



Equity, diversity and inclusion in research infrastructure funding

A review of data from the Canada Foundation for Innovation's
Innovation Fund and John R. Evans Leaders Fund

September 2021

Our values

The CFI is committed to the principles of equity, diversity and inclusion. In all our activities, we recognize that a breadth of perspectives, skills and experiences contributes to excellence in research.

Equity: We aim to ensure all CFI-eligible institutions have the opportunity to access and benefit from our programs and CFI-funded infrastructure through our well-established, fair and impartial practices.

Diversity: We value attributes that allow institutions and their researchers — from any background and from anywhere — to succeed. This includes individual attributes such as gender, language, culture and career stage; institutional attributes such as size, type and location; and attributes that encompass the full spectrum of research, from basic to applied and across all disciplines.

Inclusion: Our culture encourages collaboration, partnership, contributions and engagement among diverse groups of people, institutions and areas of research to maximize the potential of Canada's research ecosystem.

We believe that nurturing an equitable, diverse and inclusive culture is the responsibility of every member of the research ecosystem, including funders, institutions, researchers, experts and reviewers.

Making equity, diversity and inclusion (EDI) a priority in the design and delivery of CFI funds

In recent years, the Canada Foundation for Innovation (CFI) has prioritized equity, diversity and inclusion and taken steps to adopt those principles in all our activities. This report summarizes the impact of some of those actions on the recent funding results of our Innovation Fund and John R. Evans Leaders Fund.

Some of the actions we have taken to incorporate EDI principles into our activities have included:

- Establishing a mechanism to ask all those with a CFI Awards Management System (CAMS) account to voluntarily complete self-identification questionsⁱ related to the four designated underrepresented groups identified by the Government of Canada: women, Indigenous Peoples, persons with disabilities and members of visible minorities;
- Mandating all CFI staff participating in our merit-review process to complete unconscious bias training;
- Encouraging reviewers participating in our merit-review process to complete unconscious bias training;
- Adding a way for researchers to describe career leaves in the CV module in CAMS, and instructing reviewers to be sensitive to the impact of these on a researcher's career to avoid unfairly penalizing their proposals;
- Publishing our EDI values statement on our website;
- Signing the [San Francisco Declaration on Research Assessment \(DORA\)](#), which encourages the inclusion of a breadth of research outputs in the assessment of research quality and contributions;
- Promoting inclusive language in our communications, including staff training;
- Providing EDI and ECR (early career researcher) data to the [Canadian Research Coordinating Committee's \(CRCC\)](#) 2019–20 and 2020–21 annual progress reports.

EDI analysis: a closer look

Statistics Canada collects information on the characteristics of full-time teachers at postsecondary academic institutions in Canada. It does so through the [Full-Time: University and College Academic Staff System \(FT-UCASS\)](#) survey and the [Survey of Postsecondary Faculty and Researchers \(SPFR\)](#).

The system-wide, mandatory survey provides a baseline of information about faculty at Canadian institutions (Table 1) against which we can compare information about research team leaders and members, project leaders and the experts who participate in our merit-review process.

Table 1: Diversity profile of Canadian faculty and researchers

Women ¹	Indigenous Peoples ²	Persons with disabilities ²	Members of visible minorities ²
39.0%	2.0%	6.7%	19.4%

1. Statistics Canada. Full-Time: University and College Academic Staff System (FT-UCASS)

2. Statistics Canada. Survey of Postsecondary Faculty and Researchers (SPFR)

For the purpose of this report, we analyzed the data for various facets of diversity (e.g., gender, members of visible minorities, career stage) in research teams and project leaders, as well as expert reviewers and review committee members in both the 2020 Innovation Fund competition and 2020–21 John R. Evans Leaders Fund (JELF) submissions. Since the CFI also recognizes that institutional attributes contribute to diversity, we examined the distribution of awards by size of administrative institution and research sector.

The data presented in this report are based on how participants self-identified and on institutional attributes.

We acknowledge the following:

- The internal selection criteria and processes at institutions are outside of the CFI's direct control;
- The CFI has no direct influence over the diversity of the pool of qualified candidates from which institutions select team members and project leaders.

Promoting EDI in our 2020 Innovation Fund competition

The 2020 Innovation Fund competition provided opportunities to promote awareness of the value the CFI places on EDI and to collect information that will allow us to advance our EDI efforts for future Innovation Fund competitions.

Some actions we have taken

To promote EDI through our 2020 Innovation Fund, we:

- Asked applicants to use the CFI's value statement and their institution's EDI plans and policies as a guide when preparing their proposal;
- Asked applicants to describe how EDI considerations factored into the development of the research team to further our understanding of the challenges and realities of diversifying research teams;
- Asked Expert Committees to identify good practices for, and/or potential barriers to, composing diverse teams;
- Revised the team assessment criterion standard to: "The diverse team comprises the breadth of expertise to conduct the proposed program(s)" to encourage diverse teams;
- Offered the option to select up to two team leaders, instead of a single project leader, to allow institutions to recognize multiple leaders within the team; and,
- Requested feedback from the Expert Committees and Multidisciplinary Assessment Committees (MACs) during the merit-review process meetings and in post-meeting surveys to improve the application of institutional EDI plans and policies (e.g., strategic plans, policies for recruitment and mentoring of highly qualified personnel) to proposals.

Key findings

The following are key findings of our analysis of data from the 2020 Innovation Fund competition.

Attributes of individuals:

- The option to include two team leaders increased both the number of women and the number of researchers at different career stages who are listed as team leaders;
- There continues to be a larger representation of mid- to late-career researchers in the team composition;
- There is no indication of bias in the review process regarding the four designated underrepresented groups, career stage or institutional attributes such as size;
- MAC membership was closer to gender parity than Expert Committee membership;
- A preliminary review of feedback from Expert Committee and MAC members suggests that most proposals listed their institutional EDI policies and plans but very few explained how they were used for the internal selection of a diverse team.

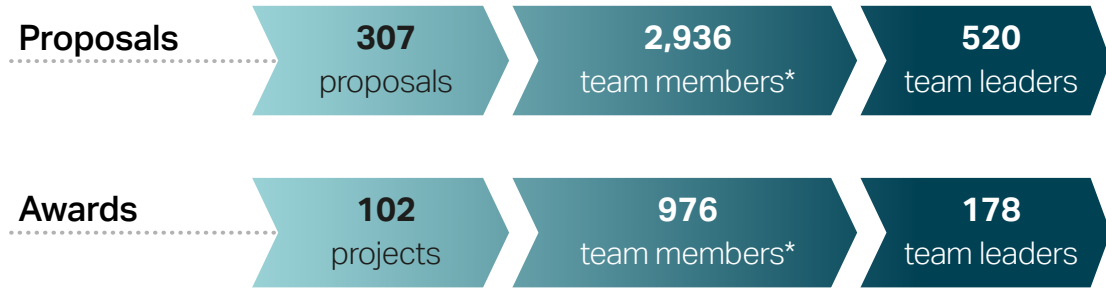
Attributes of the institutions and the research projects:

- Overall, the U15 and affiliated hospitals had higher success and funding rates than small- and medium-sized administrative institutions;
- The awarded amount was highest in the natural sciences and engineering discipline (72 percent), followed by the health sciences (24 percent) and social sciences and humanities (4 percent).
- Although the success rate in social sciences and humanities was lower (23 percent) compared to the other disciplines (health sciences with 28 percent and natural sciences and engineering with 36 percent), its funding rate was higher (42 percent) than other disciplines (health sciences with 30 percent, natural sciences and engineering with 37 percent).

Number of projects, team leaders and team members

To provide context, we examined the number of team members and team leaders in both proposals and awards in the 2020 Innovation Fund competition (Figure 1).

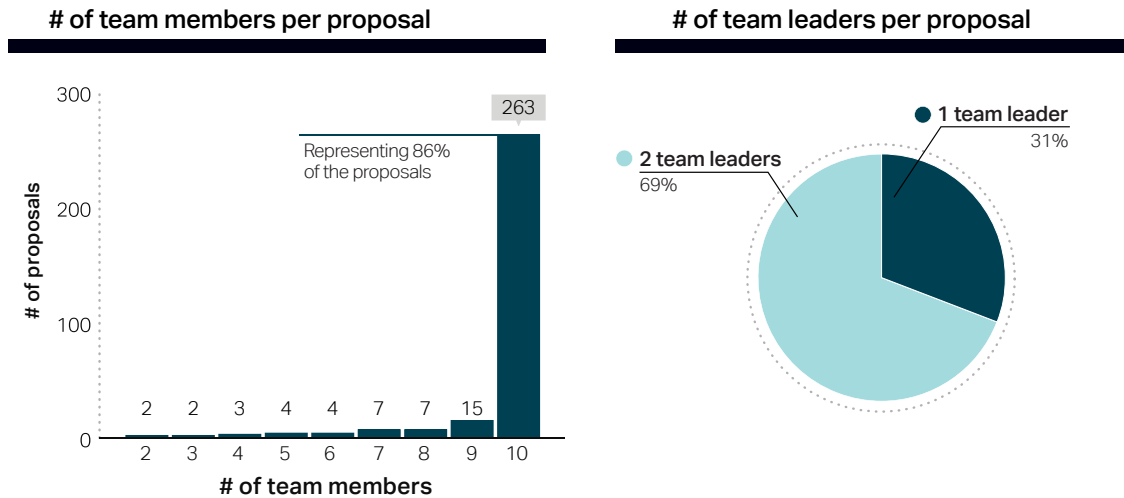
Figure 1: Number of team leaders and team members in the 2020 Innovation Fund competition



* Includes up to 10 team members per proposal including project leaders

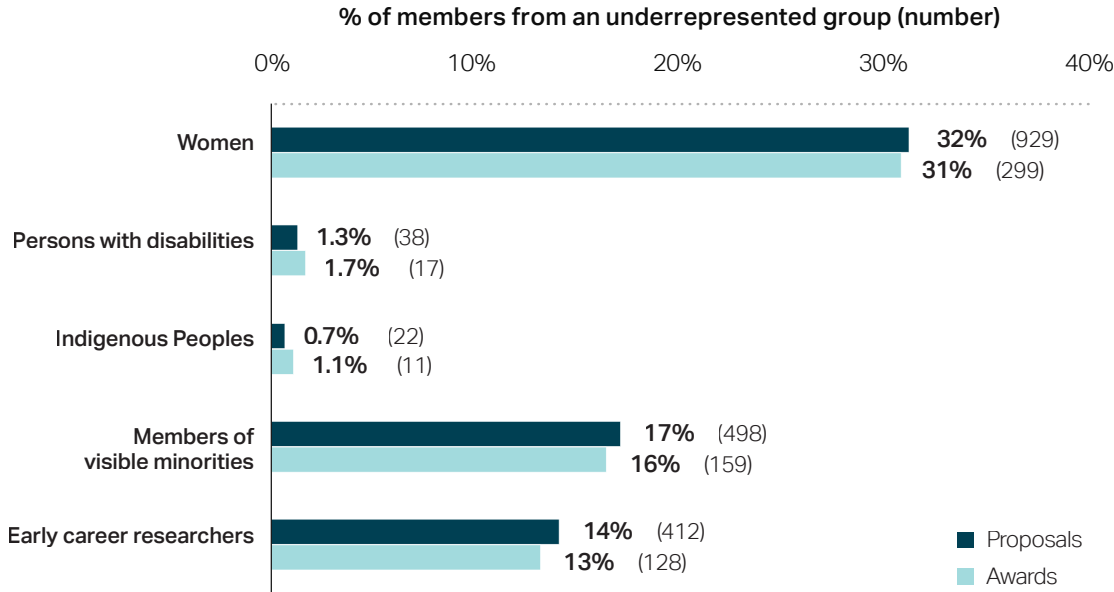
The majority of applicants in the 2020 Innovation Fund competition opted to include the maximum of 10 team members in their proposal, and to identify two team leaders from among them (Figure 2).

Figure 2: Composition of teams in the 2020 Innovation Fund competition



The proportion of team members in the 2020 Innovation Fund competition belonging to one or more of the four designated underrepresented groups (Figure 3) was generally aligned with the diversity profile of Canadian faculty from Statistics Canada shown in Table 1.

Figure 3: Diversity of team members at proposal and award stages in the 2020 Innovation Fund competition



Women in team leadership

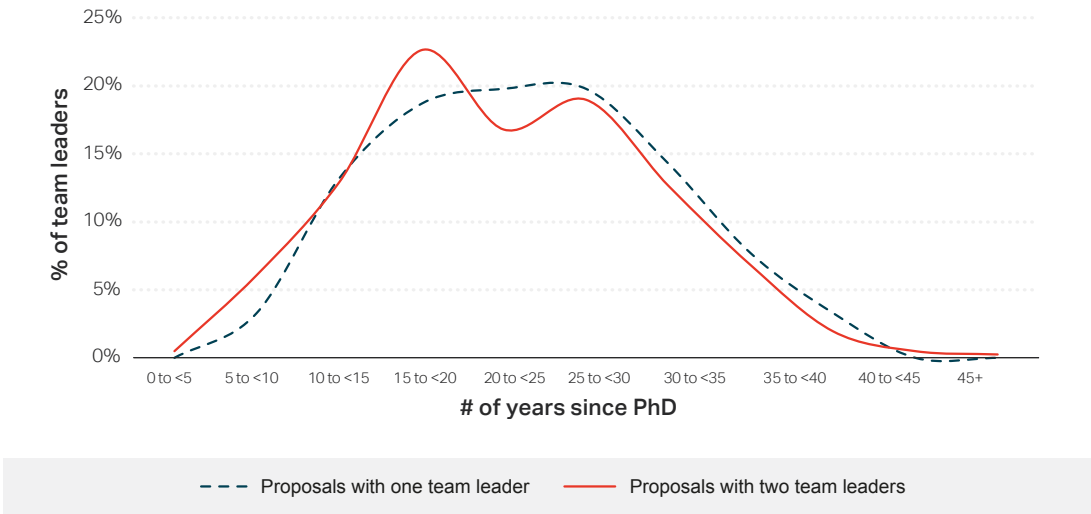
The introduction of the option to include a second team leader in the 2020 Innovation Fund competition contributed to an increase in the proportion of women as team leaders. Women represented 27 percent of the team leaders in proposals in the 2020 competition versus 15 percent in 2017. (Note that the EDI data from the 2017 Innovation Fund competition is based on only 65 percent of the pool of project leaders.)

The proportion of women at the proposal and award stages in 2020 was comparable (27 percent at the proposal stage versus 24 percent at the award stage), which indicates that there was no apparent bias against women in the review process.

Career stage

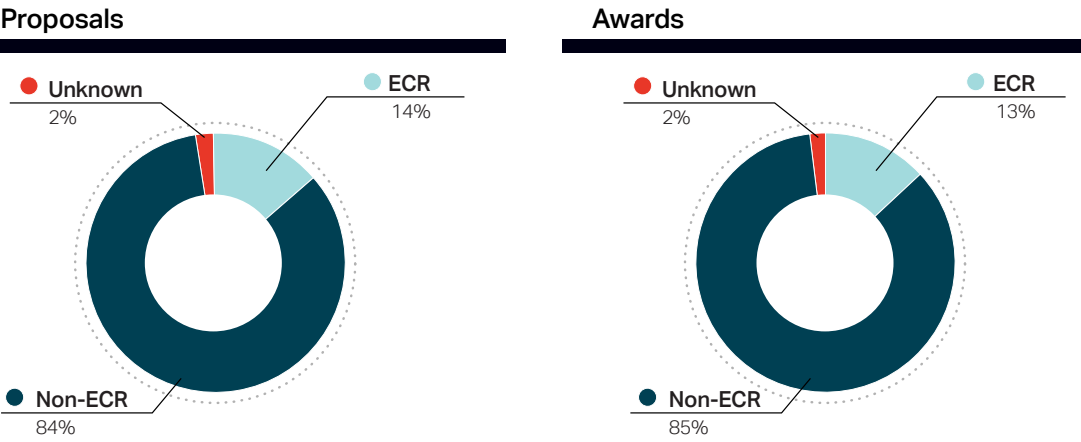
In proposals with two team leaders, there was a higher number of researchers at earlier career stages than in proposals with just one team leader (Figure 4). More specifically, there was a cohort of researchers with approximately 15 to less than 20 years of experience after their PhD and another comprised of researchers with approximately 25 to less than 30 years of experience after their PhD. This was likely attributable to the recognition of the importance of mentoring more faculty at an earlier career stage to enable them to become the next generation of world-class scientists contributing to Canada’s research ecosystem.

Figure 4: Career stage of team leaders listed in proposals in the 2020 Innovation Fund competition



Early career researchers (ECRs) are defined as researchers who are within five years of the date of their first faculty or other research-related appointment. ECRs represented approximately 14 percent of team members in the 2020 Innovation Fund competition (Figure 5). The Innovation Fund typically supports infrastructure for larger and more complex projects that are expected to be globally competitive. This may explain the larger representation of mid- to late-career researchers in the team composition. However, the percentage of ECRs listed in proposals (14 percent) is comparable to those listed at the award stage (13 percent), indicating that ECRs had a chance of success similar to that of more established researchers.

Figure 5: Early career researchers as team members in the 2020 Innovation Fund competition

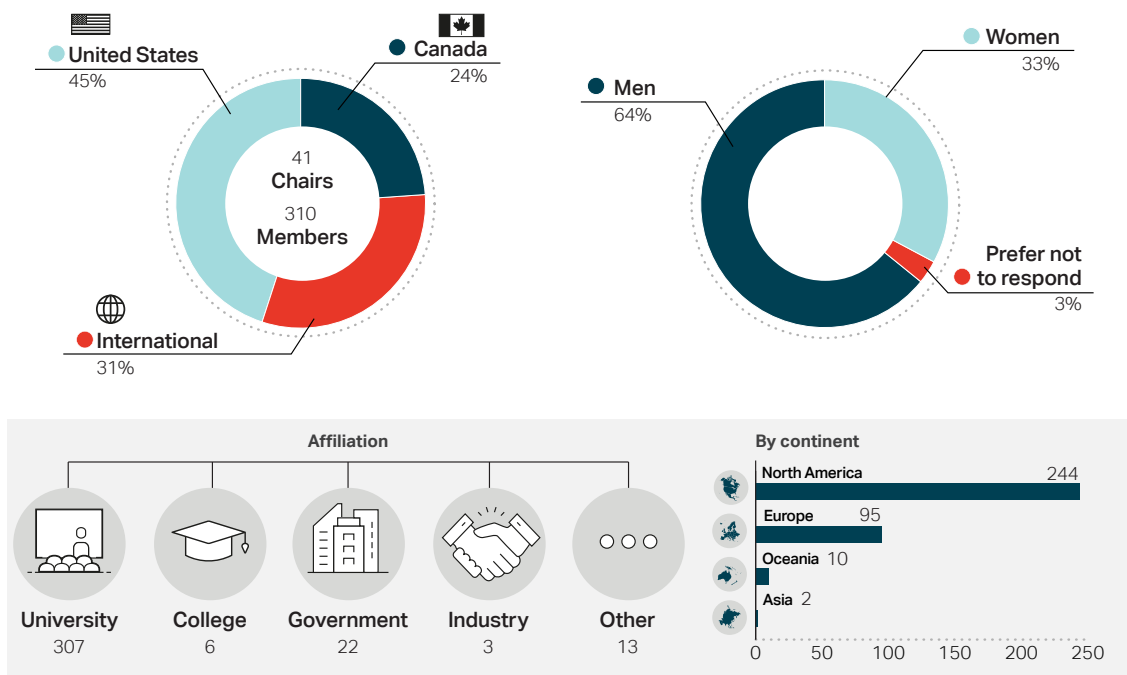


Review process

Expert Committee members and expert reviewers are selected to participate in the Innovation Fund [merit-review process](#) for their discipline-specific expertise, while Multidisciplinary Assessment Committee (MAC) members are chosen for their breadth of understanding of the research environment and research and technology impacts and outcomes. In both cases, the CFI aims to recruit members who represent a broad cross-section of the academic, public and private sectors.

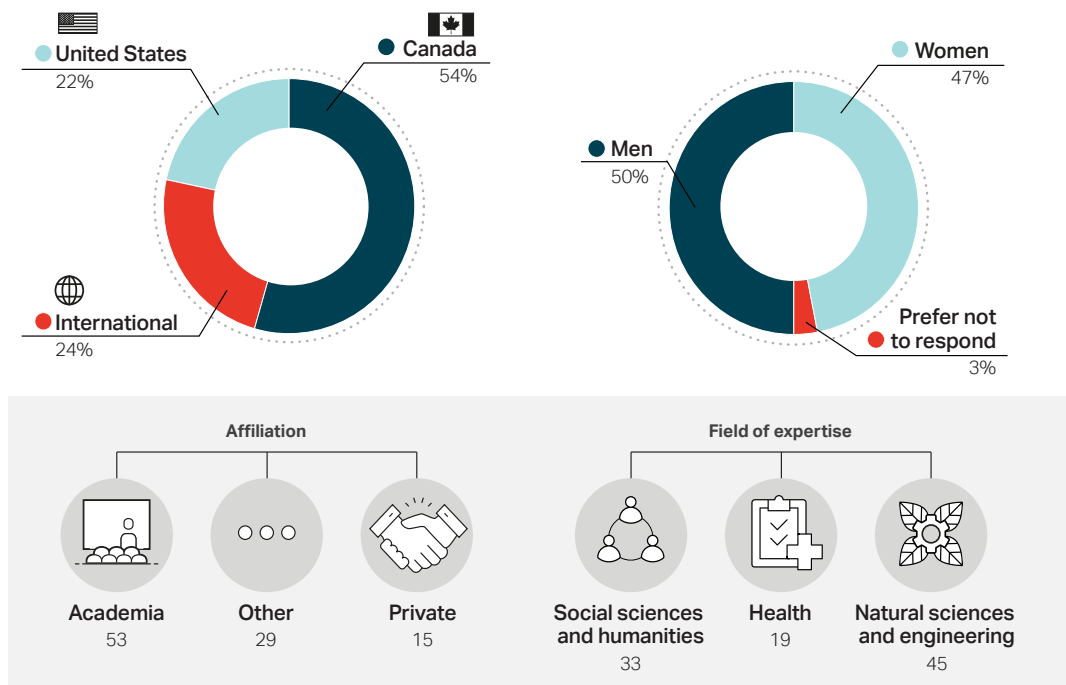
The gender distribution of Expert Committee members (Figure 6) for the 2020 Innovation Fund competition was comparable to that of the research teams that applied (Figure 3). Expert Committee members also represented a variety of geographic regions and types of institutions.

Figure 6: Demographics of Expert Committee members in the 2020 Innovation Fund competition



MAC membership for the 2020 Innovation Fund competition (Figure 7) was more equally distributed in terms of gender, had a higher percentage of members from Canadian institutions, and included a higher proportion of non-academic members than Expert Committee membership.

Figure 7: Demographics of MAC members in the 2020 Innovation Fund competition



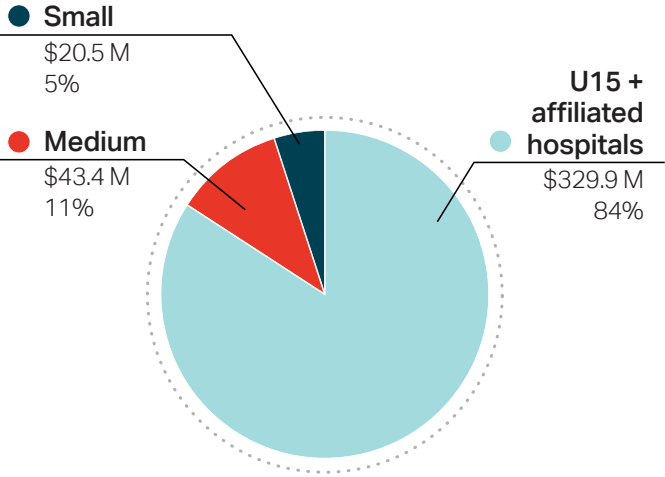
Distribution of awards

In the 2020 Innovation Fund competition, the CFI Board of Directors approved \$400 million for 102 projects at 29 postsecondary institutions and research hospitals across the country. This represented an overall success rate of 33 percent and a funding rate of 35 percent, where the success rate is the number of awards versus the number of proposals submitted, and the funding rate is the amount awarded versus the amount requested.

Administrative institution size

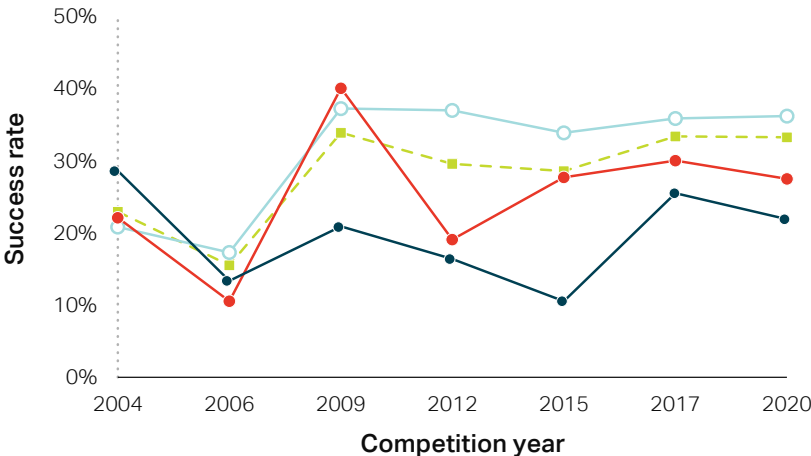
Figure 8 shows the amount of CFI funding awarded to small- and medium-sized administrative institutions and U15 and their affiliated hospitals in the 2020 Innovation Fund competition. U15 and their affiliated hospitals received the majority (84 percent) of funding, followed by medium-sized institutions (11 percent) and small-sized institutions (five percent).

Figure 8: Amount awarded by size of administrative institution in the 2020 Innovation Fund competition



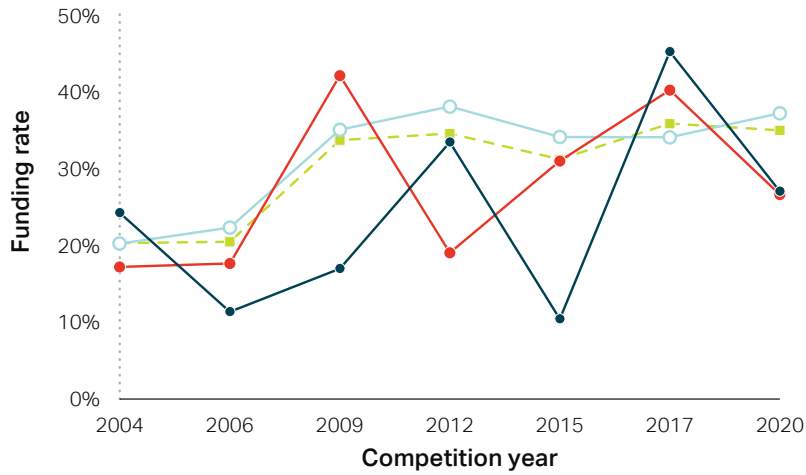
Figures 9 and 10 show an historical look at Innovation Fund success and funding rates, for each size of administrative institution. Over the years, the U15 and affiliated hospitals had higher success and funding rates. The figures also illustrate that the funding rates for small- and medium-sized administrative institutions in 2020 were very similar, with a slight difference in their success rates (22 percent versus 27 percent).

Figure 9: Success rate across Innovation Fund competitions by size of administrative institution



U15 + affiliated hospitals Medium Small Overall

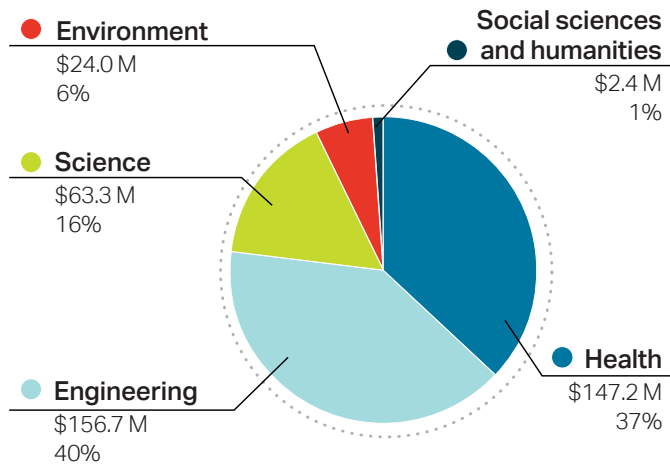
Figure 10: Funding rate across Innovation Fund competitions by size of administrative institution



Areas of application and research disciplines

Areas of application are the areas in which the outcomes of the research are expected. Over 75 percent of 2020 Innovation Fund competition awards were in engineering (40 percent) and health (37 percent) (Figure 11).

Figure 11: Amount awarded by area of application in the 2020 Innovation Fund competition



Research disciplines are the areas in which research activities are conducted and include natural sciences and engineering, health sciences and social sciences and humanities.

The majority of funding awarded in the 2020 Innovation Fund competition was in the natural sciences and engineering (72 percent), followed by the health sciences (24 percent) and social sciences and humanities (4 percent) (Figure 12). Although the success rate in social sciences and humanities was lower (23 percent) compared to the other disciplines (health sciences with 28 percent and natural sciences and engineering with 36 percent), its funding rate was higher (42 percent) than other disciplines (health sciences with 30 percent, natural sciences and engineering with 37 percent) (Figure 13).

Figure 12: Amount awarded by research discipline in the 2020 Innovation Fund competition

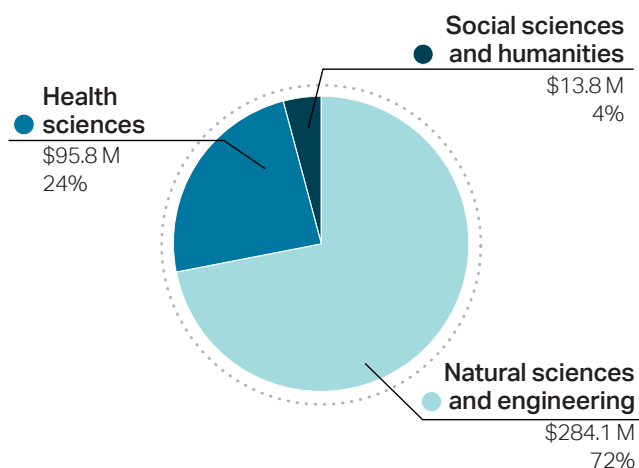
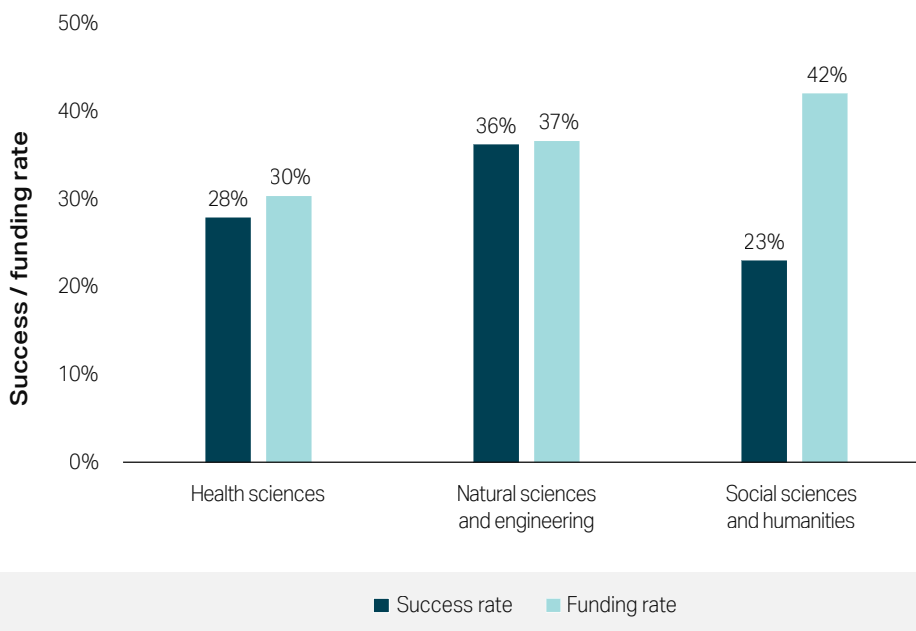


Figure 13: Success and funding rates by research discipline in the 2020 Innovation Fund competition



Optimizing our John R. Evans Leaders Fund to include EDI

One of the CFI's flagship programs, the John R. Evans Leaders Fund (JELF), is designed to help institutions attract and retain the best researchers, including early career researchers (ECRs), and is well positioned to promote and develop the diverse talent Canada needs to remain competitive in the global research ecosystem.

Some actions we have taken

To optimize the potential for the JELF to promote and develop diverse research talent, we:

- Worked with the Canada Research Chairs Program (CRCP) to increase the number of nominated researchers whose diversity profile better represents Canada's population; and,
- Allocated from the JELF an additional \$175,000 each for 285 new CRCs, for a total investment of \$50 million, plus an additional \$15 million from the Infrastructure Operating Fund. Of the 285 new CRCs, 250 are ECRs (as indicated by having been earmarked by the CRCP for new Tier 2 awards for ECRs by 2020–21).

Key findings

The following are key findings of our analysis of data from the 2020–21 JELF submissions.

Attributes of individuals:

- The number of project leaders from the four designated underrepresented groups increased in 2020–21 from 2019–20;
- The diversity profile of JELF project leaders aligned with Statistics Canada's 2019–20 profile of full-time academic teaching staff and researchers in Canada (Table 1);
- ECRs represented approximately 60 percent of JELF project leaders in 2020–21 at both the proposal and award stages;
- The proportions of reviewers who self-identified as a member of a designated underrepresented group remained consistent over the past four years.

Attributes of the institutions and the research projects:

- U15 and affiliated hospitals received a 76 percent share of funding, with small- and medium-sized institutions splitting the remaining proportion equally;
- U15 and affiliated hospitals had slightly higher success and funding rates compared to those of small- and medium-sized institutions;
- The majority of JELF funding was awarded in the natural sciences and engineering discipline (61 percent), followed by health sciences (30 percent) and the social sciences and humanities (9 percent). The success and funding rates were slightly lower (74 and 75 percent) in the social sciences and humanities compared to the health sciences (78 and 81 percent) and the natural sciences and engineering (82 and 80 percent).

Proposals and awards

To provide context, we examined the number of JELF proposals and awards over three fiscal years from 2018–19 to 2020–21 (Table 2).

Table 2: Number of John R. Evans Leaders Fund proposals and awards

	2018–19	2019–20	2020–21	Total
Proposals	458	674	466	1,598
Awards	360	528	386	1,274

Designated groups

Figure 14 illustrates the proportion of JELF project leaders who were listed in a proposal and who self-identify as belonging to a designated group since 2017–18.

Women

For the period 2020–21, our analysis of gender among JELF project leaders indicates that 41 percent were women and three percent preferred not to respond. Since 2019–20, the percentage of women among JELF project leaders is aligned with the latest gender ratio of full-time academic teaching staff provided by Statistics Canada (39 percent, Table 1).

Persons with disabilities

In 2019, according to Statistics Canada, 6.7 percent of Canadian university professors, instructors, teachers and researchers reported to be disadvantaged in employment due to their disability (Table 1). Among JELF project leaders in 2020–21, 2.6 percent considered themselves to be disadvantaged in employment due to their disability. Despite remaining below the proportion reported by Statistics Canada, the percentage of JELF project leaders self-identifying as a person with a disability increased in 2020–21 compared to the previous few years.

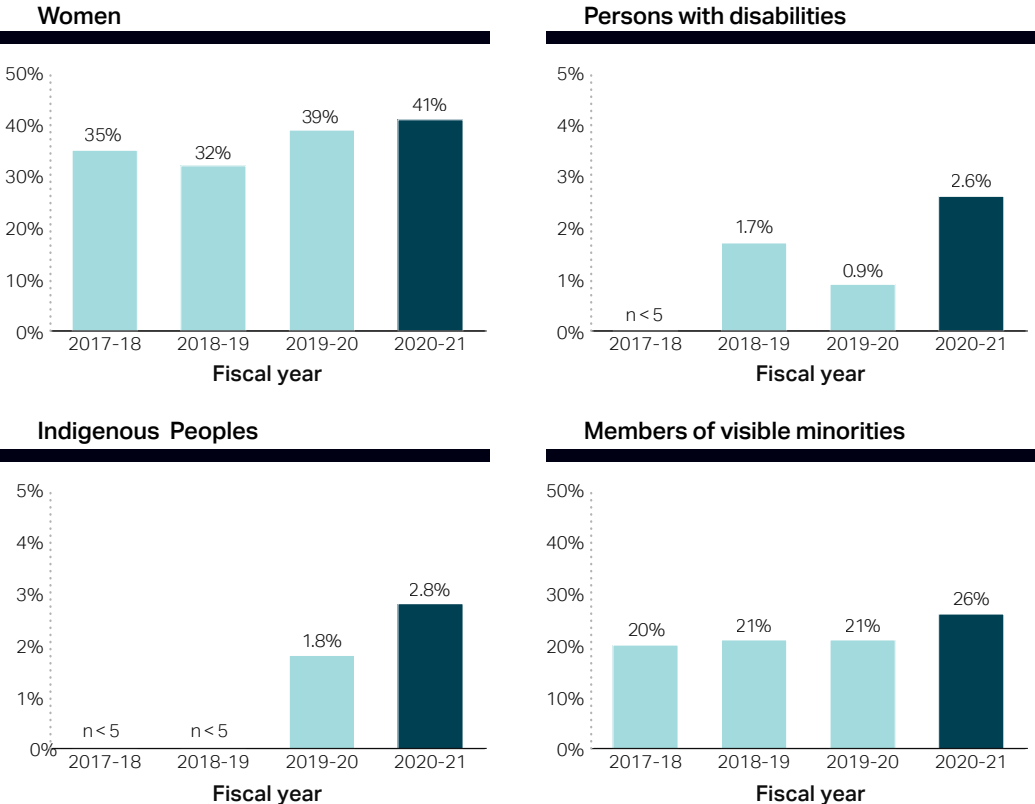
Indigenous Peoples

In 2019, according to Statistics Canada, two percent of Canadian university professors, instructors, teachers and researchers self-identified as an Indigenous person (Table 1). Similarly, 2.8 percent of JELF project leaders self-identified as an Indigenous person in 2020–21, and three percent preferred not to respond. The proportion of JELF project leaders who self-identified as an Indigenous person in 2019–20 (1.8 percent) is also aligned with the value from Statistics Canada.

Members of visible minorities

In 2019, according to Statistics Canada, 19 percent of Canadian university professors, instructors, teachers and researchers self-identified as a visible minority (Table 1); 26 percent of JELF project leaders in 2020–21 did the same and five percent preferred not to respond. After three years of steady alignment with the results of Statistics Canada's Survey of Postsecondary Faculty and Researchers, the proportion of JELF project leaders who self-identified as a visible minority increased significantly in 2020–21.

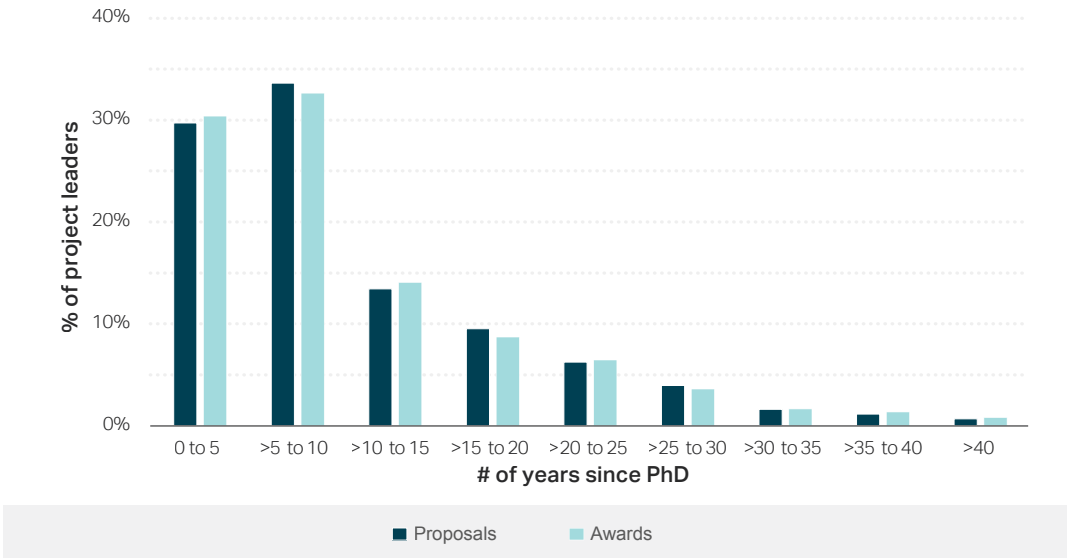
Figure 14: Proportion of JELF project leaders who were listed in a proposal and who self-identify as belonging to a designated group



Career stage

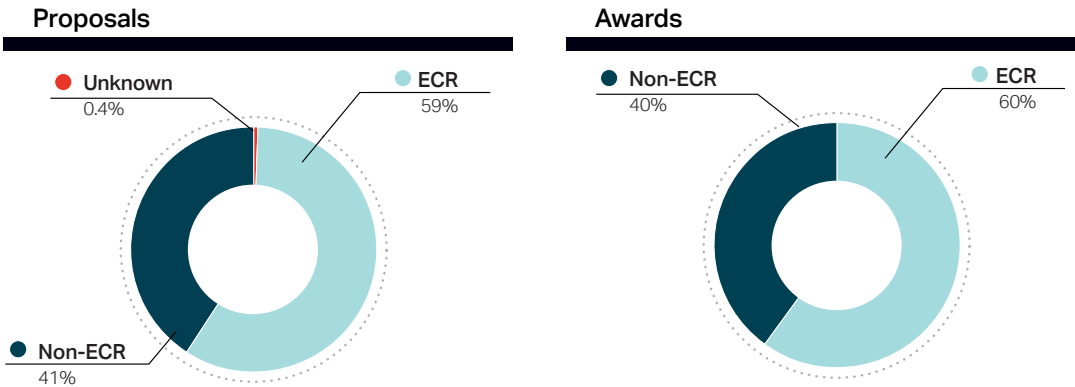
JELF plays a significant role in attracting and retaining ECRs. Figure 15 presents data on the career stage of JELF project leaders for 2020–21. Career stage is defined by the number of years since the researcher’s first PhD. The majority of JELF project leaders (in both proposals and awards) have fewer than 10 years since their PhD.

Figure 15: Career stage of JELF project leaders



ECRs represented approximately 60 percent of JELF project leaders in 2020–21, at both the proposal and award stages (Figure 16). This result is aligned with the career stage pattern seen in JELF project leaders (Figure 15) and with the JELF’s strategic objective to help institutions attract and retain the very best of today’s and tomorrow’s researchers.

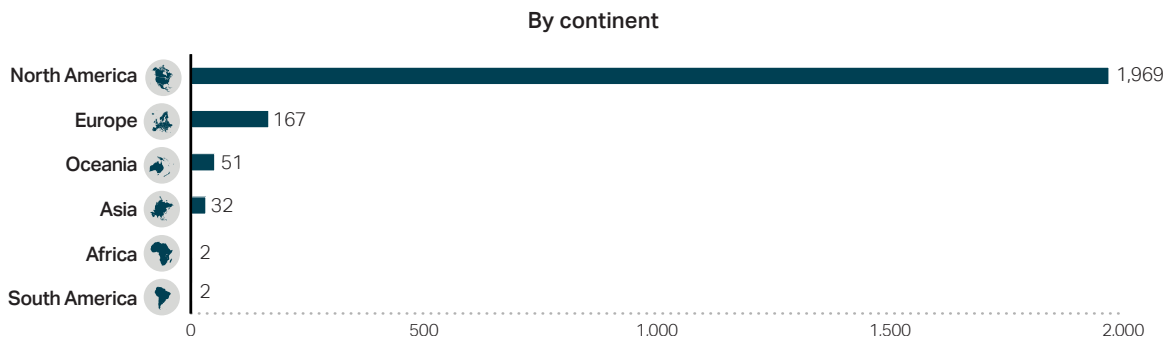
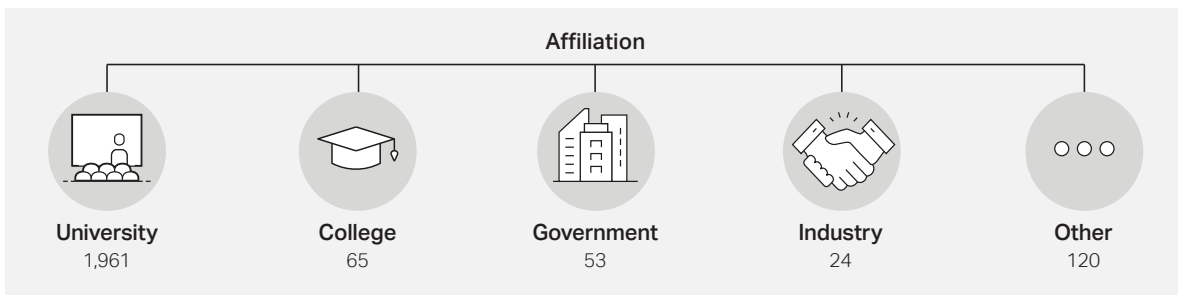
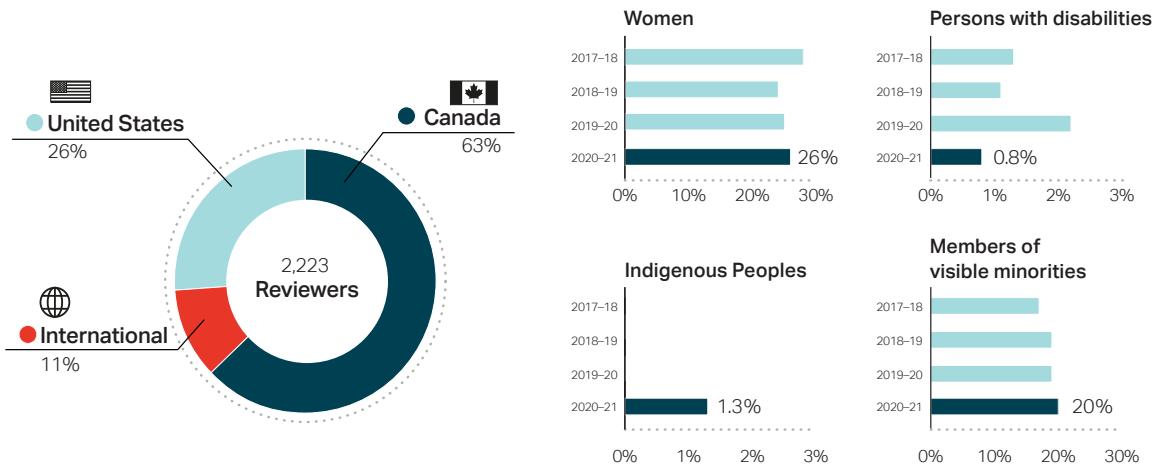
Figure 16: Early career researchers (ECRs) as JELF project leaders



Review process

In the last four years (2017–18 to 2020–21), the proportion of JELF reviewers who self-identified as women, persons with disabilities, Indigenous Peoples and members of visible minorities remained consistent (Figure 17). In addition, the majority of JELF reviewers were affiliated with a university in Canada, but the data also shows representation from various geographic regions and affiliation sectors.

Figure 17: Demographics of JELF reviewers



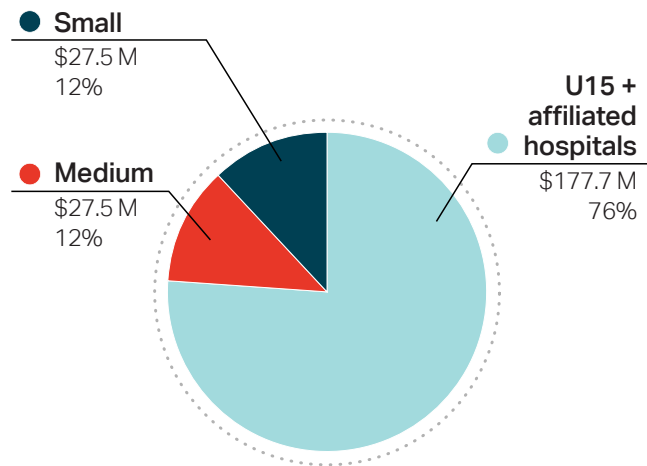
Distribution of awards

During the fiscal years of 2018–19 to 2020–21, the CFI Board of Directors approved \$232.6 million for 1,274 JELF projects at 68 postsecondary institutions with success rates and funding rates both of 80 percent.

Institution size

Figure 18 shows the amount of CFI funding awarded through JELF to small- and medium-sized administrative institutions and U15 and their affiliated hospitals in the last three years (2018–19 to 2020–21). U15 and their affiliated hospitals received 76 percent of funding and small- and medium-sized institutions each received 12 percent.

Figure 18: Amount awarded by size of administrative institution for JELF



Figures 19 and 20 show an historical look at JELF success and funding rates by size of administrative institution. The figures illustrate slightly higher success and funding rates for U15 and affiliated hospitals, and slightly lower success and funding rates for small- and medium-sized institutions (except for 2020–21).

Figure 19: Success rate by size of administrative institution for JELF

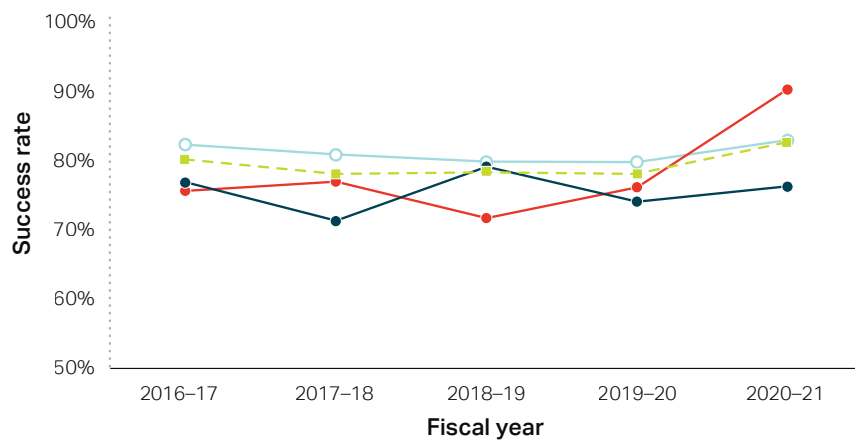
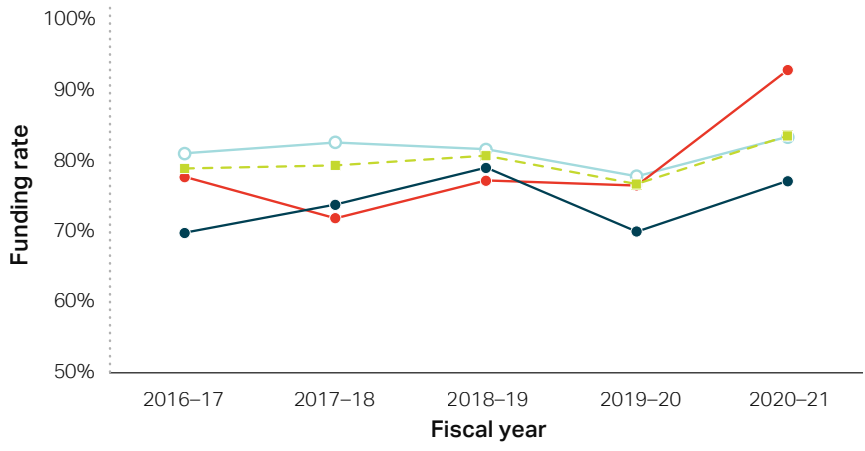


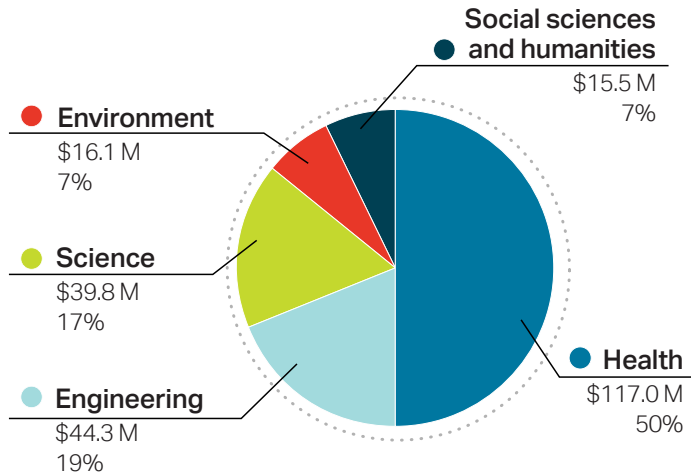
Figure 20: Funding rate by size of administrative institution for JELF



Areas of application and research disciplines

During the last three years (2018-19 to 2020-21), half of JELF funding was awarded in health, followed by engineering (19 percent), science (17 percent), environment (7 percent), and social sciences and humanities (7 percent) (Figure 21).

Figure 21: Amount awarded by area of application for JELF



During the last three years (2018–19 to 2020–21), the majority of JELF funding was awarded in the natural sciences and engineering disciplines (61 percent), followed by the health sciences (30 percent) and the social sciences and humanities (9 percent) (Figure 22). The success rate was also highest in the natural sciences and engineering (82 percent), followed by the health sciences (78 percent), and social sciences and humanities (74 percent). Funding rates were similar in the health sciences (81 percent) and the natural sciences and engineering (80 percent), and slightly lower for the social sciences and humanities (75 percent) (Figure 23).

Figure 22: Amount awarded by research discipline for JELF

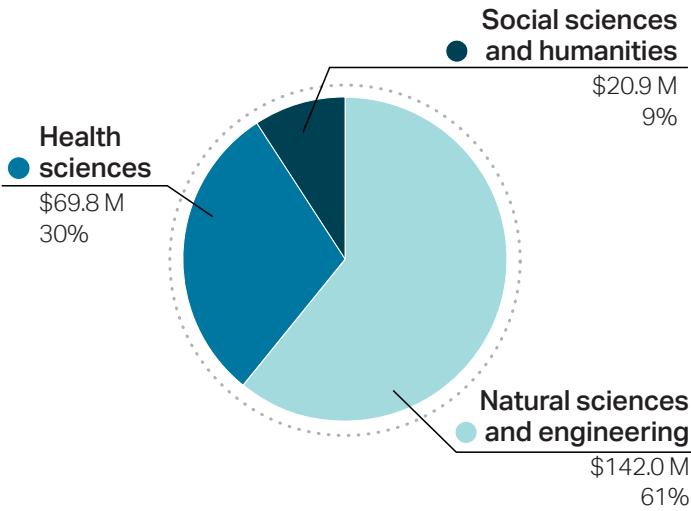
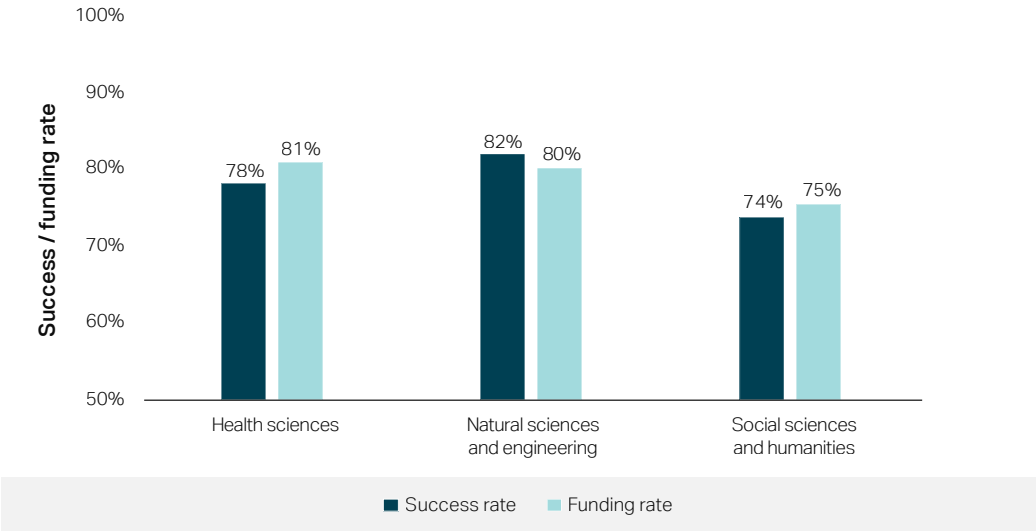


Figure 23: Success and funding rates by research discipline for JELF



i Personal identification questionnaire

The analysis in this report is based on responses from self-identification questions (gender identity, persons with disabilities, Indigenous Peoples, members of visible minorities and career stage) collected between 2017–18 and 2020–21. Note the following when interpreting the results:

- The CFI's questions regarding Indigenous Peoples and members of visible minorities were only applicable to researchers affiliated with institutions located in Canada;
- The CFI's question regarding persons with disabilities used a narrower definition of disability than the one used by the tri-agency in that the CFI's definition was limited to impairment and accommodation in the workplace;
- The CFI defines early career researchers as researchers who, at the time of application, are within five years of the date of their first faculty or other research-related appointment or have prospected an appointment in the near future upon the institution receiving the awards;
- The CFI started collecting data on researchers' first faculty appointment and first research-related appointment in 2020. For researchers associated with proposals submitted before 2020, the CFI determined their year of first faculty appointment to be five years since receiving their first PhD.

It is important to note that the CFI implemented a new version of the personal identification questionnaire at the end of March 2021. The CFI worked with the tri-agency to revise the self-identification questions that support analyses of equity, diversity and inclusion to improve data management and quality, harmonize the data collected to ensure comparable reporting and minimize the burden for respondents. The revision was also a result of the requirement for the Canada Research Chairs Program (CRCP) to expand data collected to include all members of LGBTQ2+ groups.