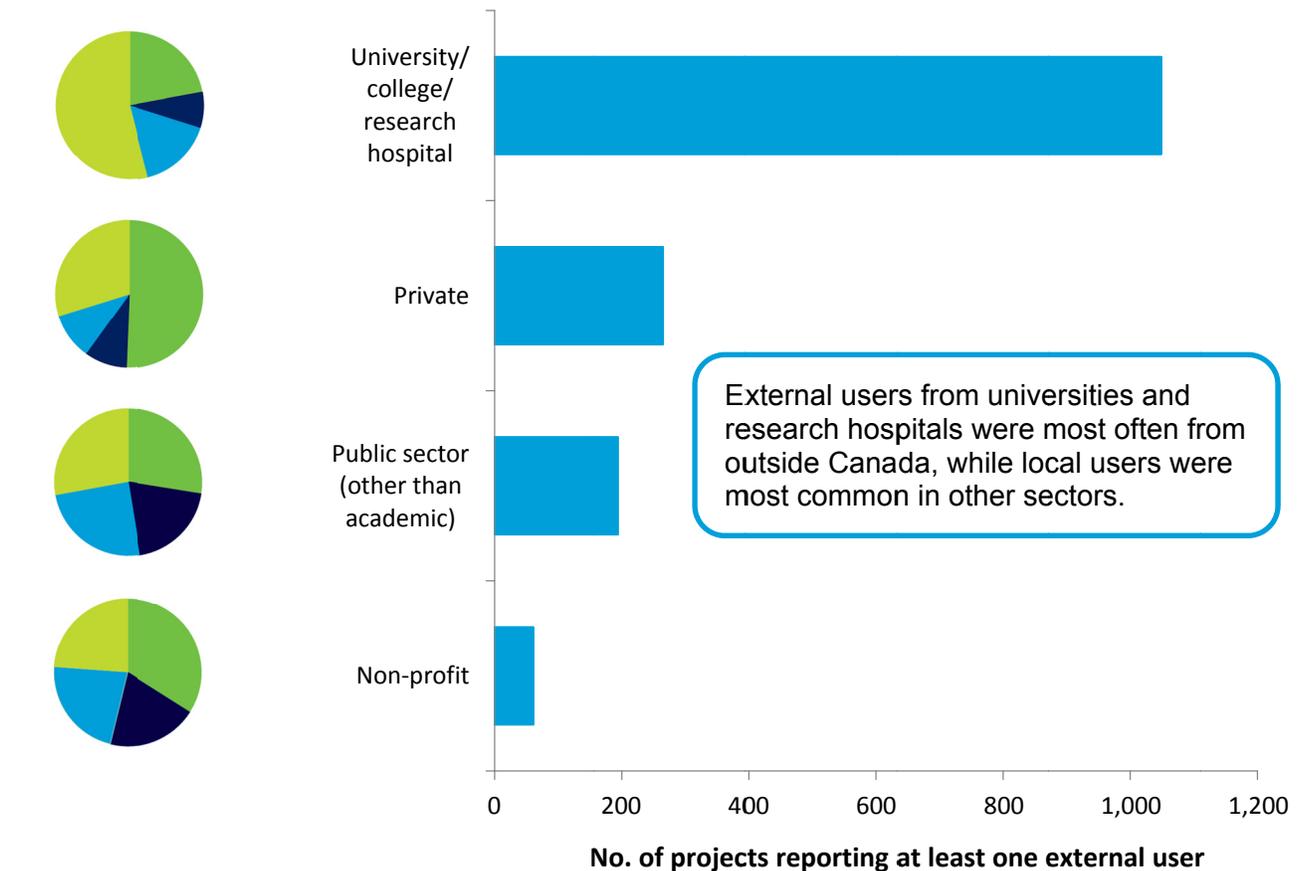
As expected in an academic setting, **conferences, symposiums and workshop presentations** were the most frequently reported research outputs, closely followed by **peer-reviewed publications**.



Advancing research

Infrastructure was used by a diverse community of public, private and non-profit sector users.

External users of infrastructure by location and sector



- Local
- Within province
- Elsewhere in Canada
- International

Users within the institution

84% of project leaders (1,574) reported at least one researcher at their institution using the infrastructure to advance their research, for a total of 8,976 internal users.

Users outside of the institution

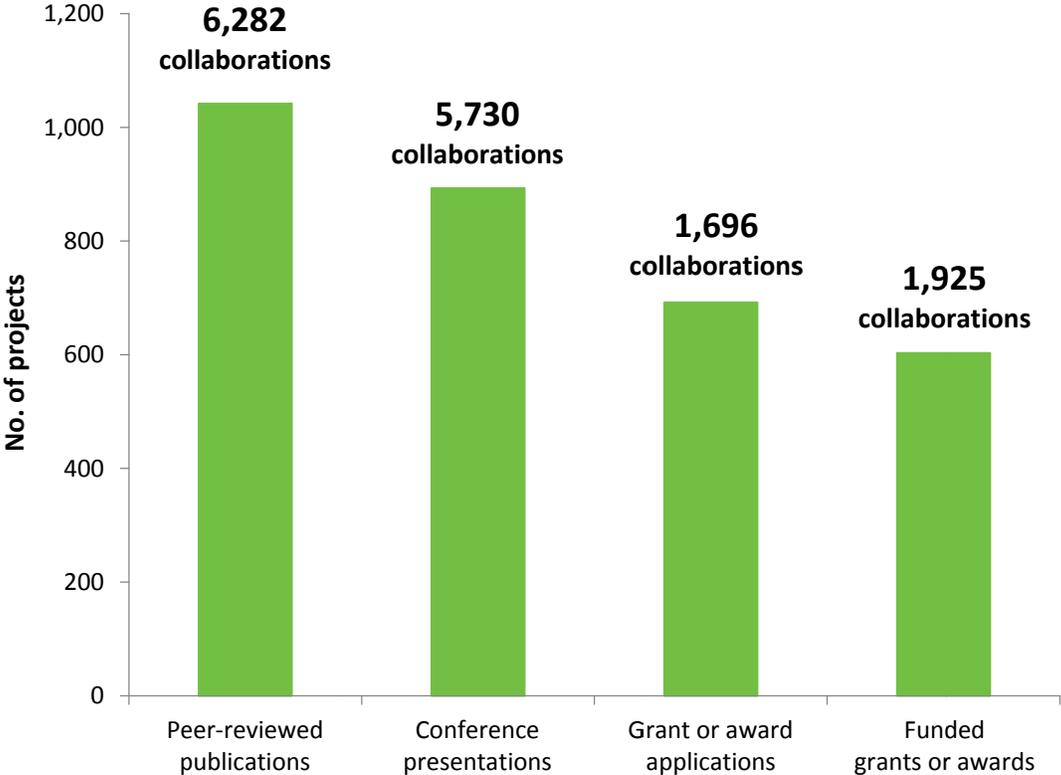
60% of project leaders (1,137) reported at least one user from outside their institution, for a total, 21,448 external users.

FIGURE 12

Research collaborations

Researchers have made use of infrastructure to **serve collaborative research endeavours** for traditional academic activities and outputs such as funding applications and publications.

Types of research collaborations

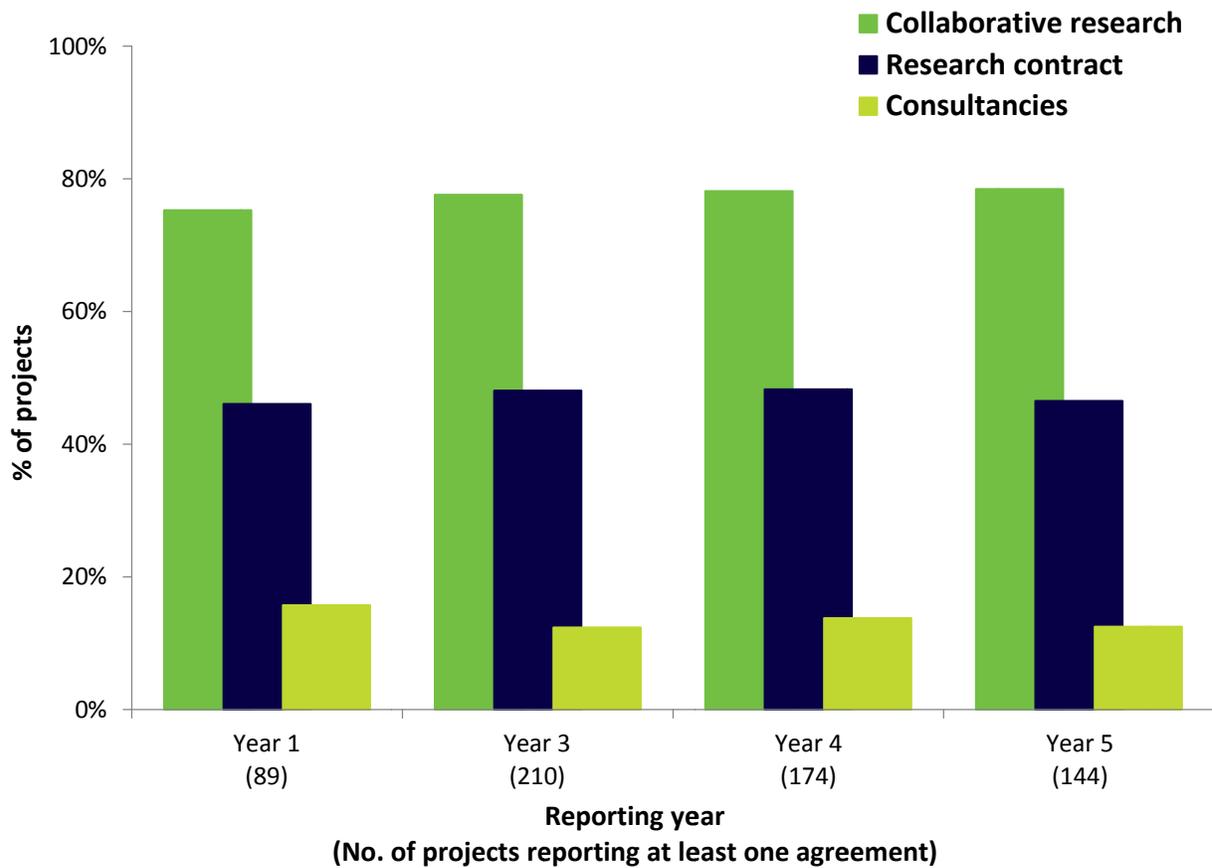


69% of project leaders reported at least one type of collaboration with individuals from outside their institution. Of those, 22% of project leaders reported all four types, suggesting CFI-funded infrastructure enables broad collaboration.

Research agreements

CFI-funded infrastructure **facilitated formal collaborative research agreements**. Project leaders reported a total of 2,610 agreements.

Types of agreement by reporting year



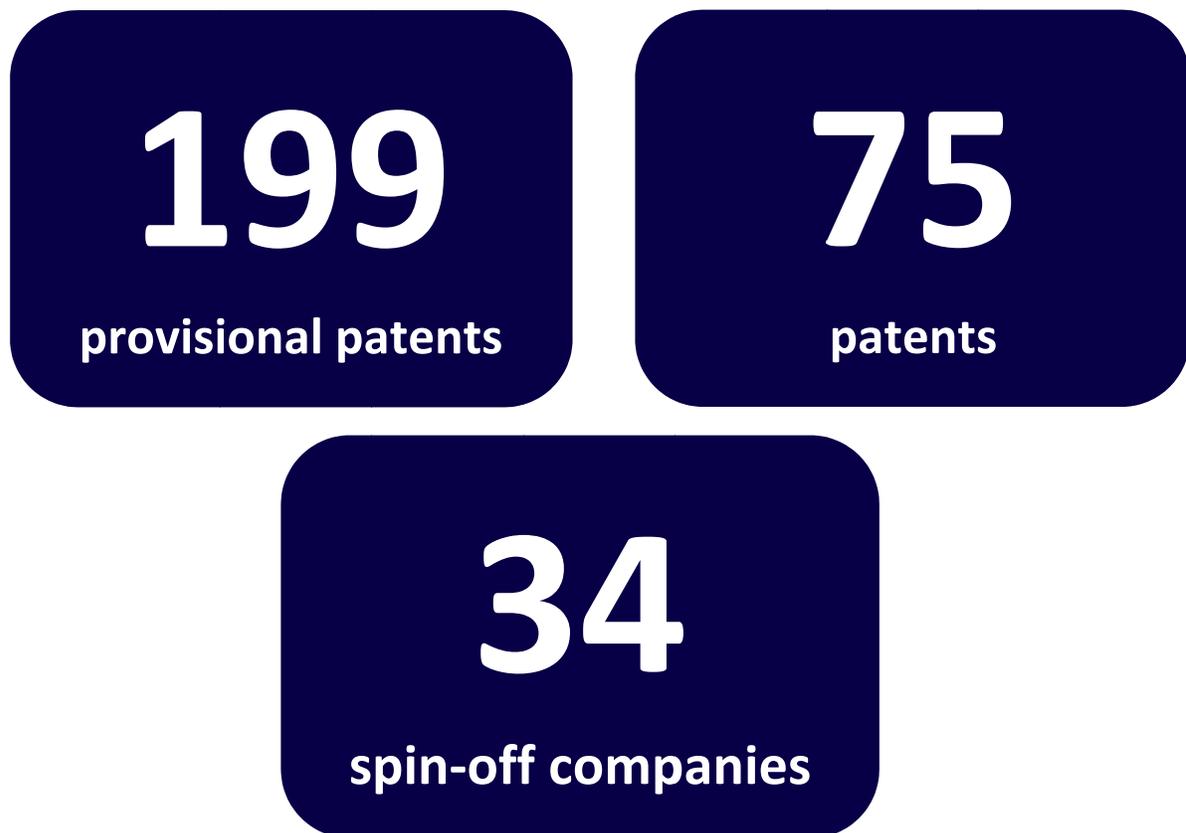
Note: In 2013, no projects were reporting in Year 2 due to a change in the CFI's reporting rules.

Among projects that reported agreements, the proportion for each type was consistent across the reporting years. This suggests that project year has little influence on the type of agreements entered into.

FIGURE 14

From research to innovation

CFI-funded infrastructure has contributed to the development of new technologies and the creation of new companies.

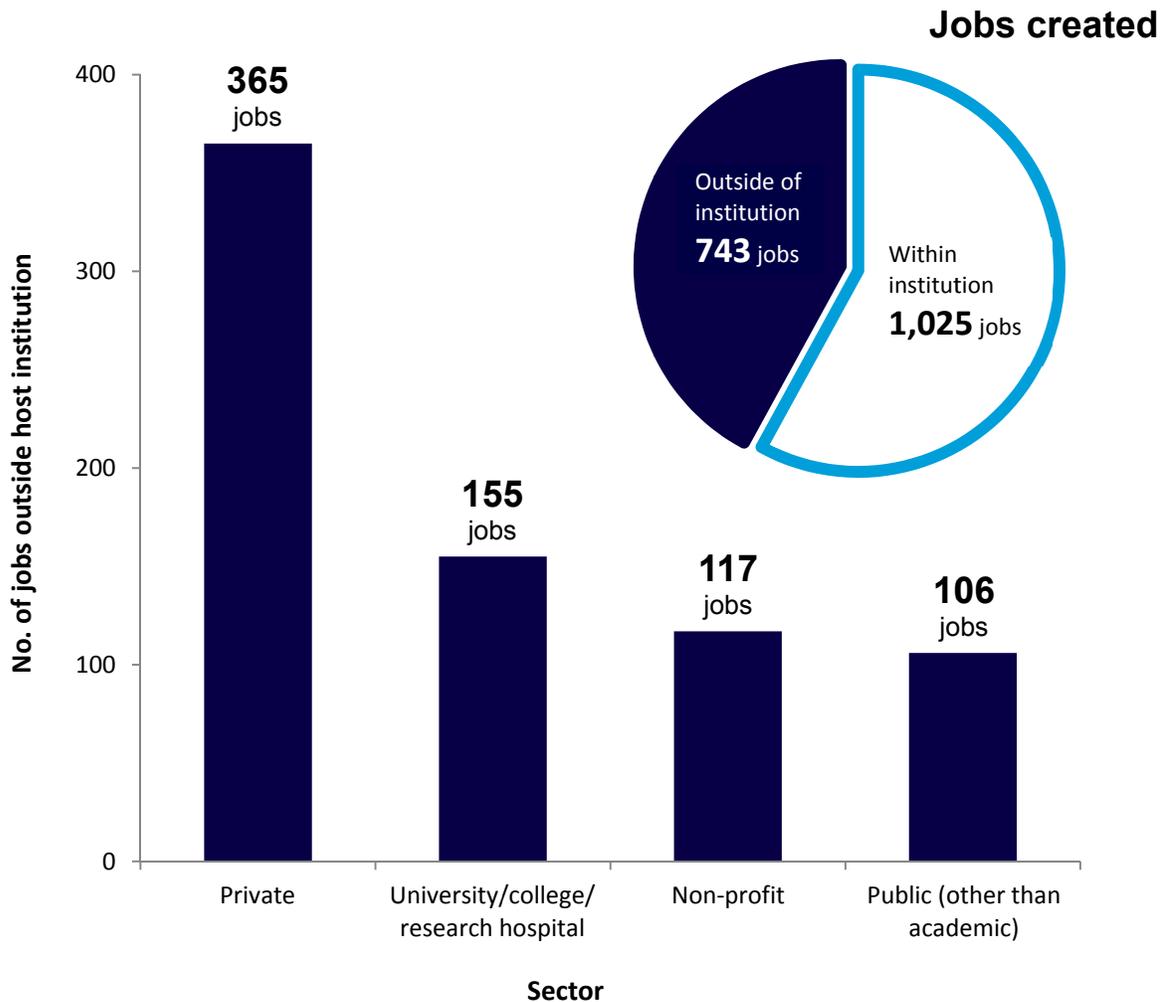


165 project leaders reported that they were granted intellectual property rights as a result of research using CFI-funded infrastructure.

46 project leaders reported entering into licensing agreements based on intellectual property enabled by the CFI-funded infrastructure.

New jobs

28% of project leaders reported **one or more jobs created** due to the CFI-funded infrastructure.



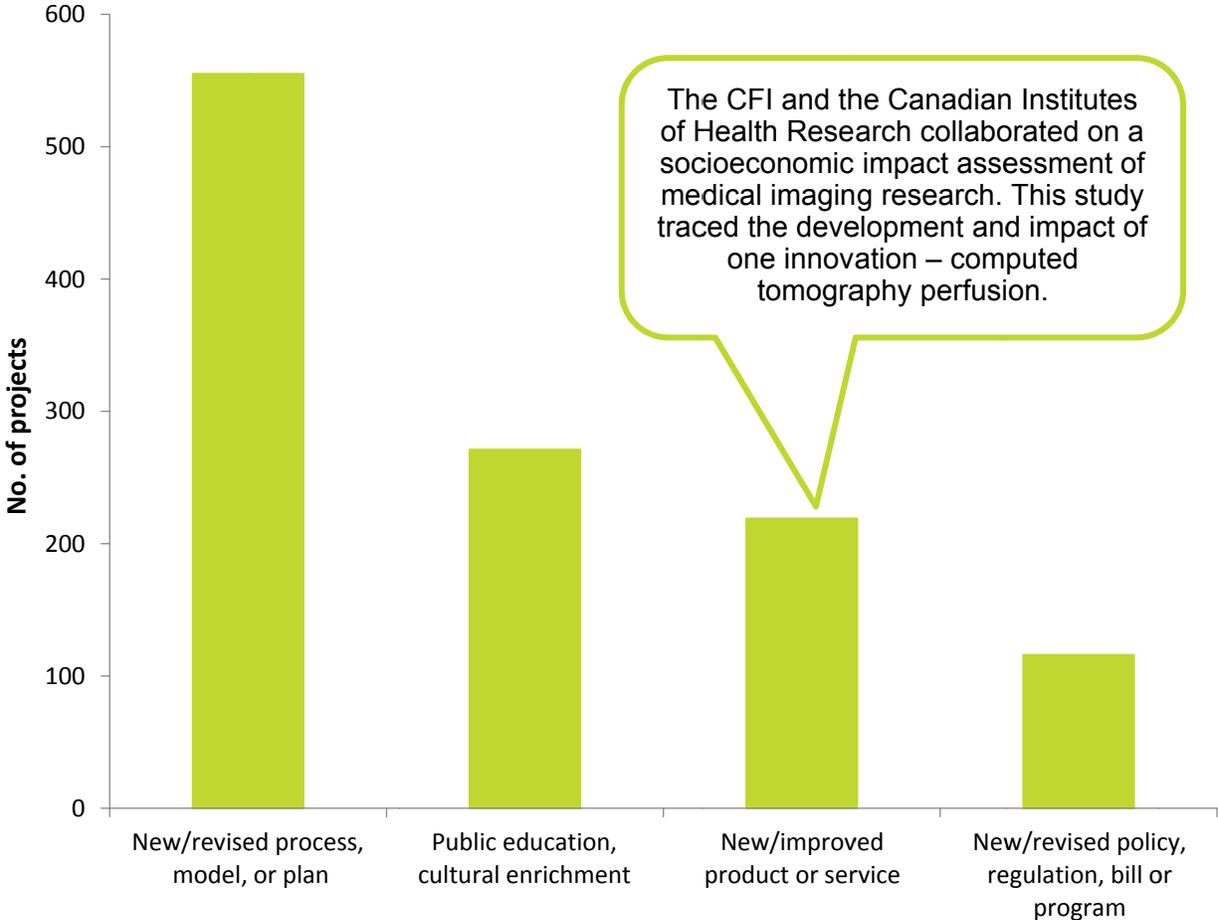
Just over half (58%) of all jobs created were within the host institutions. Almost half of the 743 jobs created outside the institution were in the private sector.

FIGURE 16

A range of benefits

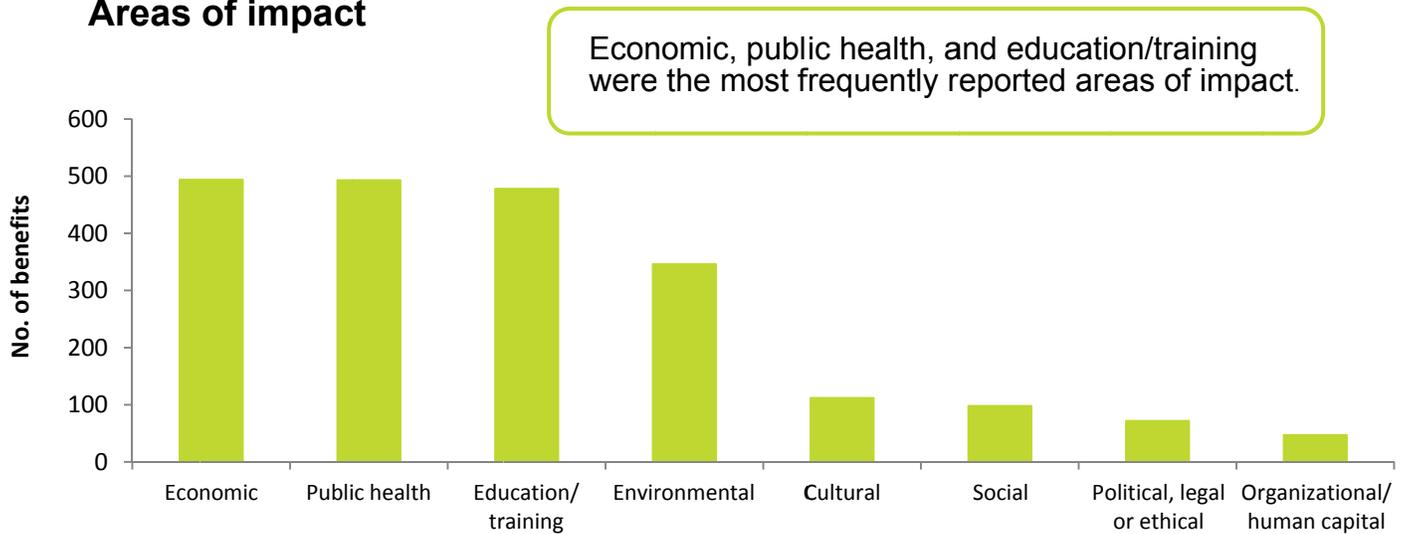
46% of project leaders reported at least one type of benefit, highlighting the role of CFI-funded infrastructure in *enabling research that produces outcomes for Canadians.*

Types of benefits reported



Areas of impact and user groups

Areas of impact



User groups

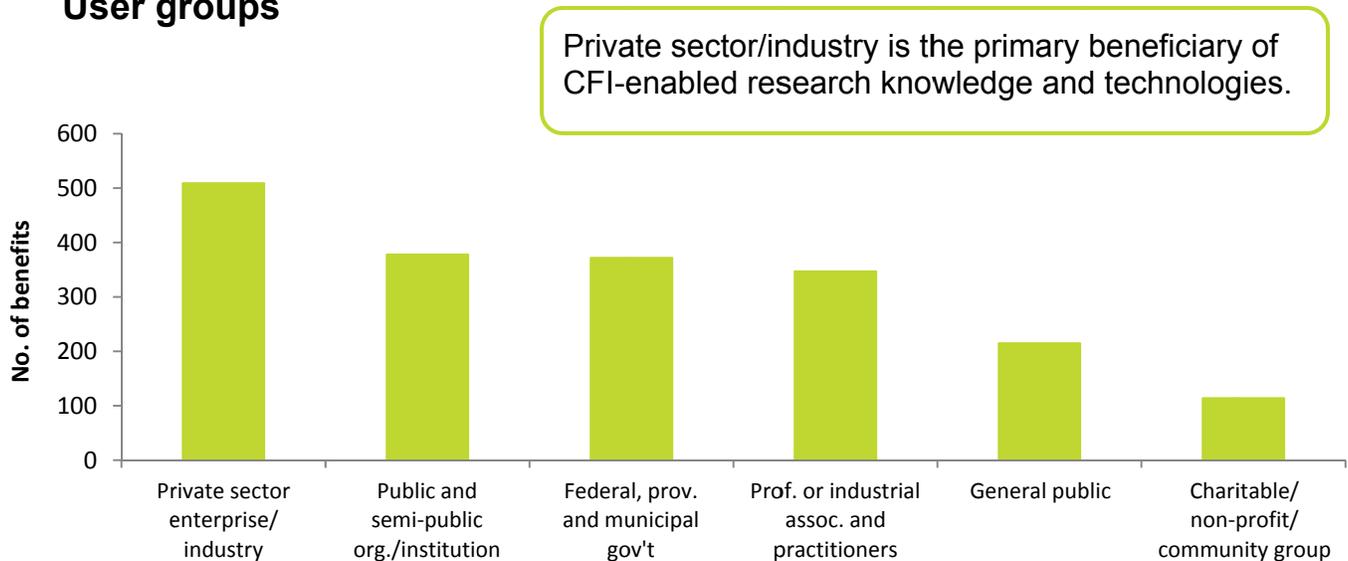
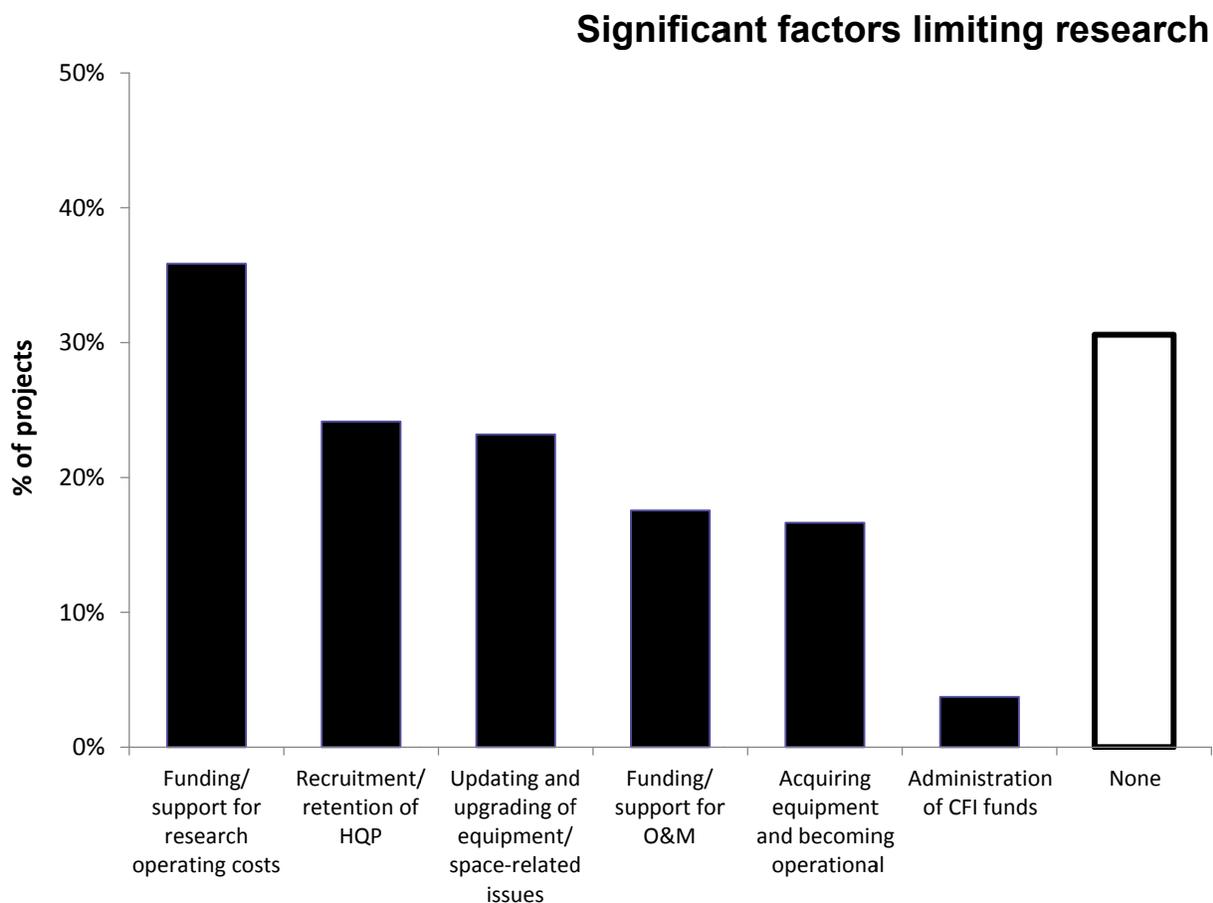


FIGURE 18

Challenges

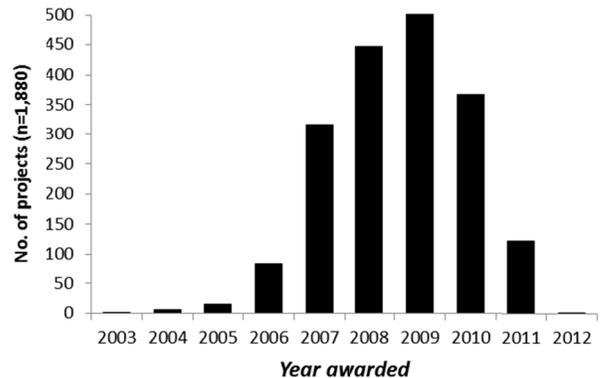
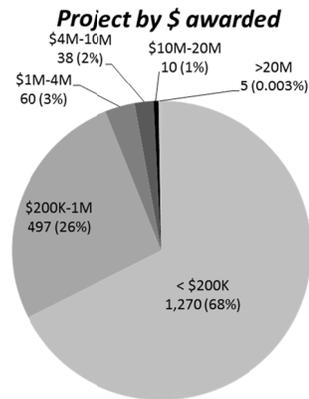
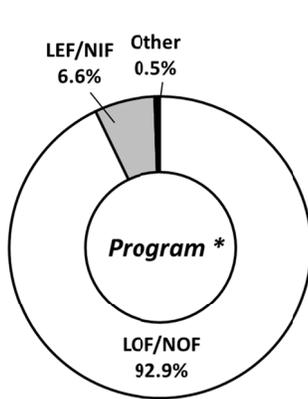
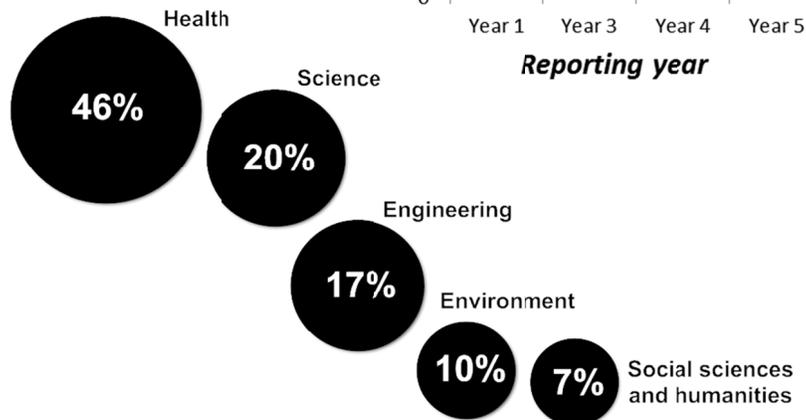
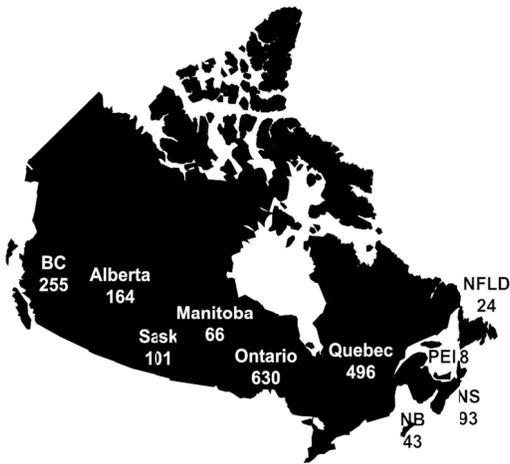
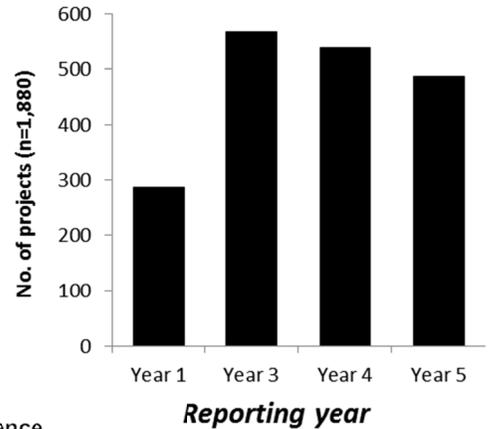
The most frequently mentioned challenge by project leaders was funding/support for research operating costs.



Although issues related to HQP and the acquisition and updating of equipment were also identified as important challenges, 31% of project leaders reported that they had no significant limiting factors in conducting their research.

Composition of the 2013 PPR sample

2,050 *expected* → 1,939 *received* → **1,880** *project reports*
 excluded
 37: not operational
 22: incomplete
 from **73** institutions
 included in analysis



* **Leading Edge Fund and New Initiatives Fund (LEF/NIF):** Innovation Fund; Leading Edge Fund 2006/2009; and New Initiatives Fund 2006/2009.
Leaders Opportunity Fund and New Opportunities Fund (LOF/NOF): LOF-under \$1M; LOF-\$1M to \$2M; LOF-Canada Research Chairs (CRC); LOF-NSERC, Industrial Research Chairs; LOF-CIHR, Programmatic Grants in Food and Health; LOF-SSHRC; and New Opportunities Fund.
Other programs: International Joint Venture Project 2005; Research Hospital Fund 2004; Research Hospital Fund - Large Scale Institutional Endeavors; and Research Hospital Fund - Regional/National Clinical Research Initiatives.



Research builds communities
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450-230 Queen Street
Ottawa ON K1P 5E4
Tel 613.947.7260
Fax 613.943.0227

450-230 rue Queen
Ottawa ON K1P 5E4
Tél 613.947.7260
Téléç 613.943.0227