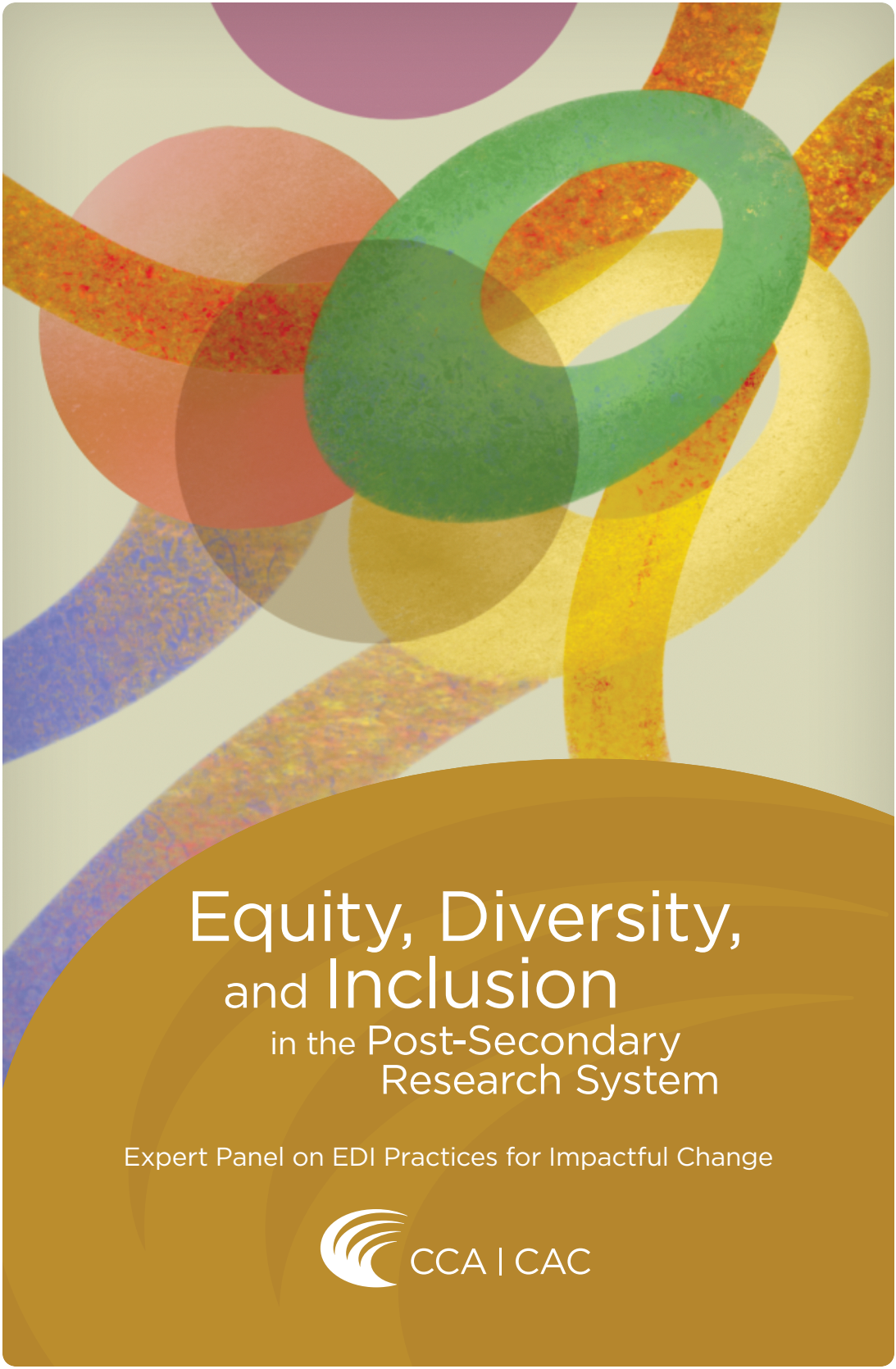

Equity, Diversity, and Inclusion in the Post-Secondary Research System

Expert Panel on EDI Practices for Impactful Change

CCA | CAC

Equity, Diversity, and Inclusion in the Post-Secondary Research System

Expert Panel on EDI Practices for Impactful Change

COUNCIL OF CANADIAN ACADEMIES
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This project was undertaken with the approval of the Board of Directors of the Council of Canadian Academies (CCA) and responds to a request from the sponsor, the Social Sciences and Humanities Research Council (SSHRC), the Natural Sciences and Engineering Research Council of Canada (NSERC), the Canadian Institutes of Health Research (CIHR), and the Canada Foundation for Innovation (CFI) for an independent assessment. The sponsor was not involved in either panel selection or report development; any opinions, findings, or conclusions expressed in this publication are those of the authors, the Expert Panel on EDI Practices for Impactful Change, and do not represent the views of their organizations of affiliation or employment.

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The Council of Canadian Academies' (CCA) offices in Ottawa are located on the unceded traditional territory of the Anishinaabe Algonquin People, who have cared for these lands for millennia.

The CCA is committed to reconciliation and honouring Indigenous sovereignty. Through our work in providing evidence for decision-making, we at the CCA recognize that a wide range of knowledges and experiences contribute to building a more equitable and just society. We encourage all who engage with our work to further learn about and acknowledge the past and present context of the land now known as Canada and of the Indigenous Nations and Peoples who steward it.

Expert Panel on EDI Practices for Impactful Change

Under the guidance of its Scientific Advisory Committee and Board of Directors, the CCA assembled the Expert Panel on EDI Practices for Impactful Change to undertake this project. Each expert was selected for their expertise, experience, and demonstrated leadership in fields relevant to this project.

Dr. Wendy Rodgers (Chair), President and Vice-Chancellor, University of Prince Edward Island (Charlottetown, PE)

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Prof. Angela Campbell, Full Professor (Faculty of Law) and Interim Deputy Provost (Student Life and Learning), McGill University (Montréal, QC)

Dr. Michael Czubryt, Executive Director of Research, St. Boniface Hospital and Professor (Physiology and Pathophysiology), University of Manitoba (Winnipeg, MB)

Dr. Juliet Daniel, Professor (Biology) and Associate Dean of Research & External Relations, McMaster University (Hamilton, ON)

Dr. Annemieke Farenhorst, Professor (Soil Science) and Associate Vice-President Research, University of Manitoba (Winnipeg, MB)

Dr. Richard Isnor, Associate Vice-President, Research, Graduate and Professional Studies, St. Francis Xavier University (Antigonish, NS)

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Dr. Sushmita Pamidi, Associate Professor, Department of Medicine, Division of Respiratory Medicine, McGill University, Research Institute of the McGill University Health Centre (Montréal, QC)

Dr. Miwa A. Takeuchi, Associate Professor, Werklund School of Education, University of Calgary (Calgary, AB)

Dr. Merlinda Weinberg, Retired Professor, School of Social Work, Faculty of Health, Dalhousie University (Halifax, NS)

Message from the Chair

Achieving and maintaining equity, diversity, and inclusion (EDI) requires addressing historical and continuing inequities, unfairness, and exclusion by addressing the sources of those inequities and eliminating them. Post-secondary institutions should be leaders in modelling, developing, and implementing EDI measures and cultural change for the sake of their own success and sustainability, as well as for their unique influence on the world. Institutions can make these positive shifts through the preparation of their graduates who contribute to societal change in their careers and through research and scholarship that is more inclusive in its methods and eventual application.

Post-secondary institutions should be a seat of debate, allowing for a critical examination of ideas and recommendations based on the best scholarship available at any given time. Debate on issues, especially those requiring examination not only of institutional practices but of broader social and political practices, as well as individual beliefs, values, and accountability, can be challenging. In recent years, some debate around EDI has been particularly spirited, sometimes mean-spirited, and sometimes antithetical to the purposes of universities and to the pursuit of dignity for all persons. EDI work is critical to the future of all people, the environment, and the relevance of science, scholarship, and education. Continuing to privilege access to post-secondary education, research, and knowledge, as well as limiting its reach and impact, impoverishes the post-secondary sector. In turn, it impoverishes the people(s) and communities that depend on it for intellectual growth, and social, economic, and environmental sustainability.

For these reasons, each individual panellist made their own choice to participate based on their personal, scholarly, and professional belief that this report was critical to guide post-secondary institutions in implementing effective measures to increase equity, diversity, and inclusivity. The panel created an open, inclusive, and engaging discussion forum where all voices and perspectives were heard that was respectful and compassionate in its discourse. The panel worked diligently to ensure they created delimitations that would allow the huge mandate to be achieved, and to include enough information to provide thoughtful commentary. In what could have been a fraught discussion, the compassion and thoughtfulness of all panel members supported robust and wide-ranging deliberations and both gentle and firm guidance on how best to proceed, all in the spirit of making the world a better place.

Overall, evidence indicates that multi-pronged and comprehensive approaches to advancing EDI appear to be most effective. This is encouraging, as eventually, fairness and equity will be embedded in our daily practices, eliminating current but waning activities that have been demonstrated to perpetuate biases and exclusivity. This must be the work of everyone rather than a designated individual or office in a university. There also needs to be more data to support the evaluation of measures, but there are many promising approaches. There is great hope.

It was a privilege to work with this group of panel members who brought their whole selves to the discussions. The panel extends its deepest gratitude to the CCA staff, who supported us and were remarkable in helping transform big discussions into concise and articulate prose. I would like to thank the group for the privilege of participating in a transformative experience. I hope to carry this experience and the tremendous amount of learning into all my future endeavours.

Respectfully,

Dr. Wendy Rodgers
Chair, Expert Panel on EDI Practices for Impactful Change

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Acknowledgments

The panel and CCA staff would like to express their sincere appreciation to **Dr. Kyle Bobiwash,** Assistant Professor and Indigenous Scholar, Department of Entomology, University of Manitoba and **Dr. Malcolm King, FCAHS,** Professor, Community Health and Epidemiology, University of Saskatchewan, for providing invaluable input and support to this assessment.

Peer Reviewers

This report was reviewed in draft form by reviewers selected by the CCA for their diverse perspectives and areas of expertise. The reviewers assessed the objectivity and quality of the report. Their anonymized submissions were considered in full by the panel. Reviewers were not asked to endorse the conclusions, nor did they see the final draft before its release. Responsibility for the final content of this report rests with the panel and the CCA.

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The peer review process was monitored on behalf of the CCA's Board of Directors by **Dr. Colleen M. Flood, FRSC, FCAHS**, Dean, Faculty of Law, Queen's University. The role of the peer review monitor is to ensure that the panel gives full and fair consideration to the submissions of the reviewers. The Board of the CCA authorizes public release of an expert panel report only after the peer review monitor confirms that the CCA's report review requirements have been satisfied. The CCA thanks Dr. Flood for her diligent contribution as peer review monitor.

Executive Summary

The increasing diversity of Canada's population presents significant opportunities for the post-secondary research ecosystem. Varying experiences, perspectives, and knowledges, if meaningfully engaged, can broaden the range of research questions and enrich research activities. Recognizing the benefits of unleashing the full potential of talent, actors in Canada's post-secondary research ecosystem—including institutions, research funders, and members of the scientific community—aspire to create research environments that adhere to the principles of equity, diversity, and inclusion (EDI) (Box 1). In recent years, they have made headway in this regard, enacting policies and committing resources to bring about impactful changes. More work needs to be done, however, to accelerate progress for people with diverse identities at different stages of their academic careers. Key to this work is knowing which measures have proven effective in addressing persistent barriers to EDI in Canada and around the world among institutions of different sizes and capacities.

Box 1 Definitions of equity, diversity, and inclusion used in this report

Equity is about fairness and is a principle that recognizes the importance of achieving and maintaining human rights and dignity in processes and outcomes. This requires recognizing that people have differential access to resources and opportunities due to historical and systemic barriers. Promoting equity requires reducing these barriers through deliberate measures, such as reducing unequal treatment and redistributing resources, enabling all individuals to have equitable opportunities to access and benefit from a given occasion. Equity is distinct from equality, which calls for treating everyone in the same way regardless of the barriers specific to their life context.

Diversity relates to heterogeneity, recognizing that people are unique and that each person's combination of characteristics and intersecting identities can contribute to their experiences in both positive and negative ways.

Inclusion refers to a sense of belonging and feeling valued, supported, and respected. An inclusive environment is upheld by all members of the community and reinforced through equitable policies, actions, and programs.

The Social Sciences and Humanities Research Council (SSHRC), the Natural Sciences and Engineering Research Council of Canada (NSERC), the Canadian Institutes of Health Research (CIHR) and the Canada Foundation for Innovation (CFI), with the support of Health Canada (HC), Innovation, Science and Economic Development Canada (ISED), and the National Research Council of Canada (NRC), requested that the Council of Canadian Academies (CCA) convene an expert panel to review what is known about effective measures for advancing EDI in Canada for people at different stages of their academic careers, and how certain measures implemented abroad could be applied in the domestic context. Drawing on evidence from Canada and foreign jurisdictions such as Aotearoa New Zealand, Australia, the European Union, the United Kingdom, and the United States, the panel explored measures of various scope and magnitude, as well as mechanisms for their implementation at the individual, institutional, and systemic levels.

Answering the charge

What is the state of knowledge regarding measures that organizations in Canada and around the world are implementing to achieve equity, diversity, and inclusion in the post-secondary research system?

Implemented EDI measures are interconnected and mutually reinforcing; more data are needed to fully assess the effectiveness and beneficial impacts of these measures for people belonging to underrepresented groups.

The panel found that, in recent years, organizations committed to advancing the principles of EDI have intensified both individual- and institution-level efforts, establishing measures that support faculty members, staff, and students (e.g., scholarships, targeted hiring practices, equitable pay structures), cultivate equitable, diverse, and inclusive institutions (e.g., inclusive leadership, climate, and organizational structures), and advance EDI in the research process. Measures falling under these categories are interconnected and mutually reinforcing, highlighting the need for multi-level and coordinated implementation approaches (Figure 1).

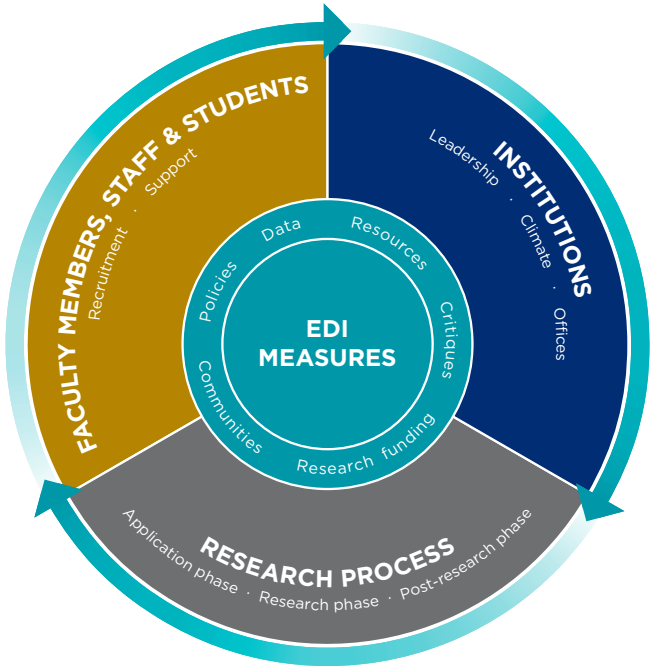


Figure 1 Measures to achieve EDI in the post-secondary research ecosystem

In the post-secondary research ecosystem, interconnected EDI measures extend to: (i) faculty members, staff, and students; (ii) post-secondary institutions; and (iii) the research process itself. Various factors (e.g., policies, resources, access to data, community engagement) affect the design, implementation, and effectiveness of EDI measures.

However, the panel's evaluation of the state of knowledge on EDI measures was limited by gaps in qualitative and quantitative data. These limitations were particularly acute when it came to assessing the effectiveness and beneficial impacts of measures for students and faculty members belonging to certain groups (e.g., people with disabilities, people in the LGBTQ2S+ community, and neurodivergent people) and those subjected to discrimination based on multiple intersecting identities. A lack of disaggregated data on race and disability can conceal inequities and reduce the effectiveness of EDI measures. There are opportunities to improve data collection practices by investing in community-based and community-led research, tracking and sharing data across institutions, and disaggregating data to better reflect the diversity and experiences of Canadian society.

In addition, the panel recognizes that Indigenization and decolonization are distinct from EDI approaches. The panel's overview of EDI programs and policies in this report cannot be a substitute for a separate evaluation of Indigenization and decolonization practices necessary to bring about impactful changes in the post-secondary research ecosystem.

What is the state of knowledge around the effectiveness of measures (i.e., policies, programs, and initiatives) that address underrepresentation and marginalization of women, racialized minorities, Indigenous Peoples, persons with disabilities and individuals from LGBTQ2+ communities in the research ecosystem and post-secondary institutions?

Many measures advancing EDI in the research ecosystem and post-secondary institutions are relatively new, which limits the evidence on their effectiveness. This challenge is amplified by the difficulty of attributing effectiveness to a single measure, as many intersect and depend on broader institutional and policy contexts. However, successful measures in certain contexts share commonalities.

Measures accompanied by accountability, transparency, and enforcement mechanisms produce meaningful changes in post-secondary research institutions

Some research funding programs, such as the Canada Research Chairs Program (CRCP) and Horizon Europe, impose equity targets with respect to underrepresented groups as a condition of getting access to public funding. They may require that institutions review their employment systems, regularly monitor progress, collect and report data on faculty members, staff, and students, promote ongoing awareness and training for the entire institution, and integrate EDI into research and teaching. Institutions that do not meet these requirements may see their funding reduced or discontinued. In Canada, equity targets introduced as a result of a legal challenge brought by women academics have helped institutions identify systemic problems and informed organization-wide strategies related to hiring, promotions, and administrative support that are more transparent and streamlined.

Leadership and organizational structures play a key role in building equitable, diverse, and inclusive post-secondary institutions

In post-secondary institutions, a relatively small number of employees often undertake the work of implementing EDI programs and strategies. The success of these efforts depends on leadership's commitment to inclusive excellence, i.e., a systems-wide approach to EDI that recognizes that diversity and inclusion are fundamental to excellence. This commitment can manifest itself in many ways, including promoting inclusive culture, adopting EDI-focussed institutional strategies, and, importantly, allocating financial and administrative resources to ramp up institutional support.

Inclusive excellence, i.e., a systems-wide approach to EDI that recognizes that diversity and inclusion are fundamental to excellence.

Institutional structures with broader mandates (e.g., office of student services) and specialized mandates (e.g., equal employment offices, office of Indigenous initiatives) are necessary to provide EDI-focussed services. Cooperation and coordination among various structures allow institutions to move beyond piecemeal solutions and create an inclusive climate.

Not all EDI work, however, is carried out through formal institutional structures and processes. Informal or bottom-up initiatives—such as mentorship programs, affinity groups, and employee resource groups—can promote the feeling of inclusion and improve the recruitment and retention of faculty members, staff, and students belonging to underrepresented groups.

EDI capacity-building grants and recognition and accreditation initiatives help institutions move beyond diversity and cultivate inclusion

While many measures examined by the panel focus on increasing diversity, some institutions and research funders have implemented measures to cultivate a sense of inclusion and belonging. These include EDI capacity-building grants and recognition and accreditation initiatives (e.g., equality charters). The former provide funding for EDI-focussed initiatives (e.g., hiring of staff and training), while the latter encourage institutions to commit to EDI principles, adopt action plans, and submit progress reports to an independent evaluation body. The Government of Canada implemented two such pilot initiatives: the Dimensions recognition program and EDI Institutional Capacity-Building Grant. With both programs ending despite positive institutional feedback, the government has limited opportunities to support equity and inclusion efforts

across the post-secondary research ecosystem. Institutions and individuals involved in EDI programming are left uncertain whether there will be available funds and commitment to these types of programs moving forward.

Changes to some existing admission and recruitment processes can support people belonging to underrepresented groups

Inclusive admissions procedures, bridge and preparatory programs, and financial aid can increase the enrollment, retention, and graduation rates of students from underrepresented groups. In some instances, relatively minor revisions to admission processes (e.g., diversity surveys, participation of an EDI representative on admissions committees, adding a section on lived experiences to applications) can increase the representation of students identifying with one or several underrepresented groups.

The diversity of faculty members plays an important role in improving the educational outcomes of students from underrepresented groups and cultivates a more inclusive research and learning environment. Adjustments to recruitment practices, such as including specific language about the value of diversity in job postings, public-facing diversity statements, and including people from underrepresented groups on search committees, tend to attract more diverse and underrepresented applicants. Straightforward changes to the interview process—for instance, using various means of communication and eliminating unnecessary procedures—can make it more inclusive for neurodivergent applicants. Some universities have successfully relied on cohort hiring of professors belonging to underrepresented groups to increase the diversity of faculty members across various departments and disciplines. The success of cohort hiring initiatives hinges on institutional support, access to resources, and underrepresented voices having an equal say in the decision-making process.

Transparent and flexible compensation systems benefit faculty members from underrepresented groups

Transparent compensation policies are central to addressing pay inequities. Some post-secondary institutions have collected pay data and instituted pay transparency programs to redress inequities among faculty members. Continued collection of such data is central to the long-term success of these efforts, as inequities tend to resurface when the compensation system is not regularly monitored.

Transparent compensation policies alone, however, cannot fully address the problem of pay inequity. Various aspects of compensation can be adjusted to

make it more inclusive and reflective of different people's experiences. Women, for example, find seniority- and skill-based pay systems more beneficial to their careers; a move away from discretionary pay systems in Canadian universities has benefited women faculty members. Faculty members from underrepresented groups often shoulder additional unpaid responsibilities (e.g., informal mentoring of students and service on EDI committees). There are ways to reduce this minority tax by recognizing EDI work through compensation programs, awards, and evaluation criteria, as well as assigning some EDI tasks to members of the majority group.

Resistance to EDI measures and to Indigenization and decolonization remain significant obstacles to effecting meaningful change

Resistance to EDI measures takes various forms and manifests itself at different levels. Actors in the post-secondary research ecosystem can use concepts such as academic freedom, research excellence, the merit principle, freedom of speech, and culture in their day-to-day work, pedagogy, curricula, and policies to resist change directly or indirectly. At the individual level, resistance to EDI can manifest itself through internalized biases and prejudices that creep into the evaluations of people from underrepresented groups in different contexts (e.g., applications for funding, teaching evaluations, and promotions). Moreover, settler-dominated institutions are inherently resistant to decolonization and Indigenization. This leaves the important work of systemic change to Indigenous Peoples.

Post-secondary institutions employ various tactics, training, and specialized educational programs for faculty members, staff, and leadership to minimize different forms of resistance and address bias. Practices that anticipate and correct for bias include expanding the metrics of excellence to elevate various research outputs (e.g., relationship-building, community engagement) and proactively reminding evaluators of their potential bias. Not all approaches are equally effective. Implicit bias training, for example, has often been ineffective in isolation at changing behaviours over the longer term, encouraging some organizations to implement additional training programs and strategies to overcome resistance to EDI. Institutions can equip senior leadership and staff with the skills necessary to advance EDI through training on cultural safety, accessibility, and dealing with various forms of harassment, including sexual harassment.

What existing measures have been shown to be most beneficial to individuals who self-identify with multiple underrepresented and marginalized identities? What are the evidence-based best practices and most promising practices for implementing intersectional EDI measures?

Additional research is needed to determine what measures are beneficial to people who self-identify with multiple underrepresented identities

There is limited evidence on measures beneficial to people who self–identify with multiple groups that are underrepresented and experiencing marginalization, suggesting a need for further research guided by intersectionality. This limitation translates into a lack of evidence on the best and most promising implementation practices.

Specific organizational measures, such as diversity programs, can contribute to cultivating a feeling of safety across multiple groups and identities. For instance, white women can feel safer in institutions that have diversity programs to support racialized groups, and men of colour can feel safer in organizations with programs designed to support women. Mentorship programs have also helped people with intersectional identities advance their careers by demystifying leadership roles and assisting them in navigating the intersection of gender, race, and ethnicity. Such programs, however, are uncommon.

Overall, various measures addressing resistance to change and promoting inclusive excellence can cultivate a more welcoming environment for people from underrepresented groups and for those facing multiple intersecting barriers to equity. Inclusive leadership—which welcomes diverse contributions, sets unbiased goals, and provides equitable access to resources—is particularly important to support people who can be subjected to discrimination and exclusion based on multiple overlapping identities. At the research funding level, government measures that embrace the interconnected nature of EDI (e.g., recognition programs, equality charters, capacity–building grants) can help cultivate equitable and inclusive environments for all if they are designed with intersectionality in mind.

Contents

1

Introduction

Over the past several decades, the post-secondary research ecosystem in Canada, which includes universities, research institutions, funders of research, and the people within these settings, has recognized that systemic barriers prevent the participation of people from many underrepresented groups. Early efforts to address these barriers primarily focussed on achieving gender equity within higher education institutions, but with changing national demographics and an increasing understanding of the need to include diverse voices within the academy, approaches to facilitate equity, diversity, and inclusion (EDI) have broadened and become a focus for many institutions (NSERC, 2018; Universities Canada, 2023). This focus supports the United Nations' fourth Sustainable Development Goal, which encourages member countries to pursue inclusive and equitable education for all people (UN, n.d.).

There is now widespread acknowledgment of the need to create a more equitable, diverse, and inclusive culture on university campuses (Universities Canada, 2023). EDI action plans at the institutional, organizational, and funding agency levels have widely conveyed the rationale for, and urgency of, pursuing EDI and mobilizing system-wide efforts toward inclusive excellence (NSERC, 2018; Tamtik & Guenter, 2019). A survey by Universities Canada (2023) showed that a large majority (89%) of responding academic institutions refer to EDI within their strategic plans (Universities Canada, 2023). With this ecosystem-wide acknowledgment, many initiatives have been established to foster an environment supportive of EDI. However, due to a lack of evaluation, it is not always clear which initiatives have the most meaningful impacts on people belonging to underrepresented groups.

1.1 Canada's post-secondary research ecosystem

Over the past several decades, the demographics of Canada have changed, increasing the diversity of the population and resulting in shifts across the educational sector and workforce (StatCan, 2010; Boyd, 2015; Universities Canada, 2019a). These developments, however, have not resulted in commensurate changes in representation across all parts of the post-secondary research ecosystem (Table 1.1).

Table 1.1 Representation of equity-deserving groups at Canadian universities and in the labour force (2016–2017) compared to the general population

	Women (%)	Persons with disabilities[1] (%)	Racialized people (%)	Indigenous Peoples (%)
General population, 2021 (StatCan 2023a,b)	51	27	27	5
Labour force	48	16	21	4
Full-time faculty members[2]	41	22	21	1
Doctorate holders	38	n/a	31	1
Graduate student enrollment	55	6	45	4
Undergraduate student enrollment	57	22	40	3

Source: Universities Canada (2019a), unless otherwise stated

This table compares survey data on representation of equity-deserving groups from 2016–2017 with general population data collected in the 2021 census.

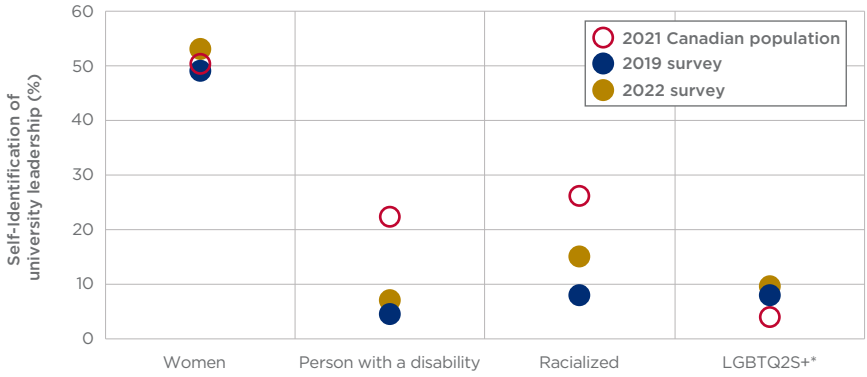
While many segments of the post-secondary research ecosystem (particularly among full-time faculty and doctorate holders) are still not representative of the Canadian population (Table 1.1), some progress has been made through sustained EDI efforts outlined below:

- **Growth in the representation of women as full-time faculty members:** 40% of full-time faculty members in Canadian universities holding a PhD identified as women in 2021–22, an increase from 39% in 2015–16 (StatCan, 2023c) and from 13% in 1970 (StatCan, 2021).
- **The gap in median salary between men and women full-time faculty members has shrunk:** in 1990, there was a 25% difference, and in 2016, that difference decreased to 12%, which is comparable to the wage gap experienced by women in aggregate across the Canadian economy (Universities Canada, 2019a; GC, 2023a).

1 Statistics Canada defines a person with disabilities as, "[a] person whose daily activities are limited as a result of an impairment or difficulty with particular tasks. The only exception to this is for developmental disabilities where a person is considered to be disabled if the respondent has been diagnosed with this condition" (StatCan, 2015a).

2 The panel notes that disaggregated information related to rank of full-time faculty (e.g., lecturer, teaching-track, tenure-track) show demographic differences (StatCan, 2021). Comparative disaggregated faculty data was not available and therefore is not reflected in Table 1.1.

- **Increased representation of equity-deserving individuals as full-time faculty members:** comparing 2006 and 2016, representation of women increased from 33% to 40%; racialized individuals from 15% to 21%; and Indigenous individuals from 1.0% to 1.4% (Universities Canada, 2019a, 2023).
- Increased representation of equity-deserving individuals within university leadership (Universities Canada, 2023) (Figure 1.1).



Data sources: StatCan (2023a,b); Universities Canada (2023)

Figure 1.1 University leadership in Canada is becoming more diverse but is not representative of the Canadian population

In 2022, Universities Canada conducted a three-part survey that relied on self-identification. It was distributed to all member universities (n=97) and received 1,227 responses from senior university leaders. For comparison, the red circles indicate the self-identification of the Canadian population in 2021.

*The source uses "2SLGBTQIA+."

Notably, though, the way in which diversity data are collected and presented can affect its interpretation. For example, approaches that focus only on certain broad underrepresented groups, such as racialized people, may hide specific problems like anti-Black racism which may be more evident were data disaggregated by race (SSHRC, 2024; StatCan, 2024).

Additionally, as the student population has increased in diversity, faculty members and institutional leadership have not yet reflected these changes. Unleashing the full potential of Canada's talent requires enabling students from underrepresented groups at different levels of post-secondary education to flourish, opening learning and research spaces to diverse perspectives (Barjak & Robinson, 2008; Stahl *et al.*, 2010; Claeys-Kulik & Jørgensen, 2018; Gomez &

Bernet, 2019; Swartz *et al.*, 2019; Dewidar *et al.*, 2022; Kozlowski *et al.*, 2022). Diverse faculty members and staff are better able to support diverse students, who in turn matriculate into the Canadian economy and society at large, positively impacting diversity throughout their career pathways. Therefore, targeting EDI measures to all levels of the research ecosystem is essential to promote inclusive culture as a whole.

Barriers persist despite ongoing EDI efforts within the Canadian research ecosystem

Individuals belonging to underrepresented groups continue to face systemic barriers within the research ecosystem which prevent them from attaining the level of training they desire or compromise their ability to fully contribute to the post-secondary research ecosystem (Scott *et al.*, 2015; Stebleton & Soria, 2015; Bailey, 2016; Henry *et al.*, 2017; Gaudry & Lorenz, 2018a; Corneille *et al.*, 2019; Griffin, 2020; CRCC, 2023a). In many cases, these barriers are created and sustained by marginalization within the post-secondary ecosystem (and society in general) linked to systemic racism, gender bias, ableism, settler colonialism, heteronormativity, and other forms of discrimination (Sokal & Katz, 2015; Saltes, 2020; Nielsen *et al.*, 2022; Paquin *et al.*, 2023)

People's movements through the post-secondary research system are often described using a pipeline analogy, with individuals "leaking" at various progressive steps. In the panel's view, this heuristic is problematic as it assumes a single trajectory for all, ignoring the diversity of approaches that may lead to success for an individual. Instead, the panel suggests examining people's trajectories through the research ecosystem as a network of braided and intersecting pathways. Students enter at the undergraduate level and may pursue a variety of degree options that will prepare them for a wide range of roles. In this scenario, a student's pathway may lead them to pursue employment outside of academia, but this route is problematic when students feel they have no choice but to leave due to barriers they face during their studies. The panel also notes that there are barriers in place which prevent some people from entering university, which are important to address. Similarly, barriers extend throughout a person's career and may inhibit people from seeking paths that lead to employment as faculty members or institutional leaders. While critically important to addressing EDI, barriers within the post-secondary research ecosystem have been summarized elsewhere (e.g., Sokal & Katz, 2015; Tamtik & Guenter, 2019; Griffin, 2020; CRCC, 2023; NASEM, 2023) and, therefore, the focus of this report is on EDI measures that overcome these challenges.

EDI measures in Canada are evolving

To address the barriers experienced by faculty, students and staff, many post-secondary institutions have adopted EDI[3] policies and initiatives (NSERC, 2018; Tamtik & Guenter, 2019; Universities Canada, 2023). EDI is composed of three concepts, none of which are sufficient alone to enact lasting change. **Equity**[4] is about fairness and is a principle that recognizes the importance of achieving and maintaining human rights and dignity in processes and outcomes. This requires recognizing that people have differential access to resources and opportunities due to historical and systemic barriers. Promoting equity requires reducing these barriers through deliberate measures, such as decreasing unequal treatment and redistributing resources, enabling all individuals to have equitable opportunities to access and benefit from a given occasion. Equity is distinct from equality, which calls for treating every person the same regardless of the barriers faced specific to their life context. **Diversity** relates to heterogeneity, recognizing that people are unique and that each person's combination of characteristics and intersecting identities can contribute to their experiences in both positive and negative ways. **Inclusion** refers to a sense of belonging and feeling valued, supported, and respected. An inclusive environment is upheld by all members of the community and reinforced through equitable policies, actions, and programs.

In Canada, there have been a number of developments that have impacted EDI in the post-secondary research ecosystem (Figure 1.2). Generally, EDI policies have been grounded in constitutional values and legal frameworks, using a rights-based approach to inclusion (Tamtik & Guenter, 2019). Federal legislation that guides current institutional approaches to EDI includes the *Canadian Charter of Rights and Freedoms* (GC, 1982), the *Canadian Human Rights Act* (GC, 1985), and the *Employment Equity Act* (GC, 1995). In addition, provinces and territories have adopted their own legislation to protect people from discrimination in certain areas, including employment, accommodation, and access to services (reviewed in Jacobs, 2023; Tamtik & Guenter, 2019). The Royal Commission on Equality in Employment and subsequent employment equity legislation identified four groups as facing the most inequitable employment opportunities in Canada: women, racialized individuals, persons

3 EDI is an active area of theoretical and practical work that is constantly evolving, along with its language and terminology. As such, some sources may instead refer to DEI, EDI-D or EDI-A, where the additional D represents *decolonization*, and the A represents *accessibility*. In the panel's opinion, decolonization is a separate but related concept that requires its own dedicated consideration, while accessibility should be a consideration embedded in all aspects of EDI. Therefore, the panel uses the EDI initialism throughout this report with the understanding it includes accessibility.

4 In Canada, a related concept, substantive equality, is sometimes used instead of equity because the Supreme Court of Canada has interpreted the Charter as guaranteeing substantive equality. The Charter also protects against discrimination.

with disabilities, and Indigenous Peoples (GC, 1995).[5] Data collection and many EDI measures have followed this framework; as such, these are the groups discussed most in this report, with the addition of LGBTQ2S+ communities. However, it is worth noting that within this framework, there are other aspects of identity (e.g., age, economic class, and religion) that should be considered based on a broader human rights framework beyond that provided by the *Employment Equity Act*. To this end, efforts are underway throughout the post-secondary landscape to provide equitable environments for all people, though data show that inequity persists (NSERC, 2018). Additionally, the Truth and Reconciliation Commission (TRC) of Canada report was released in 2015 and detailed 94 Calls to Action to further reconciliation with Indigenous Peoples—some of which provide a framework for reconciliation within the post-secondary research ecosystem (GC, 2015a). In 2021, the *United Nations Declaration on the Rights of Indigenous Peoples* (UNDRIP), which affirms the rights of Indigenous Peoples to make decisions for themselves regarding education, healthcare, and justice, passed into federal law after being adopted by the UN General Assembly in 2007 (GC, 2021a). How these developments are addressed in this report are further discussed in Section 1.3.2.

5 The specific language of the *Employment Equity Act* differs from the language adopted by this report. The *Employment Equity Act* uses the terms "Aboriginal peoples" and "members of visible minorities." This report instead uses the preferred terms Indigenous Peoples and racialized people. The term "visible minority" is used by Statistics Canada under the *Employment Equity Act* and defined as "persons, other than Aboriginal persons, who are non-Caucasian in race or non-white in colour" (GC, 1995). As of 2022, this reporting standard has been under review (StatCan, 2022a). Additionally, in 2023, a federal taskforce published their review of the *Employment Equity Act* and recommended creating new designated groups (Black people and 2SLGBTQI+ people); replacing the term Aboriginal Peoples with Indigenous Peoples while updating the definition to include First Nations, Métis, and Inuit identities; and replacing the term members of visible minorities with racialized people (Blackett, 2023).

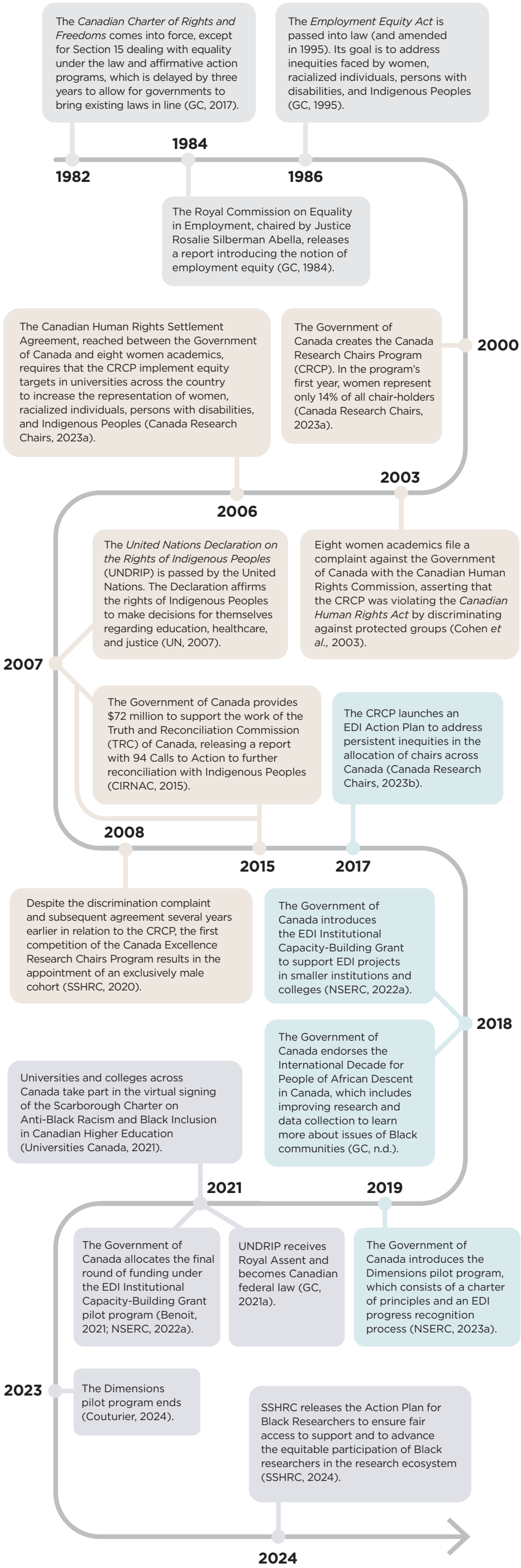


Figure 1.2 Timeline of important developments that have impacted EDI in Canada's post-secondary research ecosystem

The panel notes that various legal and policy developments have shaped the current state of EDI in Canada's post-secondary research ecosystem. This timeline begins with the *Canadian Charter of Rights and Freedoms*, which sets out the right to equal protection and benefit of the law without discrimination (Butler & Mason, 2021). The Supreme Court of Canada has interpreted this right as guaranteeing substantive equality, meaning that laws and policies must not merely treat everyone in the same way, but it is also necessary to consider their effects on different people (Butler & Mason, 2021).

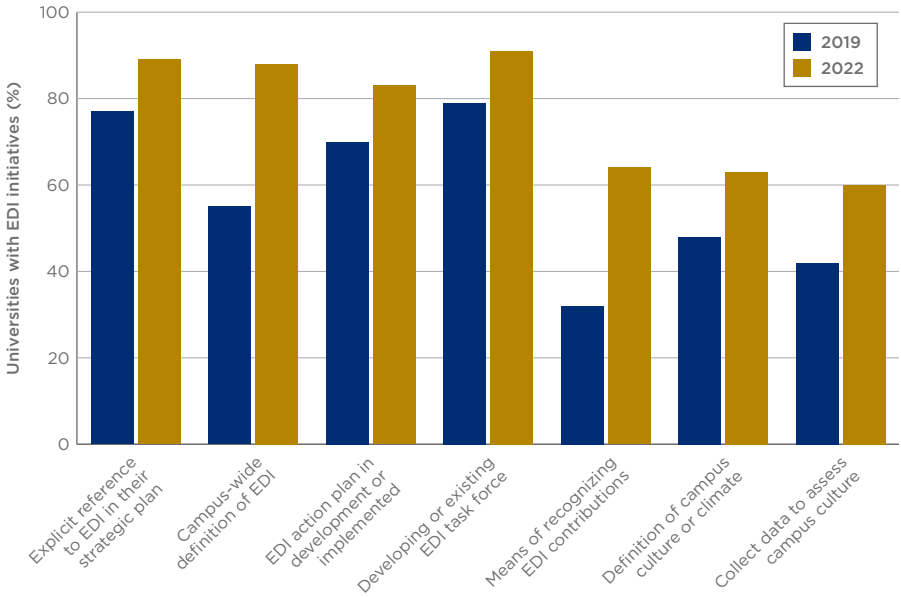
Ensuring the equitable allocation of resources like grants and awards, as well as creating inclusive spaces where all people feel comfortable, are indispensable aspects of EDI. The Natural Sciences and Engineering Research Council of Canada (NSERC), Social Sciences and Humanities Research Council (SSHRC), and Canadian Institutes of Health Research (CIHR), collectively referred to as the tri-agency, recognized the importance of EDI within the post-secondary research ecosystem in their 2018–2025 EDI Action Plan, noting that "in order to achieve world-class research, we must address systemic barriers that limit the full participation of all talented individuals" (NSERC, 2018). To advance these efforts at the institutional level, in 2021, universities and colleges across Canada took part in the virtual signing of the Scarborough Charter on Anti-Black Racism and Black Inclusion in Canadian Higher Education (UC, 2021) (Box 1.1).

Box 1.1 The Scarborough Charter

The Scarborough Charter is a legally non-binding document that acknowledges "the distinct, complex historical legacy" of Black people in Canada and "the persistence of anti-Black racism, the depths of Black underrepresentation and the systemic loss of creative contribution" (Inter-Institutional Advisory Committee, 2021). The charter encourages universities and colleges to take meaningful action to address anti-Black racism and promote Black inclusion in Canadian higher education (Inter-Institutional Advisory Committee, 2021). It was created through a multi-stage, country-wide consultation process with universities, colleges, and community members (Universities Canada, 2021). As of February 2024, 58 universities and colleges across the country, including 13 of 15 research-intensive universities, had signed the charter (U15 Canada, 2024; U of T, 2024). This represents approximately 20% of all post-secondary institutions in Canada (CES, n.d.).[6] The signatories committed to taking concrete steps to address anti-Black racism, drawing on the following fundamental principles: Black flourishing, inclusive excellence, mutuality, and accountability (Inter-Institutional Advisory Committee, 2021).

6 The Canadian Centre for Education Statistics at Statistics Canada collects data from 280 major institutions, but it is not clear how many smaller institutions may be missing from the dataset (CES, n.d.).

Despite the positive movement toward EDI–informed policies and initiatives, not all institutions actively work to develop campus culture with EDI in mind or actively monitor the impacts of EDI initiatives (Figure 1.3). Action on EDI is also beset by challenges in determining what works and how best to assess and measure progress.



Data source: Universities Canada (2023)

Figure 1.3 Percentage of universities with specified EDI and culture-based initiatives

In 2022, Universities Canada conducted a three-part survey of EDI initiatives of all member universities (n=97), of which 66 responded.

Given this context, Canada's federal funding agencies, the Social Sciences and Humanities Research Council (SSHRC), the Natural Sciences and Engineering Research Council of Canada (NSERC), the Canadian Institutes of Health Research (CIHR), and the Canada Foundation for Innovation (CFI), in addition to Innovation, Science and Economic Development Canada (ISED), Health Canada, and National Research Council of Canada (NRC) (hereafter referred to as the sponsor) asked the Council of Canadian Academies (CCA) to investigate EDI practices that create impactful change in the post-secondary research ecosystem.

1.2 The charge

The sponsor asked the CCA to answer the following question and subquestions:

What is the state of knowledge regarding measures that organizations in Canada and around the world are implementing to achieve equity, diversity and inclusion in the post-secondary research system?

- What is the state of knowledge around the effectiveness of measures (i.e., policies, programs and initiatives) that address underrepresentation and marginalization of women, racialized minorities, Indigenous peoples, persons with disabilities and individuals from LGBTQ2+ communities in the research ecosystem and post-secondary institutions?
- What existing measures have been shown to be most beneficial to individuals who self-identify with multiple underrepresented and marginalized identities? What are the evidence-based best practices and most promising practices for implementing intersectional EDI measures?

To answer the charge, a multidisciplinary panel of 11 experts (hereafter referred to as the panel) was convened from various roles within Canadian post-secondary institutions, including researchers, professors, and senior administrators. Panel members served pro bono and were tasked with conducting a thorough and objective assessment of the available evidence. The panel met four times virtually and three times in person over a period of 11 months between July 2023 and June 2024 to develop this report.

Members of the panel have backgrounds in post-secondary administration, law, policy, and theoretical and applied research across a variety of fields and disciplines, including education, social work, medicine, engineering, natural sciences, health sciences, and nursing, and importantly, also have experience with studying, developing, and implementing EDI measures. Panel deliberations were also informed by the diverse lived experiences and identities of the panellists themselves, who participated with the knowledge that, as a group, they only represent a subset of the range of experiences and identities found within the research ecosystem, reflecting some of the challenges larger institutions have in creating panels that represent their diverse populations. Together, the panel had a multitude of relationships with the systems of power and privilege (e.g., race, gender, disability, sexual orientation). Collectively, the

panel tried to centre and learn from the voices in the margins of intersectional systems of oppression while mobilizing their own privileges to challenge the status quo and move toward equity.

To ensure the integrity of the assessment process, panel members were required to disclose to the CCA and fellow panellists any conflicts of interest—actual, foreseeable, or perceived—relevant to the issues being discussed so these could be managed transparently. Panel members abided by a confidentiality agreement and code of conduct designed to support an environment that fosters collaborative and respectful deliberations, the free exchange of knowledge, and the assessment of evidence.

The report underwent a comprehensive peer review, whereby an additional 13 experts from Canada and abroad provided further evidence, feedback, expertise, and knowledges. Peer reviewers provided feedback to inform panel deliberations but were not asked to endorse the final report and remained anonymous until the report was released. This process was overseen by an independent peer review monitor appointed from the CCA's Scientific Advisory Committee, further supporting the integrity of the review.

1.3 The panel's approach

1.3.1 Terminology

Though EDI has been an active area of research for many years, swift social change has led to rapidly shifting terminology. As a result, institutions, government agencies, and society in general do not always use the most up-to-date terminology. The language used throughout this report attempts to reflect the current preferred terms within the field; differences will be noted with a footnote when preferred terms differ from those in cited references.

The panel notes that many concepts related to EDI (Section 1.1) are contested, and how they are defined could have different intended and unintended consequences (Tamtik & Guenter, 2019). For example, *equity*, understood as fairness, suggests education policies focus on redistribution, while *equity*, interpreted as inclusion and recognition, leads to policies that seek to improve "the negative influences of social and cultural difference" (Savage *et al.*, 2013). For this assessment, the panel agreed upon definitions for several key terms used throughout the report, outlined in Section 1.1 and Box 1.2, which blend definitions from literature and, in some cases, the panel's own words. While the panel used these definitions to conduct their work, they recognized that there are other ways to interpret and define these constructs and concepts and that they are fluid and likely to change over time. Further, this list is not

intended to be comprehensive, and additional treatment of these and related definitions are provided in other studies (see, for example, CRCC, 2023a; GC, 2023b; UBC, n.d.; UCalgary, n.d.).

Box 1.2 Key terms

Ableism is a conscious or unconscious belief that persons with disabilities are less worthy of respect and consideration, less able to contribute and participate, or have less inherent value than others. Ableism may be embedded in institutions, systems, and wider society (LCO, 2012).

Accessibility is the extent to which digital and physical spaces and resources are readily approachable and usable by everyone, no matter their characteristics, such as disability, race, sex, gender identity, gender expression, sexual orientation, class, or socioeconomic status.

Anti-racism policies and actions are put in place to identify, acknowledge, counter, and dismantle racism at all levels.

Culture describes the collection of values, beliefs, and behaviours observed by individuals and groups of people. It is a social construction that sits at the intersections of power, privilege, economy, equity, and justice. Culture is "a historically situated, socially constructed, and complex term … [that is] pluralistic, subjective, personal and inclusive" (Boylorn & Orbe, 2021).

Decolonization is a combination of theory and practice meant to challenge the dominance of Euro-Western practices (Brunette-Debassige, 2023). This includes the undoing of processes with which one nation asserts "control over another nation's land, people, and culture" (BCOHRC, n.d.). In academia, this may include teaching, the ways of doing research, practices within specific disciplines, and institutional structures and policies, and is a more general expression of Indigenization (ACEDID, 2021).

Disability includes physical, psychological, sensory, and intellectual disabilities, as well as temporary or permanent medical conditions. Disabilities, including those not visibly apparent to others, substantially affect a person's life and what they consider accessible. Other terms may be found in the literature that focus on highlighting the differing abilities of individuals rather than the lack of specific abilities or the idea that environmental barriers are what, in fact, disable a person.

(Continues)

(Continued)

Equity-deserving groups are underrepresented in positions of economic influence and leadership and experience significant barriers to participating in the post-secondary research ecosystem and society more broadly. These groups typically include women, racialized persons, persons with disabilities, those who identify as LGBTQ2S+, and First Nations, Inuit and Métis peoples as founding peoples of Canada.

Equity-seeking groups experience barriers to equal access, opportunities, and resources due to disadvantage and discrimination, and they actively seek social justice and reparation. While this term is well-intentioned, it is criticized by some for "perpetuating a perception of these groups as interlopers," and the term **equity-deserving groups** is used instead throughout the report (Tettey, 2019; Inter-Institutional Advisory Committee, 2021; GC, 2023b).

Identity is a person's sense of self that is fluid and can be defined by their characteristics, social roles, affiliations, and experiences in historical systems of oppression and privilege (Owen, 2009; Hirshfield & Joseph, 2012; Byler, 2023; Lilly *et al.*, 2023). A person's identity influences their perception of self and others (Owen, 2009), and motivates behaviours, judgments, and decisions (Owen, 2009). Other definitions specify that identity can be relational and variable depending on who is being perceived by whom (Juhila & Abrams, 2011).

Indigenization can refer to a variety of actions in academia, from the inclusion of Indigenous students, faculty, and staff to the creation of common ground between Indigenous and Canadian ideals to a full reconstruction of academic structures to reflect Indigeneity (Gaudry & Lorenz, 2018a).

Intersectionality is a concept introduced by Kimberlé Crenshaw (1989, 1991) to highlight marginalization that arises from the intersection of race and gender for Black women. Since then, this term has been adopted to address multiple interlocking systems of power and privilege, including race, gender, ability, class, age, religion, and sexual orientation.

Minoritization recognizes that individuals are placed into a "minority" status due to systemic inequities and oppression rather than their own characteristics. The use of the term acknowledges the understanding that in this context, "minority" is a social construct (Sotto-Santiago, 2019).

(Continues)

(Continued)

Racialization is a socially constructed process through which groups or individuals are designated as belonging to a particular "race" and, on that basis, subjected to discrimination and differential treatment. While white people are also racialized, they may not see themselves as part of a race because whiteness is often asserted as the "norm" that other races are measured against.

Racism can be defined in a variety of ways (Bonilla-Silva, 1997) but is generally described as the combination of policies, practices, attitudes, cultures, and systems that confer power and privilege to certain groups over others, defined according to the social constructions of race and ethnicity. Some racist practices might be embedded in the policies and structures of organizations when they avoid using overtly racial terminology; as such, they may go undetected.

1.3.2 Approach to Indigeneity

The charge challenged the panel to adopt a broad view of EDI, examining measures that affect many diverse populations, of which Indigeneity is one part. Several important acknowledgments guided the panel in their examination of the impact of EDI practices on Indigenous People in the post-secondary research ecosystem.

In a commitment to truth and reconciliation, the panel recognizes the importance of Indigenization and decolonization practices for impactful change in the post-secondary research ecosystem but understands that they are distinct from EDI approaches. It notes that standards for equitable research are set out in UNDRIP (UN, 2007), which provides a legal foundation for all relationships with Indigenous Peoples in Canada (GC, 2021a). In response to the enduring negative effects of colonialism, UNDRIP codified the recognition of the rights of Indigenous Peoples at federal and international levels and, among other things, established the minimum standards that are critical to equitable research:

- the right to self-determination in all regards (Article 3);
- the recognition of and requirement for the free, prior, and informed consent of Indigenous Peoples involved in or impacted by any project or research (Articles 19, 32.2);
- the right to decision-making authority and control over lands, waters, and resources (Articles 26, 27, 28, 29.1, 32); and

- the right to determine and foster ways of being and knowing that are appropriate to the community context, as well as the right to educate community members accordingly (Articles 11.1, 13.1, 14, 31).

UN (2007)

These UNDRIP provisions acknowledge the rights of Indigenous Peoples to self-determination with respect to research activities that affect them and their lands. A research system that upholds these elements sustains the "minimum standards for the survival, dignity, and well-being of the Indigenous Peoples of the world" (UN, 2007).

The panel also acknowledges that this report was created within systems of colonial origin that continue to impact research in institutions and that can have the effect of devaluing Indigenous Knowledges and epistemologies. Specifically, the types of evidence and measurement used throughout the report should be viewed through an equity lens, understanding that these determinations are rooted in Euro-Western traditions and tend to exclude Indigenous ways of acquiring knowledges. These approaches can lead to standard-setting based on quantitative measures across universities and EDI groups that do not necessarily reflect diversity in people's intersectional identities and knowledge systems.

The panel recognizes the importance of Indigenous self-governance and acknowledges it cannot speak for Indigenous communities; rather, it must support Indigeneity represented in all aspects of the post-secondary research ecosystem (NCTR, 2020). Approaches can vary within and among Nations, traditions, and communities, and the barriers faced by Indigenous Peoples, as well as measures that would support Indigenous participation in the post-secondary research ecosystem, are unique and require a separate assessment.

No member of the panel self-identified as Indigenous. Therefore, the panel worked to integrate Indigenous perspectives and experiences through written materials, but recognizes the limitations of this approach. Self-identified Indigenous peer reviewers reviewed a draft version of this report and provided comments that were considered by the panel. While the measures discussed in this report may benefit Indigenous Peoples, fully realizing the inclusion of varied Indigenous perspectives is distinct from EDI approaches and merits separate research and analysis. The panel also identifies the need for a distinct investigation into, and analysis of, decolonizing the post-secondary research ecosystem, approached from Indigenous perspectives and led by First Nations, Inuit, and Métis scholars and knowledge-holders.

1.3.3 Scoping decisions and areas of focus

The panel considered the benefits, challenges, opportunities, and unintended consequences of implementing EDI measures in post-secondary institutions in Canada. However, this is a vast ecosystem with many different facets affecting numerous people. The panel identified several specific areas and organizations that were out of the scope. In particular, the report does not discuss Canadian institutions ineligible for tri-agency funding, provide formal evaluations of individual funding programs, or give recommendations. Rather, it examines EDI measures within the post-secondary research system—including the design of funding, granting, and research programs, and human resources and capacity development—through the lens of federal/provincial/territorial jurisdictional roles and constitutional law. Additionally, as EDI affects everyone, the thoughtful and total inclusion of all identities throughout the report was considered beyond the scope of the report. The report is focussed on initiatives and programs designed around the identities specified in the *Employment Equity Act* (with the addition of the LGBTQ2S+ community), omitting fulsome discussions around other equity-deserving groups (such as socioeconomic, religious, linguistic, and neurodiverse[7] identities). The panel notes that future work should focus on measures that impact these additional identities. However, many of the initiatives discussed in this report can be adapted for other underrepresented groups.

In discussions at the start of this assessment, the sponsor and panel agreed that a comprehensive analysis of barriers to EDI is out of scope. These barriers are, therefore, not included outside of the brief mention in Section 1.1. Instead, the report focuses on initiatives, policies, and programs that may lead to sustainable cultural change, including immediate and long-term measures that are resilient in changing contexts. The theme of pushback to measures was noted broadly as an impediment to advancing EDI. Because pushback often happens at times of significant progress, as noted by the sponsor, strategies are also required to overcome this resistance, which are discussed in Section 6.5.

1.3.4 Sources of evidence

The panel's assessment relied on the review of various forms of evidence, including peer-reviewed publications, publicly available government information and data, investigative journalism, proposed legislation and

7 Neurodiversity refers to a range of neurocognitive developmental disorders, often including autistic spectrum disorder, attention deficit and hyperactivity disorder, or dyslexia (Doyle & McDowall, 2021).

policies, and other relevant grey literature[8] related to EDI initiatives across jurisdictions in Canada and elsewhere. The panel emphasized the importance of experience-informed examples as vital forms of evidence, creating a more thorough way to identify the most effective measures. Panel members additionally drew on their individual lived experiences, invoking personal obstacles or examples to support potential best practices as appropriate.

Data limitations made the panel's analysis challenging

In 2012, a CCA report, *Strengthening Canada's Research Capacity: The Gender Dimension,* commissioned as part of a review of the Canada Excellence Research Chairs (CERC) program, identified a lack of disaggregated and qualitative data, as well as a lack of intersectional analysis (CCA, 2012). Unfortunately, this type of data, in many cases, continues to be fragmented and incomplete (StatCan, 2022a, 2024), challenging the analysis of barriers and measures to promote EDI in Canada. Other challenges to the collection of EDI data—such as privacy concerns, stigmatization for less visible identities, and the complexities of self-identification and full disaggregated representation of those identities, especially in relation to Indigenous identity and citizenship—also limited the panel's analysis.

This report draws insights from measures proven effective for several different individual identities or specific intersectional identities (e.g., Black women); these can help inform an understanding of the applicability of measures for other identities, individual and intersectional, that have not yet been examined. The panel highlights these studies where available but acknowledges they are not a substitute for rigorous intersectional research. The panel suggests that considering intersectional frameworks as a measure itself can help policy-makers understand how various equity-deserving groups experience policies in different settings and contexts (e.g., faculty members, students, staff) and guide the selection of preferred interventions in the future.

Throughout the assessment, the panel was mindful of the limitations of data generated by settler-dominated academic spaces and institutions. Often referred to as a *Eurocentric* or *Western* approach to knowledge production, these dominant practices can diminish lived experiences and Knowledges produced by Black, Indigenous, and racialized people, members of the LGBTQ2S+ community, and people with disabilities, seeing them as bystanders to the research process and viewing the work they produce as less credible and valid (Scheurich & Young, 1997; Gewin, 2021; Beagan *et al.*, 2022).

8 "Grey literature stands for manifold document types produced on all levels of government, academics, business and industry in print and electronic formats that are protected by intellectual property rights, of sufficient quality to be collected and preserved by library holdings or institutional repositories, but not controlled by commercial publishers i.e., where publishing is not the primary activity of the producing body" (Schöpfel, 2018).

1.3.5 Organization of the report

This report describes measures that may enhance EDI in the post-secondary ecosystem in Canada. There are many opportunities to adopt equitable and inclusive practices across the ecosystem, which is captured in the report's design. Figure 1.4 outlines the general structure of the report, wherein **Chapters 2 and 3** describe measures that affect individuals and post-secondary institutions, respectively. **Chapter 4** deals with the role of government research funding in promoting EDI measures in the post-secondary ecosystem, and **Chapter 5** describes how EDI can be incorporated into the research process itself. **Chapter 6** describes the enabling factors that can help facilitate the measures described in the prior chapters. **Chapter 7** outlines the panel's high-level reflections including that it is crucial that measures be adopted holistically, across all levels, to be most effective.

Chapter 2		Chapter 3	Chapter 4	Chapter 5
People		Post-secondary institutions	Governments	Research process
Students	Staff and faculty members			
• Preparation • Admissions • Financial support	• Recruitment • Compensation and benefits • Work arrangements	• Structures and capacity • Climate • Curricula and pedagogies • Mentoring	• Grants and scholarships for faculty, PDFs,* and students • Recognition program and equality charters • Capacity building programs • Employment equity targets attached to research excellence programs	• Application phase • Research phase • Post-research phase
Chapter 6				
• Data • Transparency • Financial and human resources • Managing bias • Training • Accountability • Addressing resistance				

*Postdoctoral fellows

Figure 1.4 Summary of the breadth of groups and types of processes that are targeted by EDI measures and discussed in the report

The report begins with discussing initiatives targeted at students, staff, and faculty members (Chapter 2) before broadening to initiatives related to entire post-secondary institutions (Chapter 3). Government-based interventions (Chapter 4) and policies related to the research process (Chapter 5) are then discussed. Enabling factors that allow these policies and initiatives to be effective are then considered (Chapter 6).

2

Evidence-Based EDI Measures for Recruiting and Supporting Faculty Members, Staff, and Students

Chapter findings

- Evidence of the effectiveness of individual EDI initiatives is limited; however, those supported by an EDI-friendly institutional culture tend to be more successful.
- Institutional buy-in is required for faculty-, staff-, and student-targeted interventions; developing long-term relationships with senior leadership can help with the acceptance and financing of initiatives.
- Bridging programs, inclusive admissions, and targeted financial aid for students can increase EDI at the undergraduate and graduate levels.
- Targeted hiring can be effective at increasing diversity, but it must also be thoughtfully carried out to promote equity and inclusion.
- When equitably conferred, compensation, benefits, and recruitment packages can mitigate the effect of certain barriers experienced by faculty members and staff with diverse identities.

There are numerous measures focussed on individuals that support people entering, remaining, and advancing within post-secondary research institutions across Canada (Tamtik & Guenter, 2019). Evidence from academic and non-academic organizations within Canada and other jurisdictions can provide insight into which measures may be most effective, but data are generally sparse. Another challenge in evaluating effectiveness is that while students, staff, and faculty may have access to various initiatives, no central repository or resource collects information about these programs.

Initiatives discussed in this chapter follow the progression of an individual's career pathway: student enrollment and retainment, followed by faculty member recruitment and staff support. Where possible, points affecting attrition are considered. The panel notes that not all measures discussed were assessed in all populations or for all identities, especially intersectional identities, and acknowledges future work is required to understand broad impacts better. Specifically, intersectionality is not yet robustly reflected in the evidence base for the effectiveness of many EDI measures; however, intersectionality is becoming a more significant part of university strategies and ministerial mandates, recognizing this as an important gap (U of T, 2019; UBC, 2021; OAG, 2022; SSHRC, 2022a; Universities Canada, 2023).

2.1 Student-focussed initiatives

The recruitment and success of equity-deserving students in undergraduate, graduate, and professional training programs can ultimately lead to more diverse professionals (e.g., Grumbach *et al.*, 2003). Yet, barriers faced by underrepresented groups can limit individuals' abilities to flourish in the post-secondary ecosystem. Many types of programs exist to increase the diversity of applicants and students, including application preparation, active recruitment, selection criteria, targeted support for particular populations, and analysis of institutional context and selection practices. Developing and maintaining a welcoming and equitable climate within universities is critical to supporting these initiatives and is discussed further in Chapter 3.

2.1.1 Bridge and preparatory programs for students

Helping students to better prepare for admission into university programs can increase diversity (Grumbach & Chen, 2006). Colleges and universities use a variety of approaches to increase the number of applicants from underrepresented groups and that encourage these students to remain in STEM programs, including long- and short-term bridge programs targeted at specific equity-deserving groups (e.g., summer programs for entering first-year students) (Bradford *et al.*, 2021).

Bridge programs can improve retention and outcomes for students from underrepresented groups

Bridge programs are designed to connect students who may not have had the prerequisite training typically required to access programs and opportunities. For example, STEM bridge programs in Canada have been used to support Indigenous students in engineering and sciences (Box 2.1). Another example beyond STEM disciplines is Dalhousie's Pathways programs, which seek to assist students in gaining the skills needed to enter various undergraduate programs (Dalhousie University, n.d.). Bridge programs are not unique to Canada; those implemented in the United States have been shown to positively impact grade point average and student retention during the first year of college (Bradford *et al.*, 2021). For example, the University of California medical schools' one-year post-baccalaureate premedical program enrolled applicants "from disadvantaged backgrounds and who meet minimum academic criteria" and who had "a strong interest in practicing medicine in underserved communities" (Grumbach & Chen, 2006). The program tries to identify the students who would gain the most from the enrichment program; therefore, those with the highest grades and MCAT scores were not necessarily the highest ranked. This program targets racialized students (66% of those

enrolled were Black or Latinx[9]) and students from homes where the parental education is high school or lower (approximately 50% of those enrolled). Black and Latinx[10] students who participated in the program had higher odds of being accepted into medical school compared to a control group that did not participate in the program (Grumbach & Chen, 2006).

Box 2.1 Examples of STEM bridge programs for Indigenous students in Canada

Several STEM-focussed access and retention programs have supported Indigenous students in the post-secondary research ecosystem:

Queen's University's Indigenous Futures in Engineering (InEng) initiative has contributed to an increase in the number of Indigenous student engineers from 4 in 2011 to 48 in 2021–2022. InEng provides support to future Indigenous engineers from elementary school through university. It includes outreach programs for grade school students and academic and social support at the university level, such as tutoring, study spaces, social events, and opportunities to take part in conferences and competitions in Canada and abroad (Queen's, 2022).

University of Saskatchewan's Indigenous Student Achievement Pathways (ISAP) offers preparatory courses in chemistry, physics, biology, and math for those who lack high school prerequisites and connects students with a mentorship network of Indigenous graduate students (USask, n.d.).

University of Manitoba's Engineering Access Program (ENGAP) has provided support to over 100 Indigenous student engineers (Ricci, n.d.). It offers resources to students and graduates, including counselling, financial and peer support, and tutoring (UM, n.d.).

9 *Latinx* is a pan-ethnic and gender-neutral term used by some sources to refer to people of Latin-American culture, substituting the suffix of Latino or Latina with an x to signify its variability; however, its use is not ubiquitous (Lopez, 2020). The use of Latinx in this report reflects its use in the literature cited.

10 The reference uses the terms Latino and Chicano/Latino.

2.1.2 Inclusive admissions

Adapting traditional admissions processes or adopting holistic admissions are two measures that have been employed in academic institutions to increase the diversity of incoming students. For example, the Schulich School of Medicine & Dentistry at Western University implemented the following changes to their admission process:

- the introduction of a voluntary applicant diversity survey;
- the inclusion of an equity representative on (and diversification of) the admissions committee;
- the addition of life experiences to the application;
- the implementation of implicit bias awareness training for those involved in the admission process; and
- the creation of an admissions pathway for applicants experiencing socioeconomic, financial, and medical barriers.

(Joy, 2022)

These changes led to increased representation of racialized students or those experiencing socioeconomic challenges within the class of 2024, which reached levels of representation reflecting that of the applicant pool (Joy, 2022).

Admissions processes that recognize metrics beyond grades and standardized tests can increase diversity in academic programs

Other strategies targeting the admissions process have been used, such as holistic admissions, which recognize merit and excellence not reflected in grades and standardized tests. These types of admissions can provide an alternative avenue to acceptance for those who have faced barriers (e.g., cultural, socioeconomic, medical, or physical) (Olijnyk, 2023). The University of Calgary Faculty of Law, for example, has a holistic admissions policy for Black students with its own review process and the option to add a personal essay for consideration. The assessment process can also include a review that is evaluated by a subcommittee of Black members of the legal community, students, and faculty (Olijnyk, 2023). Among the entrants into the 2021 University of Calgary Faculty of Law, 8.0% were Black, which is higher than the percentage of Black people in the city (5.2%) and the province of Alberta (4.3%) (Lewis *et al.*, 2023). A similar application process adopted by the Toronto Metropolitan University Lincoln Alexander School of Law has helped recruit 59 Black students, representing 12.8% of students across all three years of its entry-level law program. The percentage of Black students in the law school exceeds that of Black people in the province of Ontario (5.4%) and in Toronto (9.5%) (Lewis *et al.*, 2023).

The 2022–2023 Black Law Student Census Report analyzed enrollment trends at law schools across Canada and identified several recommendations consistent with developing a holistic recruitment practice to increase the enrollment of Black students that could be adapted to other areas of study:

- introduce a specialized admissions category for Black applicants that offers an alternative to grades and standardized test scores;
- introduce or expand financial support and LSAT programs for future and current Black law students;
- introduce more in-depth discussions on race in their curricula guided by informed instructors;
- provide mandatory anti-Black racism and EDI training for faculty members and students;
- collect data on race;
- support Black law student associations; and
- hire Black professors.

(Lewis *et al.*, 2023)

Holistic admissions programs have also been applied in other fields to increase the inclusion of underrepresented groups. For example, Duke University's cardiovascular medicine fellowship program introduced a holistic recruitment approach in 2017, which significantly and immediately increased the proportion of underrepresented students (referred to as UREGs, which stands for underrepresented racial and ethnic group) entering into the program (Rymer *et al.*, 2021) (Figure 2.1). The initiatives implemented in this approach are consistent with some of the considerations described above.

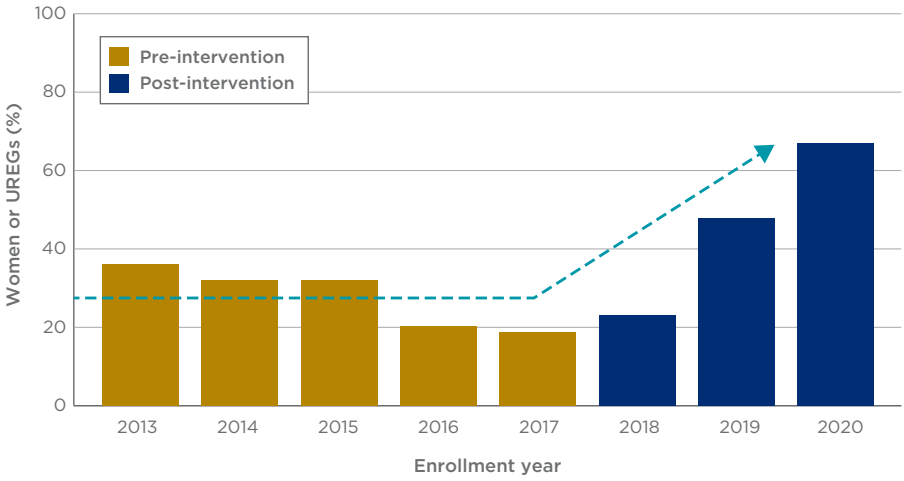


Figure 2.1 Women or members of an underrepresented racial and ethnic group (UREG) entering a general cardiology program before and after the implementation of a holistic recruitment approach at Duke University

The dashed line over the pre-intervention years illustrates the mean percentage of fellows over the 5-year period and the arrow shows the cumulative change of successive matriculating classes of more diverse fellows. The total number of fellows in each year varied; there were 25 fellows between 2013–2016 and in 2019, 26 fellows in 2017 and 2018, and 24 fellows in 2020.

The panel notes that holistic admission programs, while beneficial, may not necessarily serve all students equally since people experiencing different forms of marginalization or discrimination (e.g., a Black neurodivergent student), may not be reflected in the process. Moreover, not all identities are provided for in holistic admissions programs, such as neurodiversity, which comes in a variety of forms across a broad spectrum of abilities and challenges. Finally, while holistic admissions processes that reduce the weighting of academic results on applications are intended to create a more equitable process, depending on what metrics are used, they may have unintended consequences, such as reducing the rate of accepted applicants from socioeconomically disadvantaged backgrounds (Corcoran, 2024; Saul, 2024).

2.1.3 Representation

Representing diverse identities at the faculty level can benefit students within institutions in a number of ways. Having staff members who have faced marginalization can create an understanding and empathetic environment within which EDI measures can be more readily accepted and deployed. Employing diverse faculty members can also directly affect students' experiences.

Students benefit from diverse faculty

The increase in the number of students who identify as a visible minority (according to the Canadian 2021 census) has resulted in racialized students outnumbering faculty two-to-one and senior university leadership four-to-one (Universities Canada, 2019b; Usher, 2023). The lack of diverse faculty members has negative impacts on diverse students. A study of a U.S. law school demonstrated that the grades of students with demographically mismatched instructors (i.e., differences in race or gender, particularly for women and racialized students) were adversely affected (Birdsall *et al.*, 2020). Another study of 28 U.S. universities supports the importance of diverse faculty in improving racialized students' outcomes (Llamas *et al.*, 2021).

Having a professor of the same racial/ethnic demographic group predicted higher grades, which, in turn, predicted higher graduation rates (Llamas *et al.*, 2021). Representation of underrepresented groups among instructors has also reduced the gap in graduation rates for students of other equity-deserving groups when compared to white students (Bowman & Denson, 2022). However, in institutions where at least half of the students or instructors are Black or Latinx, there is virtually no graduation gap between these students and white students (Bowman & Denson, 2022). Notably, while evidence suggests a link between the success of students from underrepresented groups and the representation of faculty and staff who reflect their identities, it is unclear what is driving these effects. For example, they can be caused by the representation itself or by the fact that a diverse faculty creates an open and welcoming faculty where students can thrive.

Having a professor of the same racial/ethnic demographic group predicted higher grades, which, in turn, predicted higher graduation rates (Llamas *et al.*, 2021).

2.1.4 Targeted scholarships and financial aid

Federal and provincial governments, not-for-profits, and institutions use targeted scholarships and financial aid to increase post-secondary participation of students from communities experiencing marginalization (ISC, 2020; UWaterloo, 2022; U of T, n.d.-a).

Financial considerations also extend to graduate students, who are often provided with a minimum stipend in Canada, which can be augmented with grants and awards. This stipend in 2021,[11] on average, was $19,094 per annum for master's students and $23,765 for doctoral students nationally (OSPN, 2023). There were significant differences in stipends along the lines of ethnic identity, with Southeast Asian and white students receiving awards at higher rates than other identities (Figure 2.2). The average stipend for Indigenous-identifying students was $13,682 per year (n=11) compared to the average for non-Indigenous respondents, which was $22,286 (n=890) (OSPN, 2023). Low stipends lead to financial difficulties for all students, though the panel notes that this strain can exacerbate other forms of hardship experienced by students subjected to discrimination based on their intersectional identities while creating a more accessible environment for those from more privileged backgrounds (D'Addario *et al.*, 2023).

11 The 2024 Federal Budget proposed substantial increases to graduate-level funding beginning in the 2024/25 academic year (GC, 2024a).

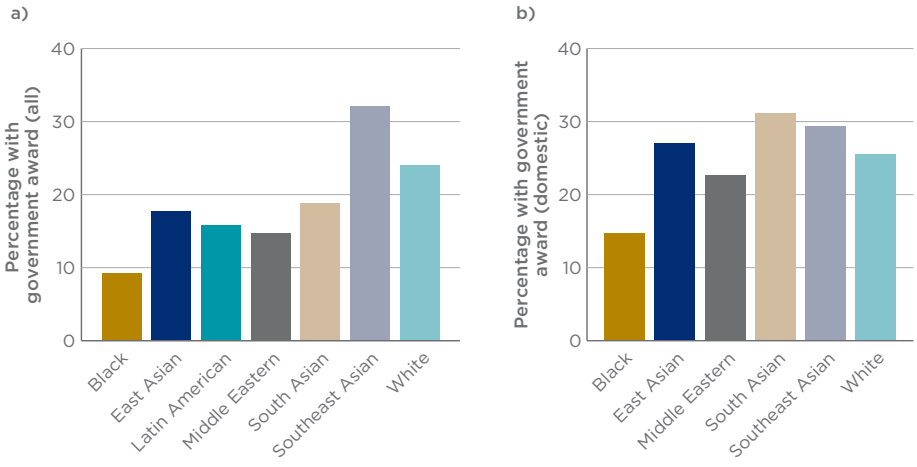


Figure 2.2 Graduate students holding government awards by ethnic identity in Canada in 2021

a) Percentage of respondents who received government awards, defined as federal or provincial awards, excluding admission and institutional scholarships. Results are for a survey size of 1,305 students, including Black (n=75), East Asian (n=102), Latin American (n=57), Middle Eastern (n=109), South Asian (n=112), Southeast Asian (n=28), and white (n=868) students. Indigenous students surveyed (n=11) did not receive government awards.

b) Largely, government awards are reserved for Canadian citizens, permanent residents, or protected persons under subsection 95(2) of the *Immigration and Refugee Protection Act* (GC, 2001); when only domestic students are counted, the percentage of racialized students receiving awards increases. Data for Latin American students not shown due to small sample size.

Targeted financial aid supports the inclusion of women, Indigenous, and racialized students in post-secondary programs

Targeted financial aid can support the recruitment, retention, and participation of women, racialized and Indigenous students, and students with significant financial need (Piper & Krehbiel, 2015; Jones, 2016; Olijnyk, 2023). In Canada, cuts to the Post-Secondary Student Support Program (PSSSP) caused a decline in high school graduation and university participation, especially among Indigenous students who face higher-than-average costs, as is often the case for those who live on reserves or in remote communities (Jones, 2016). Some universities are attempting to address this issue by offering tuition-free education for Indigenous students from the traditional territory upon which those schools are located (UWaterloo, 2022; U of T, n.d.-a).

Bensimon and Bishop (2012) observe that scholarships often fail to examine the "invisible way in which routine practices, traditions, values, and structures perpetuate racial inequity in higher education." Other forms of support may enhance the success of funding programs, such as presentations by STEM professionals, career counselling, and internship opportunities (Piper & Krehbiel, 2015) (Box 2.2). Indigenous Services Canada has several programs targeting the retention of Indigenous students, such as the PSSSP and Indspire (ISC, 2020). The PSSSP is designed to increase Indigenous students' "access [to] education and skills development opportunities at the post-secondary level." Indspire reports that 96% of participating Indigenous students graduate from post-secondary institutions, and 53% pursue postgraduate education. The evaluation of the programs suggests that financial aid is not enough to fully support student success (ISC, 2020).

Box 2.2 Measures to address barriers faced by Indigenous students accessing post-secondary institutions

A study of British Columbia post-secondary institutions described several initiatives that have been employed to increase Indigenous students' access to post-secondary education. Although data about the effectiveness of individual initiatives were not available, respondents from institutions that had targeted admissions policies described the following measures as being effective:

- reserve seats in programs for Indigenous students;
- have Indigenous recruitment staff;
- have an Indigenous advisory body involved with anything impacting Indigenous education;
- allow applications to be reviewed on an individual basis in terms of grades, cultural knowledge, and life experience that can augment admission requirements;
- consider Indigenous applicants who meet admission requirements but do not necessarily have competitive grades;
- assist applicants in creating individualized curriculum plans if they do not yet meet the requirements for their program;
- offer Indigenous students priority registration; and
- offer programming and services for Indigenous students.

(Continues)

(Continued)

In the panel's view, many of these measures can also be adapted to serve people with other identities who are experiencing marginalization.

(McKeown *et al.*, 2018)

2.2 Recruitment measures for faculty members and staff

How faculty members and staff are recruited and hired for positions in the post-secondary research ecosystem impacts the ultimate makeup of staff within a given institution.

2.2.1 Hiring practices

Equitable hiring practices are necessary for achieving a diverse organization that reflects the population. In turn, diverse employees can provide the environmental support needed to achieve broader EDI goals throughout the organization, such as improving pay equity (Whaley *et al.*, 2020; Fuesting *et al.*, 2022) and promoting inclusive research practices (Ahmed & Palermo, 2010; Schorr Lesnick, 2021).

Anonymized hiring, targeted recruitment, and diverse search committees can affect who is employed

Anonymized hiring—that is, concealing non-professional details about applicants, such as names—has, in some cases, been shown to be effective at mitigating biases on the grounds of race and gender in the selection of applicants to be interviewed for a position (Miller, 2016; PSC, 2018; Fath, 2023). However, in the panel's view, it can be difficult to implement such strategies in academia, where the contents of CVs can be used to re-identify applicants. Targeted hiring (e.g., cohort hiring, reserving seats for people experiencing marginalization) and affirmative action (which is not limited to reserving seats for people experiencing marginalization but more broadly refers to any policies that seek to benefit them) can also be strategies for increasing equity and diversity among university employees (Jenkins & Moses, 2014; Warikoo & Allen, 2020). Targeted hiring of women in postdoctoral fellowships that concurrently offered professorships following the completion of the fellowship is one strategy for increasing gender diversity. For example, the Faculty of Engineering at Université de Sherbrooke has the Claire-Deschênes Postdoctoral Fellowship Competition, which creates an on-ramp for women to transition from fellow to faculty, ensuring a professorship is available to them once

the fellowship is completed (Université de Sherbrooke, 2019). In 2024, three two-year postdoctoral fellowships are being offered, all of which lead to a professorship position (Université de Sherbrooke, n.d.).

Representation of diverse identities on search committees has also been shown to be an effective recruitment tool for underrepresented applicants. For example, when women or people from underrepresented groups are part of academic search committees, the committees can use their network to attract more underrepresented applicants (Kazmi *et al*., 2022). Women committee chairs were also correlated with increased representation of women on search committees (Kazmi *et al*., 2022).

Targeted hiring practices must be thoughtfully carried out to avoid tokenism

Tokenism can occur in hiring when applicants who experience marginalization are included to mask inequalities in the process. For example, ensuring there are at least several Black applicants in a hiring round can contribute to tokenism when applicants perceive their inclusion as an attempt to reach a quota (Camargo, 2023). Likewise, ensuring individuals from underrepresented groups are members of a hiring team may contribute to making the process appear more inclusive but is unlikely to address inequalities in practice unless these members have an equal ability to make changes to the process itself (NASEM, 2023).

More thoughtful initiatives, such as cohort hiring (also known as *cluster hiring*, in which several individuals from underrepresented groups are hired in a single cohort) and holistic hiring, have been implemented at various universities in Ontario and British Columbia (Joseph *et al*., 2021; Forst, 2024). These initiatives can have the benefit of both increasing faculty member diversity and promoting a sense of community when new hires are encouraged to connect within their cohort. For instance, the McMaster University Black Excellence Cohort hiring initiative took a holistic approach to hiring across all faculties. Faculty members described several lessons learned in the process:

> *An organizational structure that allows for independent, Black faculty to facilitate difficult conversations with senior leaders is necessary. Also, supporting these groups within institutions requires that we recognize their value, offer institutional resources and preserve their autonomy. To fail to recognize and support these groups can result in exacerbating the contexts whereby their perspectives and labour go unacknowledged.*
>
> (Joseph *et al*., 2021)

The cohort hiring process at McMaster University was spearheaded by members of the African Caribbean Faculty Association at McMaster (ACFAM) and aimed to recruit up to 12 new hires across all six university faculties (McMaster University, 2021). Along with many other campus-wide initiatives, ACFAM established and led the Race, Racialization and Racism Working Group of the President's Advisory Committee on Building an Inclusive Community (Joseph *et al.*, 2021). This working group developed connections to senior leaders over many years, within which an inclusive hiring initiative could be launched; importantly, it also provides the kind of environment designed to retain underrepresented staff. Black and racialized faculty led the Black Excellence Cohort hiring initiative to promote a welcoming and non-tokenizing experience. Additional meetings with Black faculty members were organized to allow potential recruits to discuss issues they may not have felt comfortable raising in the formal interview process (Joseph *et al.*, 2021). These meetings may also have had the added benefit of increasing an applicant's sense of belonging in the role they are applying for—which the panel notes could also be an important aspect of attracting and retaining diverse faculty members (Camargo, 2023). Ultimately, the McMaster University Black Excellence Cohort hiring initiative attracted over 450 applicants across six faculties, many of whom said they would not have applied were it not for the initiative (Joseph *et al.*, 2021).

While the McMaster initiative is one positive example of holistic cohort hiring, empirical research on the impacts of these initiatives is still scarce. However, there are several U.S. examples of cohort hiring strategies that have benefited diversity (Mervis, 2020). The University of Wisconsin–Madison found that cluster hiring can increase diversity while maintaining equal promotion and retention when compared to non-cluster hires (Foley, 2008). Implementation of cluster hiring at the College of Arts and Sciences at Emory University increased the recruitment of women of all racial and ethnic groups in STEM—from 15% between 2014 and 2017 to 51% between 2017 and 2019 (Freeman, 2019). One study of U.S. research universities showed that cluster hiring also has the potential to increase collaborations, research output, and impact, though gains appeared to predominantly benefit white and Asian researchers and men rather than women; this suggests that other measures are necessary for benefits to reach individuals from other underrepresented groups (Curran *et al.*, 2020).

A study on the implementation of cluster hiring in 10 U.S.-based universities recommends several practices to consider when implementing a cluster or cohort hiring program:

- make diversity goals explicit and develop supporting strategies to achieve those goals;

- work to ensure early buy-in from deans and department heads;
- engage faculty members early in the process and follow their lead;
- establish and articulate expectations for cluster hires from the very beginning;
- give hires credit for work they perform as part of the cluster in the tenure and promotion process;
- establish infrastructure to support interdisciplinary collaboration;
- communicate the value of the program to stakeholders across the institution; and
- develop a plan for sustaining the program throughout leadership changes.

(APLU, 2015)

Another consideration when engaging in targeted hiring is ensuring that selected applicants are recognized appropriately for their expertise. For example, targeted hiring of Indigenous scholars may require that applicants be Indigenous knowledge-holders and have connections to Indigenous communities (Louie, 2019). However, the capacity to maintain and stay connected to these Knowledges and community may take significant time and effort, which is rarely recognized in funding, workload, or tenure and promotion (Louie, 2019). Unpaid and unrecognized labour is discussed further in Section 2.2.4.

2.2.2 Additional recruitment strategies

Hiring practices alone are not the only way to diversify recruitment. Additional strategies, such as tailoring recruitment material to underrepresented people and adapting the interview process, can also improve diversity within organizations. Adapting the interview process for neurodivergent people has been proposed as a more inclusive measure to promote diverse hiring (Palumbo, 2022). This includes eliminating aspects of the interview not pertinent to the job, allowing for alternative communication styles (e.g., interviews over the phone or internet, written responses, reduced public speaking requirements), and using work samples to evaluate applicants (Palumbo, 2022).

Some universities in Canada are using diversity statements in the hiring process for faculty positions, asking applicants to explain their teaching philosophy or approach to research (Henville, 2022; Powell, 2023). While diversity statements are commonly used, they are also criticized for being

superficial and inauthentic measures (Powell, 2023), which, in the panel's opinion, lack accountability. Recruitment and promotion committees that evaluate these statements need to be cautious of these limits.

Recruitment material influences the diversity of applicant pools

Language in recruitment materials can encourage diverse applicants to apply. Including specific text about diversity in an organization's recruitment material will attract more diverse employees and those more supportive of the organization's inclusive values (Phillips *et al.*, 2023). For example, clearly expressing that the distinct identities and unique experiences of women employees and those from other underrepresented groups will be valued can demonstrate inclusive organizational values and encourage people to pursue the job (Avery & McKay, 2006). AI can also be used to assess job ads for discriminatory language, potentially revealing discriminatory hiring practices (e.g., Burn *et al.*, 2022).

Recruitment strategies alone will not create an equitable and diverse workplace

Recruiting and hiring diverse candidates do not readily translate into pro-diversity work climates—i.e., "the degree to which [an organization] advocates fair human resource policies and socially integrates underrepresented employees" (McKay *et al.*, 2008). Instead, demographic diversity, when not accompanied by additional measures to improve EDI in the work environment, can risk reducing the quality of workplace relationships and increase discrimination, as seen in a study of U.S. military personnel (Boehm *et al.*, 2014). If an organization's work climate is not conducive to diversity, dominant groups and leadership should undertake efforts to improve its equity climate before initiating the recruitment of diverse candidates. Audits initiated at the leadership level that assess diversity in organizational leadership and the current diversity climate may be helpful first steps in preparing for such an undertaking (Holmes *et al.*, 2021).

Recruitment packages and early career awards can support underrepresented faculty

Employees from underrepresented groups can have existing debt, which adversely affects career trajectories (Jeffe *et al.*, 2019). There are various measures that may address this barrier. A study surveying the use of recruitment packages among departments of medicine in the United States reported that these incentives were effective in recruiting underrepresented faculty members (Peek *et al.*, 2013). Some of the features of recruitment

packages are funds for equipment and staff, defined progression of teaching and service loads, and benefits such as spousal hiring, faculty housing, and flexible start times (Peek *et al.*, 2013; Dahlberg *et al.*, 2021). Importantly, recruitment packages can vary and are often negotiable, which can be inequitable for individuals from underrepresented groups (Wright-Kim & Perna, 2023), and emphasizes the need for early career mentorship (Dahlberg *et al.*, 2021; Goldstein & Avasthi, 2021). Similarly, early career awards, especially when paired with mentorship, can support earlier career faculty members experiencing marginalization, which reduces attrition and increases the likelihood of promotion (Jeffe *et al.*, 2019). However, early career awards are not always equitably awarded (Lagisz *et al.*, 2023; Loder & Islam, 2023).

2.2.3 Compensation and benefits

Equitable pay is an important equity outcome, and the perception among staff that pay is equitable is a critical aspect of maintaining a diverse organization (Buttner & Lowe, 2017). For example, improved pay equity for equity-deserving employees correlates with decreased intentions to leave a company, supporting greater diversity (Buttner & Lowe, 2017). Interestingly, increasing an organization's diversity may feed back into and improve pay equity (Whaley *et al.*, 2020). For example, in the United States, women physicians who work in practices with more equal gender ratios have a smaller (though still present) wage gap (Whaley *et al.*, 2020).

Having defined pay structures is one measure that can be used to make pay more equitable for people from different demographic backgrounds or life circumstances (Scott *et al.*, 2015). Therefore, creating a transparent and inclusive pay structure that, for example, incorporates community involvement, diversity of experience, and periodic reviews of pay equity can promote a more equitable organization (Burns *et al.*, 2018). There are substantial differences among groups when it comes to preference for various aspects of pay structure (e.g., transparency, bonuses) (Scott *et al.*, 2015). An international survey that included Canada found that, on average, women prefer seniority- and skill-based pay systems (Scott *et al.*, 2015), while an evaluation of earning gaps in Canadian universities between 1970 and 2001 indicated that a move away from discretionary pay systems benefited women faculty members (Warman *et al.*, 2010). Compensation disparities can also be considered in combination with promotion and tenure granting, which disproportionately favour white men; initiatives to address wage gaps are discussed in Section 3.6.2.

An organizational culture that encourages and affirms the use of employment benefits by all employees can have positive effects

In addition to pay, employment benefits, including medical and parental leave, can be important targets of EDI measures. Though parental leave is guaranteed to all people in Canada, there can be a stigma associated with its use, and only in 2019 were both parents guaranteed paid leave (Ogden, 2020). Concerns about career disruptions are one reason parents may hesitate to take leave—stepping back from responsibility can be perceived as detrimental to career advancement. Using earned benefits such as medical or parental leave negatively correlated with promotion rates for both men and women faculty members; however, women remained more affected as they shouldered more caregiving responsibilities (Kessler & Pendakur, 2015) and were six times more likely to consider leaving their job after returning to work (Tucker, 2022). More flexible work arrangements, including clear policies and procedures for those taking care of children, have been suggested to mitigate this, as well as advocating for fathers or second parents[12] to take parental leave to help mothers return to the workplace sooner and mitigate the stigma associated with taking parental leave (Ogden, 2020; Tucker, 2022; Usick, 2023). However, equal leave practices do not necessarily lead to equitable outcomes for both men and women if gender-normative childcare behaviours are maintained in the home (Miller & Riley, 2022).

Beyond parental leave, leave for gender-affirming procedures is becoming more common, notably in universities in Australia (Bare *et al*., 2022; ANU, n.d.). These sorts of policies should be flexible and accommodate everyone's unique experiences and include support for employees before and after the process, support for leave entitlements, and confidentiality (Bare *et al*., 2022). Most Canadian jurisdictions now provide health coverage for gender-affirming procedures but do not necessarily ensure paid time off to accommodate recovery (Vander Wier, 2019).

2.2.4 Recognizing and rewarding uncompensated labour

Racialized employees outside dedicated EDI offices are often burdened with the additional work of being on a larger proportion of committees (e.g., diversity, supervisory), which does not directly benefit their careers and is not reflected in their compensation (Rodríguez *et al*., 2015; Roy *et al*., 2023). Time spent on activities—such as participating in panels, mentorship, and advocating for students and colleagues who experience marginalization—is often diverted away from tasks that will directly advance their careers, such as research and

12 In Quebec, 5 weeks of leave are guaranteed to second parents (CNESST, n.d.).

teaching (and is sometimes colloquially referred to as the *minority tax*). This problem is amplified for people who have multiple underrepresented identities, as they are often responsible for issues relating to each identity. Beyond the additional work expected from employees and students from underrepresented groups, there is an emotional toll associated with the responsibility of enhancing diversity:

> *While I am proud of the diversity I could offer my medical school and residency program, and hope to offer to a future academic medical center, it is emotionally exhausting to put your "difference" on display.*
>
> (Cyrus, 2017)

One way to reduce this minority tax is to treat work promoting EDI equitably by including it in full-time work calculations and valuing it appropriately in promotion criteria (Hoff *et al.*, 2021). This can be facilitated by granting awards to codify departmental and institutional recognition of EDI work (Hoff *et al.*, 2021).

Reward systems can also be adapted to better meet the needs of specific equity-deserving groups in a more diverse workforce (Doucet *et al.*, 2012; Scott *et al.*, 2015; Hoyos & Serna, 2021). When it is necessary and appropriate for an equity-deserving employee to engage in EDI—such as giving an EDI lecture—non-minoritized team members could provide coverage of that time, thus sharing the workload (Hoff *et al.*, 2021). This solution, however, does not address the fact that staff from underrepresented groups are taking time away from work that will advance their career, even if that work is equally valued internally. Some options to address this shortcoming include (i) having white colleagues use their positions and power to take on some EDI responsibilities in order to more equitably distribute the work of creating a more inclusive culture (Foster *et al.*, 2021); (ii) having EDI duties structured so they can be converted into academic output (Hoff *et al.*, 2021); and (iii) providing bonus financial compensation for EDI work that can be applied to the faculty member's research program as a way to acknowledge their efforts while also supporting their career (Williamson *et al.*, 2021). Past EDI program success has often come at the expense of increasing the minority tax; future efforts can be more equitable and inclusive if they account for uncompensated labour (Hoff *et al.*, 2021).

2.3 Inclusive work arrangements for staff and students

In most jurisdictions in Canada, education is a public service. As service providers, post-secondary institutions have a duty to accommodate disabilities (Drazenovich & Mazur, 2022). With respect to students, for example, education providers should consider specific accommodation needs and investigate potential measures to address those needs (Jacobs, 2023). Research regarding people with disabilities has typically focussed on students' needs; research regarding staff and faculty members with disabilities is scarce (Smith & Andrews, 2015; Ramirez, 2020; Saltes, 2020).

Reducing barriers for all instead of focussing on individual accommodation promotes EDI

It is vital for employers and colleagues to create inclusion through a sense of belonging and comfort so employees whose needs are not met can advocate for appropriate accommodations. Self-advocacy and a sense of belonging are enhanced by staff and faculty's knowledge and positive attitudes toward accessibility and accommodations, both of which support the retention of students with disabilities (Fleming *et al.*, 2017).

In most instances, requesting accommodations requires disclosure of one's disability. One reason for not self-disclosing and requesting accommodations is fear of stigma or bias; this lack of disclosure and subsequent access to accommodations has led to adverse outcomes (Pereira-Lima *et al.*, 2023). For this and other reasons, there has been a recent movement away from the concept of *accommodation* toward the concept of *inclusive design*. Inclusive design proposes that inclusivity for all abilities should be incorporated in the design of spaces and programs from the start, reducing the need for accommodation requests (OHRC, n.d.). Inclusive design choices also tend to benefit from what is known as the curb cut effect, where a design choice or intervention (e.g., cutting curbs to allow wheelchair access) also benefits other people (e.g., those using strollers, wheeled walkers) (Collier, 2020).

Universal design is a related concept that specifies a single design experience that aims to be accessible to all users rather than one with various accommodations and different user experiences included from the beginning (Joyce, 2022) (Box 2.3). Universal design also goes beyond physical spaces and can be linked to online and digital user interfaces—for example, the way people can submit documents or complete assignments, or the way they can interact with their professors or classmates (Burgstahler, 2013).

Box 2.3 The University of Washington's process of universal design

Universal design requires that systems be considered granularly and holistically with people of all abilities in mind. The following list describes several considerations that can inform universal design systems:

Identify the application: specify the product or environment that will be used.

Define the universe: describe the potential users (e.g., gender, age, ethnicity and race, native language, learning style, and ability to see, hear, manipulate objects, read, and communicate).

Involve users: involve people with diverse characteristics in all phases of development, implementation, and evaluation, and incorporate perspectives in collaboration with existing diversity programs and resources, such as a campus's disability services office.

Adopt guidelines or standards: create or select existing universal design guidelines or standards and adapt them to the application.

Apply guidelines or standards: apply universal design to the overall design of the application, its components, and all operations related to the application (e.g., procurement processes, staff training).

Plan for accommodations: develop processes to address accommodation requests from individuals for whom the application design does not automatically provide access.

Train and support: provide ongoing training and support to staff and volunteers, including on institutional goals for diversity and inclusion, and practices for ensuring welcoming, accessible, and inclusive experiences for everyone.

Evaluate: provide feedback mechanisms for diverse groups of users and periodically evaluate the application; modify based on feedback.

(Burgstahler, 2013)

2.4 Summary

This chapter considered the nature and impacts of various EDI measures focussed on people. While some measures may have a greater impact than others, all the measures described have the potential to improve EDI in post-secondary institutions and they should be considered in aggregate. Fragmented measures will have limited effect, but each new initiative, coupled with consistent progress monitoring, can build a more diverse, equitable, and inclusive environment incrementally (Correll, 2017). Table 2.1 summarizes the individual-focussed measures discussed in this chapter, including whether they rely on training, additional staff, significant funding, or buy-in from senior leadership. Though many of these measures can be implemented at various levels within a university, the panel's experience suggests that measures tend to be most effective when they are championed and overseen by senior leadership, which reflects the value of positions like vice-president of EDI (discussed further in Section 3.1).

Table 2.1 Summary of EDI measures for recruiting and supporting staff and students

Initiative	Requirements	Potential impact
Student-focussed initiatives		
Bridging and preparatory programs	Training, staff, funding	Bridging programs attempt to increase diversity by providing disadvantaged students with additional training and mentorship.
Inclusive admissions	Training, leadership	Inclusive admissions signal that institutions have a broader understanding of excellence that includes more than grades.
Targeted scholarships and financial aid	Leadership, funding	Financial aid can help ease financial burden for students, allowing more time to focus on studies.
Recruitment measures		
Targeted and cohort hiring	Training, leadership	Targeted hiring can increase diversity by reserving seats for people with specific identities.
EDI-focussed recruitment material	Staff, funding	Recruitment material can signal to applicants that an institution has a welcoming and inclusive environment.
Compensation and benefits		
Pay equity structures	Training, leadership	Pay structures aim to ensure equal pay through transparency.
Recruitment packages	Funding	Recruitment packages can allow recruits who experience marginalization to request resources to ease their transition into new positions.
Workplace benefits	Leadership, funding	Benefits can support all staff and can be tailored to address inequities.
Recognizing uncompensated labour	Training, staff, leadership	Recognizing forms of labour that are traditionally uncompensated creates an environment where this work is valued and incentivized.
Inclusive work arrangements		
Accommodations and inclusive design	Training, staff, funding, leadership	Accommodations and design can make environments accessible to all people, reduce physical and technical barriers, and make spaces welcoming to people of all abilities.

3

Evidence-Based Measures for Building Equitable, Diverse, and Inclusive Institutions

Chapter findings

- The introduction of institutional initiatives that support EDI should include holistic and comprehensive changes to an organization's structure, practices, and culture.
- Institutional change requires measures that affirmatively support EDI while also removing harmful power imbalances, colonial structures, entrenched biases, and harassment.
- EDI measures will fail without organization-wide institutional structural change and support, including committed leadership, transparent EDI values, supportive organizational structures, and dedicated resources.
- Adopting inclusive research practices, pedagogy, and curricula is an important part of an institution's support of EDI.
- Supports that serve equity-deserving students are often siloed; structural change offers an opportunity to connect services to address their whole identity in an intersectional way.

This chapter outlines the evidence supporting structural measures that contribute to more equitable, diverse, and inclusive organizations. Within the research ecosystem, there are many opportunities for structural change that can drive improvements in EDI outcomes while helping all students, faculty members, and staff achieve greater academic and research success. For comprehensive institutional change to work, reforms need to align with the EDI values and goals of the organization, the work needs to be taken on by people of all identities, and barriers reduced. These outcomes may hinge on diverse leadership, the creation of EDI offices, or more inclusive teaching, and may affect the capabilities of institutions to provide different types of support, as well as an institution's capacity (i.e., the resources available to support EDI initiatives).

3.1 Building organizational EDI structures and capacity

Organizational structures are important EDI considerations since inclusive organizational structures enable and support EDI work. Structures that can be adapted to support EDI include leadership (i.e., who holds power and responsibility), institutional climate, organizational coordination, and reporting systems (Pidgeon, 2016; Miller, 2017). The work to change organizational

structures is often undertaken by a small number of staff, builds upon funding and institutional commitments to EDI, and is bolstered by analyses of these changes to assess their effectiveness (Miller, 2017).

3.1.1 Diverse representation on leadership teams

Two equally important aspects of leadership are needed to advance EDI in higher education effectively: *diverse leadership and diversity leadership* (Aguirre & Martinez, 2006). The former refers to "the compositional diversity of leadership teams," while the latter refers to developing "the capabilities of diverse leaders to acquire greater proficiency to both transform themselves and the institution" (al Shaibah, 2023).

Diverse leadership is "the compositional diversity of leadership teams" while **diversity leadership** refers to "the capabilities of diverse leaders to acquire greater proficiency to both transform themselves and the institution."

(Aguirre & Martinez, 2006; al Shaibah, 2023)

Diverse leadership improves EDI outcomes

Across sectors, there is evidence that diversity in leadership is effective at positively changing EDI-related metrics such as gender pay imbalance. When companies have diverse boards, they adopt a broad range of EDI policies, including benefits for LGBTQ2S+ employees, improved work-life balance, programs for hiring people with disabilities, and the promotion of diverse individuals (Cook & Glass, 2015). In fact, a lack of diversity among committees with decision-making power (e.g., committees not reflecting the diversity of the staff and students) can limit program effectiveness (Cresswell, 2022). A survey of HR professionals in Canada reported that diverse senior leadership that demonstrates support for EDI initiatives are important for effecting change; 81% of respondents (n=1,328) indicated that leadership support is essential to effective EDI implementation (CPHR, 2023).

In another survey of 47,985 administrators and 171,367 tenure-track faculty, it was shown that institutions with better representation of women tend to pay women in administrative positions more equitably, though still less than their men counterparts (Fuesting *et al.*, 2022). Similar trends are seen in the private sector (Flabbi *et al.*, 2019). Having more women in leadership can also help decrease sexual harassment in the workplace (Au *et al.*, 2021).

Within a leadership team, having one or more positions with explicit EDI components (e.g., chief diversity officer) can steward EDI advancement in higher education (Leon, 2014; Marshall, 2019). This strategy has been

employed by Canadian universities to build diverse leadership teams and create identity-specific and general EDI executive positions, such as vice-president and provost Indigenous or vice-president and provost EDI (e.g., UCalgary, 2024a; UM, 2024a; UWO, 2024; UOttawa, n.d.; UVic, n.d.). However, these positions must also be supported by proper organizational structure to advance change (Marshall, 2019), like increasing faculty member and staff diversity (Bishop-Monroe *et al.*, 2021; Bradley *et al.*, 2022).

Leaders from equity-deserving groups often take on EDI work in addition to their regular responsibilities at significant personal and professional costs with less support than their more privileged counterparts (Ezenwa, 2022). Additional social and institutional support, as well as allowing these leaders more influence, can defray a portion of these costs (Ezenwa, 2022). Importantly, for these positions to best support EDI measures and institutional changes, several key supports that require financial resources need to be in place:

- EDI leadership at the executive level to ensure access to other senior leaders and participation in key meetings (e.g., the president's cabinet) and to give the role the necessary authority (Leon, 2014).
- The support of administrative teams (e.g., associates, administrative support, diversity officers) to facilitate the broad tasks required to achieve EDI goals (e.g., to support recruitment, retention, outreach, monitoring, and accountability actions) (Leon, 2014).
- Established reporting structures—with vertical authority—to allow for delegating responsibility in ways that create partnerships, develop a culture of shared responsibility, enable systems of accountability, and strengthen alliances across different institutions (Leon, 2014; Marshall, 2019).

Diversity leadership is created by building EDI competencies and institutional capacity

A study of Ontario colleges offers lessons on cultivating leadership to address EDI for international students (Miller, 2017). As Ontario colleges have become more diverse, the needs of students have also diversified, requiring institutional leadership to develop cultural competency to better address those specific needs. Developing leadership competencies related to Indigenous education, sexual orientation, gender, students with disabilities, and cultural differences involves hiring diverse leaders and providing training catered to "individual leaders' developmental needs with respect to cultural competence learning" (Miller, 2017). Having diverse, culturally competent leaders is a prerequisite to supporting the principles and structures necessary to advance EDI within an organization.

There are important caveats and critiques to cultural competency. Namely, without the critical lens of anti-racism to take these practices beyond developing only the skills required for intercultural interactions, cultural competency risks reinforcing ideas of otherness and failing to address power dynamics and oppressive social practices (Abrams & Moio, 2009; Hanover Research, 2020). Therefore, it may be valuable to think of ideas like cultural competency and anti-racism as tools that support one another (Wiersma-Mosley *et al.*, 2023). Cultural competence training, especially involving direct interactions with diverse communities, can improve support for anti-racist actions by reducing defensiveness, increasing comfort with and participation in anti-racism initiatives (Wiersma-Mosley *et al.*, 2023). It should also be noted that there are limits to cultural competency training and that it cannot take the place of wide, systemic change; rather, it should be included as part of a holistic approach to EDI.

3.1.2 Codes of conduct and ethical standards

Codes are used to shape an organization's behaviours (i.e., codes of conduct) and ethical practices (i.e., codes of ethics), such as appropriate coworker interactions (Petersen & Krings, 2009). Within the research ecosystem, such codes are commonly used at the institutional level, as well at conferences and smaller events to express expectations around ethical and inclusive participation (Foxx *et al.*, 2019). Codes of conduct are "prescriptive, aimed towards surveillance and policing of individual workers and the management of risk" (Sewpaul & Henrickson, 2019). The panel also notes that codes of conduct apply to how employees behave and can also define acceptable behaviour among students and between students, faculty members, and staff. In particular, codes of conduct covering activities like internships and fieldwork can be important for dictating responsibilities and expectations for those involved when universities are still expected to exercise a duty of care (Hill, *et al.*, 2021).

To reduce inequitable practices, codes of conduct must be supported, enforced, transparent, and up-to-date

Codes of conduct can reduce biased practices, such as discriminatory hiring, by guiding personal decision-making and countering other organizational practices that may be discriminatory (Petersen & Krings, 2009). Yet some research on public sector organizations suggests that codes of conduct do not affect ethical behaviour (Thaler & Helmig, 2016). Some normative behaviours that may fall under codes of conduct, such as reminders about equal-opportunity requirements, have been found to be ineffective without

additional support (Keinert-Kisin & Köszegi, 2015). Features of effective codes include public availability, accessible language, a demonstration of leadership commitment, a non-retaliation clause, and dedicated resources for reporting and comprehensively addressing all key risks (Erwin, 2011).

Codes of ethics, similar to codes of conduct but with a focus on decision-making rather than specific actions, can be effective when they are structured correctly (Singh, 2011; Nieweler, 2023). The factors that make codes of ethics effective may provide insights into how to improve codes of conduct. Codes lead to better results when they have a purpose (e.g., guiding strategic planning); a means of implementation (e.g., protection for those reporting misconduct); communication and enforcement mechanisms; frequent revisions including external stakeholder updates; and recent evidence of similar codes being used effectively (Singh, 2011).

At the same time, there are important critiques of codes. In some cases, they can be regressive and foster compliance when what might be required is "going rogue" and not following the rules as laid out (Weinberg & Taylor, 2014; Weinberg & Banks, 2019). This is especially relevant around diversity in part since codes are often constructed by dominant groups without the lens of marginality shaping those constructions (Weinberg & Campbell, 2014; Weinberg, 2022).

3.1.3 Approaches for developing EDI through organizational structures

Establishing institutional structures, such as an EDI office or advisory board, assigns human and financial resources and helps sustain organization-wide EDI implementation. Once established, coordination between services maintained by such an office can help better address the needs of equity-deserving students and more comprehensively meet the needs of students experiencing discrimination based on their intersecting identities.

Structural change often starts by identifying gaps in EDI performance. For example, the College of Social Science (SSC) at Michigan State University, the "largest and most diverse college in the university … lag[ged] behind on legitimizing [EDI] as a structural component of its administration" (Achebe *et al.*, 2022). By employing an organizational change framework and intentionally seeking best practices, SSC identified the structures and processes required to develop sustainable EDI practices that could endure, spanning university administrations. These include defining EDI goals at all organizational levels, offering initiatives for staff, faculty members, and students, creating review and accountability systems, implementing EDI

measures (e.g., hiring, leadership, training), and supporting EDI research. Through this process, SSC produced their DEI[13] Office sustainability structure, which includes staffing requirements, resource needs, enumerated responsibilities, and a framework for change that lends itself to empirically measurable successes (Achebe *et al.*, 2022).

It is important to note that the structure supporting EDI work ultimately needs to support the staff that must do that work. EDI work is emotionally taxing, leading to burnout for the employees who are responsible for enacting relevant policies and providing support (Weeks *et al.*, 2024). This problem is worsened by the expectations of EDI practitioners to be "impartial," suppressing negative emotions. Notably, the perception of displayed emotion can be unfairly gendered or can be used to malign an individual's identity (Brescoll & Uhlmann, 2008). As one Black woman EDI practitioner said,

> *There are not written rules. But I know that as a woman, and as a Black woman, I'm not supposed to show emotion. I don't feel like I need to show anger or sadness on the job. And I have counselled other women in the same way. One of the women I just counselled is my counterpart in multicultural affairs. She is experiencing some things with her leadership, and she was saddened by it. I told her, 'Do not cry. Whatever you do, do not cry.' It's not written anywhere, but we shouldn't show emotion.*
>
> (Weeks *et al.*, 2024)

The extent to which EDI practitioners are experiencing emotional labour and burnout depends on an organization's culture and climate (Section 3.2). Organizations with integrated structures that allow people to bring their whole self, share their intersecting identities, encourage the sharing of decision-making power and influence with all groups, and address systems of power and oppression contribute to reduced burnout among EDI employees (Weeks *et al.*, 2024).

Structural changes can protect and uphold the rights of equity-deserving staff, faculty members, and students

There are several Canadian examples of how modifying standard practices at institutions can better support EDI performance. Universities' teaching and learning centres, which develop teaching and relevant skills, can support more inclusive pedagogies and elevate the importance of EDI in teaching, learning, and evaluation (Columbia University, n.d.; Otis College of Art and Design, n.d.; Trent, n.d.). Indigenous knowledge-keepers or Elders may be

13 Diversity, Equity, and Inclusion.

invited to participate as full voting members on an advisory committee for PhD students (UM, 2024b), helping institutions better reflect the equality of Indigenous Knowledges and facilitating greater community inclusion (Box 3.1). As discussed throughout this report, much EDI work goes uncompensated or unrecognized in job descriptions; however, it has been recommended that institutions implement policies that articulate reciprocity by remunerating Elders involved as "equivalent to other dignitaries such as Canadian Senators, PhD scholars, lawyers, and consultants, all of whom receive compensation for their services," recognizing that this type of work is valuable and can be time-consuming (Gov. of MB, 2023).

Box 3.1 Inclusive structures enabling community participation

At Toronto Metropolitan University, Nicole Ineese-Nash, a member of Constance Lake First Nation, asked that members of Temiskaming's Elder Council review her research. In place of a single second reader, six members of the Elder Council participated on the examination committee for her degree. Ineese-Nash explained, "I wanted the Elders Council's cultural perspective on child development and disability. I also wanted to ensure that, because I was using their ideas, I was being accountable to them and honouring their perspectives in a genuine way." Lynn Lavallée, chair of the examination panel, cites inclusion and reciprocity as integral to research with Indigenous communities. "It's not about going into these communities and taking away information." Rather, "it's important for the research to have a positive impact in the community and for the community to see how much the student has grown and learned. Similarly, it's important for the student to give back to the community." In addition to the participation of Elders, the examination was held in Temiskaming, attended by local people, and included "an opening prayer, song and cleansing smudge ceremony."

(Yates, 2017)

While universities and research organizations can hire dedicated EDI staff and implement measures that impact existing structures, there may be a need to introduce new ones to fully support an inclusive organization with equitable outcomes. Decolonial Indigenization is one example of such a holistic change:

> Decolonial Indigenization *envisions the wholesale overhaul of the academy to fundamentally reorient knowledge production based on balancing power relations between Indigenous peoples and Canadians, transforming the academy into something dynamic and new.*
>
> (Gaudry & Lorenz, 2018a)

Using multiple theories of transformational change, Cote-Meek and Moeke-Pickering (2020) describe factors required for the systemic change necessary to Indigenize and decolonize education (Box 3.2). These include elements essential to promoting change (e.g., flexible vision, collaborative leadership, senior administrative support, faculty and staff development, visible action) and the types of change that need to occur (e.g., change to the institutional culture that is intentional, continually pursued, and significant) (Duffy & Reigeluth, 2008; Cote-Meek & Moeke-Pickering, 2020). These elements have been identified as requirements for transformation that is institution-wide and sustained (Evans & Chun, 2007).

Box 3.2 Indigenization through transformative structural change

Cote-Meek (2019) conceptualized transformational change by combining her experience in Canadian universities with her "Anishinaabe culture passed down to me from [my] mother, family, community, and Elders, each of the four quadrants or directions of the Medicine Wheel."

Using the Medicine Wheel to frame transformational structural change reflects four concepts—vision, relationships, building respect, and movement—associated with the four cardinal directions. A clear vision (e.g., strategic planning) is necessary for sustained change. Relationships are needed to build trust, exchange knowledge, engage Indigenous communities, create the allyship to drive change, and respond "to the educational aspirations of Indigenous students, peoples, and community." For example, an Indigenous Sharing and Learning Centre could be created as a source of Indigenous Peoples' history, Knowledges, and culture for Indigenous and non-Indigenous people. Building respect involves the difficult work of changing mindsets through building and nurturing an understanding of Indigenous Peoples (e.g., Indigenous speaker series and workshops for the whole university community). Movement requires acting—specifically, identifiable strategic moves to bring about change.

(Continues)

(Continued)

Cote-Meek describes two key actions to transform universities. The first is increasing the number of Indigenous people at universities—since sustainable change will be difficult without that critical mass—and the second is Indigenizing the curriculum (Section 3.3.3).

(Cote-Meek, 2019)

Newly created offices within universities can have specific mandates to provide services and support to equity-deserving faculty members, students, and staff. For example, the Office of Indigenous Initiatives at Queen's University offers services, resources, guidance, and knowledge to make the university a more inclusive and equitable institution (Queen's, n.d.). Elders and Cultural Advisors participating within the office raise awareness and share teachings around Indigenous Knowledges, languages, histories, ways of knowing, and worldviews to provide cultural context for course content "to help both Indigenous and non-Indigenous students, staff and faculty increase their cultural competencies and awareness" (OII, 2023).

Comprehensive anti-harassment and anti-discrimination programs and policies (Box 3.3) that focus on both prevention and response can dismantle barriers to participation for underrepresented individuals (Cook-Craig *et al.*, 2014). This requires designing, funding, training, and building capacity (Cook-Craig *et al.*, 2014). Establishing offices related to the elimination of harassment and discrimination increases employees' awareness of their rights, leading to more reporting of incidences of discrimination (Hirsh & Kmec, 2009). These offices can also improve EDI when equal-opportunity policies are in place, and incidents of discrimination are fully addressed, resulting in an overall reduction in further incidents. Evidence from a study of 84 hospitals shows how establishing an HR structure and equal employment office contributes to advancing EDI (Hirsh & Kmec, 2009).

Box 3.3 Quebec's Act to Prevent and Fight Sexual Violence in Higher Education Institutions

Quebec's Act to Prevent and Fight Sexual Violence in Higher Education Institutions requires each post-secondary institution to establish a specific policy on sexual violence, which "must take into account persons at greater risk of experiencing sexual violence, such as persons from sexual or gender minorities, cultural communities or Native communities, foreign students and persons with disabilities." Policies must include, among other things, safety measures, procedures for treating complaints, and support services. Safety measures "may not include any means to compel a person to keep silent for the sole purpose of not damaging the educational institution's reputation." The panel notes that, importantly, this act considers both prevention and response to sexual harassment.

(Gov. of QC, 2017)

While anti-harassment and anti-discrimination policies are vital to an institution for the protection of staff and students, they do not necessarily translate to more diversity or inclusivity without suitable complementary measures (Box 3.4). A study of more than 800 companies across a variety of sectors spanning 32 years provides important insight into the intended and unintended effects of anti-harassment policies, as well as factors that can improve their effectiveness:

- Manager-level anti-harassment training can increase the diversity of women managers by helping all managers recognize and address harassment;
- Women managers improve grievance procedures, which the authors suggest may be because they are more likely to believe harassment complaints; and
- The absence of an institutional culture that supports grievance procedures can give rise to resistance in the form of retaliation and failure to address complaints (Dobbin & Kalev, 2019).

In this study, training for other employees did not increase manager diversity and triggered a backlash against women (Dobbin & Kalev, 2019). The backlash occurred in companies with the highest number of women, suggesting the high

number of women employees could be perceived as a threat (Dobbin & Kalev, 2019). Finding a way to address these forms of resistance may lead to a further improvement of these policies (Chapter 6).

Box 3.4 Non-disclosure agreements (NDAs) can undermine harassment and discrimination reporting

The effectiveness of harassment and discrimination reporting policies is partially determined by trust in the process. The practice of using NDAs can undermine trust when post-secondary institutions use them to silence victims and survivors of harassment. Increasing scrutiny of the use of NDAs across Canadian campuses has led to pushes to end the practice (Rushowy, 2022; Bhat & Schmunk, 2023; Finlay, 2023). Prince Edward Island, Ontario, Manitoba, and British Columbia have passed or proposed legislation against using NDAs in some cases (Gov. of ON, 2022; Ross, 2022; Burke, 2023; Lindsay, 2023). In particular, Ontario's *Strengthening Post-Secondary Institutions and Students Act, 2022* (Gov. of ON, 2022), prohibits the use of NDAs in certain cases, and stipulates that faculty members or staff can be fired for sexual misconduct without notice and payouts. Limiting the use of NDAs is not universally supported; as of 2023, Nova Scotia decided not to limit the use of NDAs in cases of assault and harassment (Gorman, 2023). At the federal level, a bill was introduced in 2023 that would limit the ability to use NDAs in cases of abuse (Burke, 2023). Ultimately, the use of NDAs in assault and harassment cases is generally not banned outright by existing and proposed legislation, nor do any suggested changes relieve victims and survivors of existing NDAs (Finlay, 2023).

At an institutional level, addressing and preventing harassment and violence requires trust to create buy-in, allowing for deep discussions of difficult issues (Vijayasiri, 2008; Cook-Craig *et al.*, 2014; Smyth, 2021; Achebe *et al.*, 2022). In addition to trust, the sensitive, personal, and often intersectional nature of harassment and discrimination warrants the development of flexible strategies to best serve those affected. Because not all people who experience discrimination or harassment want to issue a formal complaint immediately—or ever—alternative support structures can help address their needs. Staff focussed on advising and supporting students can offer confidential guidance to help address issues (formally or informally) by, for example, bringing

incidents of misgendering to the attention of the registrar's office (Clarke, 2022). An ombudsperson can also formally or informally address complaints about harassment or discrimination (Dobbin & Kalev, 2019).

Multiple offices can combine expertise to create complementary EDI actions that better address the needs of people experiencing discrimination based on their intersectional identities. Multiple paths to reporting and assistance can increase safety and security, such as the University of Manitoba's *no wrong door* policy, which includes an "Advocacy & Wellness Office, supervisor, course coordinator, program director, [and] trusted faculty" (Smyth, 2021). For example, student services can support allyship and expand sexual violence bystander training to include intersectionality (Clarke, 2022). Other informal or alternative dispute resolution methods can address a complaint while recognizing parts of the person's identity. For example, Lakehead University brings together Anishinabek and Western legal principles to address discrimination or gender-based sexual violence in "a non-colonial alternative dispute resolution process that includes principles of restorative justice" (Lakehead University, 2019).

Coordination and cooperation can improve accessibility and service delivery for equity-deserving students

The success or failure to coordinate a university's varied institutional structures toward a common goal affects the institution's overall ability to deliver change. Beck and Pidgeon (2020) observe this struggle in the academic setting occurring between Indigenization and internationalization,[14] which are often positioned adversarially, such that they compete for resources. These authors have identified areas of common interest between Indigenization and internationalization and offer an Indigenization framework to help resolve adversarial institutional positioning of these priorities, one that decolonizes international education so it can support reconciliation and Indigenous sovereignty (Beck & Pidgeon, 2020).

A U.S. report studying student service offices in historically Black colleges and universities and Hispanic-serving institutions provides insights into how multiple offices can coordinate to serve students best (Bridge, 2008). The report observed that student services can be used as a central hub for all services to reduce bureaucratic burden and help meet student needs; they can also offer cross-campus training to ensure students are provided accurate information and assistance when requesting help from faculty members and staff (Bridge, 2008). A central hub or other structural changes may be necessary to serve

14 *Internationalization* is defined as "the process of integrating an international, intercultural or global dimension into purpose, functions or delivery of post-secondary education" (Knight, 2004).

individuals who experience discrimination based on their intersectional identities or who are considered a subgroup within a broader community (e.g., trans students). The siloing of services often homogenizes or fails to fully engage their identities, which compromises the ability of those services to meet their needs (Duran *et al.*, 2020).

Some Canadian universities have created EDI positions in divisions such as Student Affairs and Services (SAS) as a way to target institutional changes (Clarke, 2022). These positions generate the communication and coordination necessary to develop a more responsive and integrated organization. According to interviews with SAS staff and directors, despite not having significant formal power, these practitioners improve EDI by identifying contradictions and threats to institutional values, which in turn helps prioritize organizational responses and define new practices. This type of work facilitates and legitimizes EDI through informal relationships with faculty members, students, and staff as well as coordinating training, EDI-related activities, and cooperation among various university services (Clarke, 2022).

Cooperation and coordination of organizational structures affecting EDI is not exclusively at the individual institutional level. Ontario colleges have shared the responsibility for addressing issues of inclusion in addition to their individual efforts (Miller, 2017). Collective strategies may be particularly valuable during times of austerity when colleges are expected to do more with less (Miller, 2017). An example of this cooperation is EDI staff at Ontario universities pooling resources in order to bring in notable speakers to tour multiple universities (Clarke, 2022). Similarly, the Quebec Interuniversity Equity Diversity Inclusion Network "bring[s] together actors from Quebec universities who have the mandate or the desire to promote and integrate the values of equity, diversity and inclusion (EDI) within their institutions" (RIQEDI, n.d.).

3.2 Inclusive and equitable organizational climate

The EDI climate of an organization encompasses all aspects of EDI, including historical legacy, current levels of diversity, psychological environment (e.g., perceptions of racial tensions), and behavioural dimensions (e.g., interactions across racial/ethnic divides) (Hurtado *et al.*, 1999, 2011). Creating an inclusive climate is a process that moves organizations beyond piecemeal solutions to weaving EDI into the fabric of an institution (Price *et al.*, 2005; Gaudry & Lorenz, 2018a; Griffin *et al.*, 2020; Universities Canada, 2023). As many measures create a more diverse and equitable research organization and can contribute

to an inclusive climate, this section focuses on those that reflect institutional commitment and enhanced coordination, highlighting those that lead to significant and lasting structural change.

A safe and welcoming climate helps move an organization from diverse to inclusive

Diversity statements in job advertisements can signal an inclusive culture for potential employees from diverse backgrounds (Baum *et al.*, 2016); these measures can increase the number of diverse applications. If hired, diverse staff can be critical to creating an inclusive culture where more people feel welcome and secure.

LGBTQ2S+ employees are often uncomfortable sharing their identity at work for fear of harassment and discrimination (Kaufmann, 2022). Based on an intersectional review of the queer and trans student retention literature, Duran *et al.* (2020) detail the link between the inclusivity of an institution's climate and student success and retention, which are ultimately crucial for ensuring pathways for talented LGBTQ2S+ researchers. For trans students, an inclusive academic and social culture that recognizes their identities contributes significantly to their success (Duran & Nicolazzo, 2017; Duran *et al.*, 2020). As one queer Black student in STEM said,

> *Having that sense of community is essential in my major. Having a group of people that are Black and … accept my queerness. … That's one less thing I have to worry about.*
>
> ("Devin", as cited in Leyva *et al.*, 2022)

His inclusive study group "radically changed [his] academic trajectory … [and] helped give [him] the motivation to keep going" (Leyva *et al.*, 2022).

Additionally, an inclusive culture for faculty members can have the added effect of building a more inclusive learning environment for students. For example, having an instructor disclose their LGBTQ2S+[15] identity increased women's and queer students' sense of belonging in that course and in the scientific community more broadly, as well as boosting their "confidence in their ability to pursue a career in science" (Busch *et al.*, 2022). However, it must be stressed that disclosure is both a burden and a risk for instructors; without an inclusive climate, faculty members, staff, and students will not have the safety to disclose their identity. A respectful and inclusive climate deters identity-based harassment, complementing other measures such as anti-harassment training (Robotham & Cortina, 2019).

15 The cited study uses "LGBTQ+" rather than the term used throughout this report.

Articulating and adopting EDI principles can help guide an organization toward a more inclusive climate

Making inclusion a core feature of an institution's mandate by explicitly incorporating EDI principles in its mission statement demonstrates a commitment to EDI (Davenport *et al.*, 2022). A mission statement can also align operational efforts and define a set of priorities for staff (Vick *et al.*, 2018). For example, an institutional mission can guide which considerations are part of holistic admission reviews that support hiring diverse applicants (Conrad *et al.*, 2016). The University of Michigan made diversity part of its academic excellence mission (i.e., the Michigan Mandate) and dedicated 1% of its budget to diversity initiatives, which profoundly affected campus diversity (Duderstadt, 1990). When done correctly, these kinds of governing principles can create the basis for a more inclusive organizational climate. In addition to EDI governing principles, complementary processes for improving the EDI climate, including decolonization, involve—importantly—changing or removing deeply embedded organizational behaviours, policies, assumptions, and beliefs of and about organizations (Gaudry & Lorenz, 2018a; Universities Canada, 2023).

Communication throughout an organization can empower employees by increasing inclusiveness, fairness, and belonging

Part of creating an inclusive organizational climate involves ensuring strong two-way communication based on "trust, credibility, openness, relationships, reciprocity, network symmetry, horizontal communication, feedback, adequacy of information, employee-centered style, tolerance for disagreement, and negotiation" (Grunig, 1992). Inclusive internal communications play a critical role in promoting perceptions of fairness about decision-making, workload, and compensation, and in conveying respect and dignity (Lee *et al.*, 2021). For example, opening communication channels that include racialized employees in decision-making increases the perception of workplace fairness. When leadership creates conditions for inclusive communication that increase fairness, there is a positive influence on employees' engagement (e.g., enthusiasm, efficacy) and advocacy on behalf of their institution. Though not explored in their study, Lee *et al.* (2021) suggest that inclusive communication may benefit people with diverse and intersectional backgrounds, "including gender identity, sexual orientation and physical ability," and racialized women.

Because people from underrepresented groups tend to feel excluded and experience more marginalizing and excluding communication practices, frequent, formal, vertical EDI communication (i.e., leaders and their reports) can foster greater inclusion (Wolfgruber *et al.*, 2021). Other types of communication that can contribute to a workplace's inclusiveness and are

necessary for addressing EDI issues and providing training include informal peer conversation, and structured peer-level and vertical communication (Wolfgruber *et al.*, 2021). A climate of cultural humility, which builds upon cultural competence and cultural safety (Hunt, 2013), has also been shown to contribute to inclusive communications. Cultural humility is, in part, the understanding that a person with power—such as a teacher—will self-evaluate and learn about students and their identities to improve outcomes (Hunt, 2013). In this way, knowledge of a person's culture (i.e., cultural competence) and recognizing the discrimination, prejudice, and stereotypes they experience (i.e., cultural safety) reflect aspects of cultural humility that can facilitate learning and shape more equitable relationships (Polaschek, 1998; Hunt, 2013). Bennett and Gates (2019) conceptualize cultural humility as having three parts: insight into your own cultural bias, openness to new perspectives and knowledges, and recognition and respect for the world as complex and layered such that no individual or culture holds all the answers.

These types of communication, their effects on inclusion, and the knowledge sharing they promote can be achieved through diversity-oriented and inclusive leadership, which involves welcoming and valuing the contributions of diverse employees equally, setting unprejudiced goals, and providing fair support to all groups (Lee *et al.*, 2020, 2021). Inclusive leadership can strengthen an inclusive climate and is particularly important in groups with greater levels of diversity and intersectionality (Ashikali *et al.*, 2021).

3.3 Curricula and pedagogies

Education is one of the most important outputs of many research institutions. Therefore, the curricula (i.e., course material) and pedagogies (i.e., how those materials are taught) of an institution should reflect its EDI values, meeting both internal EDI goals and its specific commitments to equity-deserving groups (Universities Canada, 2017).

3.3.1 Diversity curricula

Implementing diversity curricula (a combination of formal diversity coursework and courses that contain some diversity content) may be an effective educational strategy, especially for developing positive intergroup attitudes (Denson, 2009; Denson *et al.*, 2021). Diversity courses, which can include content addressing racial, ethnic, gender, socioeconomic, sexual orientation, religious or other types of diversity within the context of academia, can contribute to

better cultural awareness among students (Denson, 2009; Denson *et al.*, 2021). Coursework, curriculum, and participation in racial and cultural awareness workshops can reduce students' racial bias (Denson, 2009).

Diversity curricula can positively impact students' EDI beliefs and understanding

Diversity curricula can enhance EDI by expanding students' understanding of barriers faced by various underrepresented groups through "content and methods of instruction that are inclusive of the diversity found in society" (Laird *et al.*, 2005). This approach can reduce resistance to learning associated with formal courses and provides continued exposure to knowledge that may encourage students to reconsider their beliefs (Bowman, 2009; Crisp & Turner, 2011). The effectiveness of these approaches is bolstered by inter-group interactions (e.g., across racial groups), leading to further reductions in prejudice (Denson, 2009). Conversely, devoting too little attention to diversity can negatively affect inclusion, which risks siloing students while unintentionally implying that EDI concepts are unimportant (Vaccaro, 2019).

3.3.2 Inclusive forms of pedagogy

Pedagogy, even when not explicitly addressing diversity content, can be beneficial for facilitating inclusion. For example, active-learning pedagogy[16] has increased underrepresented students' confidence in their scientific ability, leading to improved grades on par with their peers (Ballen *et al.*, 2017). Strategies such as active learning, however, do not preclude the need for other pedagogical approaches that directly address diversity or the systemic barriers faced by students experiencing marginalization.

More direct EDI pedagogies make instruction, materials, and language in classes more inclusive and can involve diversity-related content like anti-oppression and anti-racism curricula[17] (Kumashiro, 2000; Ares, 2023), culturally relevant pedagogy (CRP) (Ladson-Billings, 1995; Hinton & Seo, 2013; Heringer, 2019), and the application of the community cultural wealth model[18] (Yosso, 2005; Boettcher *et al.*, 2022). In the context of higher education, pedagogies take a broader view of the material, connecting it to students'

16 Active-learning pedagogy are various "activities involving students in doing things and thinking about what they are doing" (e.g., pausing a lecture to let students discuss their ideas with each other, using case studies) (Bonwell & Eison, 1991).

17 While there are overlaps and complementarity between inclusive pedagogies and anti-racist pedagogies, there can also be differences, especially where inclusive teaching practices do not address systemic issues, justice, or healing, as one tends to find in anti-racist teaching practices (Columbia University, n.d.).

18 The model assumes that racialized students bring various forms of capital to school (e.g., aspirational, linguistic, familial) and uses this capital to, among other things, amplify racialized students' voices and experiences in the classroom (Yosso, 2005).

identities; some approaches, such as CRP, ultimately improve academic achievement (Dewsbury *et al.*, 2022; Yu, 2022; DU, 2023). These inclusive pedagogies consider the broader context, including an individual's or group's strengths in addition to their needs, along with the causes of oppression (Pilotti & Mubarak, 2021; Boettcher *et al.*, 2022; Ares, 2023). However, pedagogies that focus on culture may be susceptible to a particular form of resistance (Box 3.5).

Box 3.5 Confusion around language can contribute to resistance against inclusive pedagogical practices

Understanding the limitations of ideas such as culture is part of ensuring that CRP can succeed and help people overcome their own resistance to change. There are many theories and definitions of culture that usually centre on some form of "shared actions of groups of people, expressed daily, that are the results of historically or socially transmitted customs and traditions," often including knowledges, beliefs, morals, laws, behaviours, and habits (Diaz-Rico & Weed, 2017; Engseth, 2018; Mathis *et al.*, 2023). The concept of culture should not be used to homogenize a group; in fact, individuals negotiate with their culture in the process of forming their identity (Young & Sternod, 2011; Diaz-Rico & Weed, 2017). While a vital equity consideration, culture and measures that focus on it, can be exploited to resist the inclusion of EDI-based pedagogy (Gorski, 2019). This opportunity for resistance is, in part, because of the broadness of the term culture. This broadness can create an opportunity for people opposed to EDI to blame culture for racial inequities rather than racism, which allows racist views of other cultures to persist and justifies failures to address EDI (Ladson-Billings, 2006; Gorski, 2019).

Practices like the "flipped classroom" model (which relies on students learning course material on their own and engaging in active learning during class) have been explored to achieve gains in learning by promoting more student–teacher interaction and individual-guided learning during class time (Brame, 2013). However, it has also been reported that benefits from the flipped classroom model are gained predominantly by white, male, and already high-achieving students (Setren *et al.*, 2021). This may be a result of putting significant workloads on students outside of class time, which can be difficult for students with jobs, at-home responsibilities, or lack of access to technology at home (American University, 2020). Additionally, students from

underrepresented groups may not feel emboldened to participate in interactive classroom activities to the same degree that other students do if it is not coupled with anti-racist perspectives.

Evidence from studying primary and secondary school teachers' training shows that combining an anti-oppression and justice focus with CRP expands educators' skills and perspectives and can lead to their implementing these practices in the classroom (Bell *et al.*, 2022). These methods also provide pathways to help people overcome their own resistance, including identifying oppressive behaviours, producing cultural knowledge of the structure of oppression, and broadening the focus to structural change rather than just individual-level changes (Yosso, 2005; Ares, 2023).

Inclusive pedagogies can benefit students with diverse and intersectional identities

For people with intersectional identities, such as Black queer students, pedagogical norms that do not acknowledge differences in individual identities can be alienating, leading to feelings of invisibility while reinforcing power systems that default to whiteness and cisheteronormativity (Leyva *et al.*, 2022). Inclusive pedagogies can provide intersectional frameworks by addressing broader societal barriers and forms of oppression and identifying shared strengths (Boettcher *et al.*, 2022; Ares, 2023). A study of educational responses for students with disabilities found that teachers using inclusive forms of pedagogy can increase knowledge, motivation, awareness, and sensitivity to the needs of students (Moriña & Carballo, 2017). Participants in this study also noted that improvements in the course materials and syllabi benefited all students, not just students with disabilities (Moriña & Carballo, 2017).

3.3.3 Indigenizing and decolonizing pedagogies and curricula

Gaudry and Lorenz (2018a) characterized academic Indigenization as a spectrum that moves from Indigenous inclusion to reconciliation Indigenization to decolonial Indigenization. At one end of the spectrum (i.e., inclusion), the academy supports Indigenous students, faculty members, and staff but maintains most of its structures; at the other end of the spectrum (i.e., decolonization), post-secondary institutions are "fundamentally transformed by a deep engagement with Indigenous peoples, Indigenous intellectuals, and Indigenous knowledge systems for all who attend" (Gaudry & Lorenz, 2018a).

Most policies in the Canadian academy have largely focussed on inclusion (Gaudry & Lorenz, 2018a; Brunette-Debassige *et al.*, 2022). However, the final

report of the TRC calls upon post-secondary institutions to recognize the longstanding colonial practices embedded in education and to engage in reconciliation, including integrating Indigenous Knowledges and pedagogies in schools (TRC, 2015; Cote-Meek & Moeke-Pickering, 2020). Shifting the focus of academia to decolonization is vital to reconciliation. How things are taught and what is included in teachings shapes the next generation by creating awareness and understanding in every citizen so they will assume the responsibility for reconciliation (Cote-Meek & Moeke-Pickering, 2020).

There are many Indigenous pedagogies, each reflecting their own community's ways of teaching

There is no one Indigenous pedagogy. Indigenizing and decolonizing pedagogies involves incorporating many ways of knowing and teaching, research methodologies, and methods of assessment that contribute to decolonized curricula (Cote-Meek & Moeke-Pickering, 2020; Howe *et al.*, 2021). Some examples of Indigenous pedagogies include land-based education and experiential learning (Alexiades *et al.*, 2021), Métis cultural immersion, and Indigenous ethics and epistemologies (Cote-Meek & Moeke-Pickering, 2020). Land-based education and experiential learning, for example, have been previously used to strengthen STEM curricula for students studying biology and environmental science at Heritage University on the Yakama Nation reservation in the United States (Alexiades *et al.*, 2021).

Interviews with faculty who apply Indigenized and decolonized approaches at Yukon University have revealed several pedagogical practices that could be applied to various courses and programs. They include:

- A *decolonized spirit of learning,* i.e., the dismantling of hierarchies between the instructor and students in the classroom.
- A *physical learning space* that involves learning outside of the classroom.
- *Creating and holding space* by "allowing the unexpected … things to happen in the classroom, whether that is emotion, connection, trauma-related responses, uncomfortable conversations, or the elevation of other perspectives."
- *Welcoming the whole student,* by considering their life "outside of the classroom and acknowledging, honouring, and incorporating lived experience into coursework and learning spaces."

- *Two-eyed seeing,* or "learning to see from one eye with the strengths of Indigenous ways of knowing and from the other eye with the strengths of Western ways of knowing and to using both of these eyes together."
- *Collaboration and relationality* implies that the work of creating better pedagogical practices must be collaborative and involve cultivating relationships and the ability to work in a good way.

(Hatcher *et al.*, 2009; Whiting, 2023)

Classes at Thompson Rivers University have local Elders teach about Indigenous pedagogies such as "talking circles, storytelling, [and] tobacco ties" (Howe *et al.*, 2021). Other Indigenous pedagogies include storytelling involving effortful participation from the storyteller and listener; Potlatch as pedagogy (i.e., learning through ceremony); and forming a circle to receive, embrace, and pass on teachings from the Ancestors (the hands back, hands forward approach) (Q'um Q'um Xiiem, 2019a,b, n.d).

Pedagogical assessments must change to better assess diverse pedagogical approaches

Assessments are partly how universities measure and interpret the effects of pedagogies. Assessments are "an entangled relationship in which theory, practice, ethics, [and] ways-of-knowing-in-being coalesce;" within assessments, there are "multiple assumptions, beliefs, and practices about whose knowledge counts, what counts as knowledge, how knowledge counts, and how knowledge has to be represented in order to count" (Steinhauer *et al.*, 2020). Decolonizing assessment is an important part of decolonizing pedagogy as a whole. Some approaches that contribute to decolonizing assessments include:

- Offering an oral exam instead of a written one to honour "the oral tradition and recognize that different learners [have] different gifts." Such an exam involves offering open-ended questions that recognize students' past educational and lived experiences.
- Asking students purposeful questions that prompt self-assessment (e.g., "What does it mean to be late and not prepared? What are the personal consequences as well as the impact on others around you?")
- Involving students in designing the assessment for the course.

(Steinhauer *et al.*, 2020)

Though pedagogical practices differ (e.g., teaching, curricula, testing), committed long-term funding and support, as well as ongoing community

participation and engagement, were consistently raised as necessary for sustained and meaningful pedagogical decolonization (Pidgeon, 2016; Cote-Meek & Moeke-Pickering, 2020; Howe *et al*., 2021).

Indigenous leadership and participation are necessary for Indigenization

One specific step toward making programs more inclusive for Indigenous students is offering programs with inclusive curricula developed by Indigenous people; these programs are specifically designed to support Indigenous and other equity-deserving students. Indigenous pedagogies can also benefit non-Indigenous students (Cote-Meek & Moeke-Pickering, 2020; Howe *et al*., 2021; McDonald, 2023).

Thompson Rivers University's work with local Indigenous people to Indigenize its teacher education program provides an example of what this looks like in practice. Part of the process included meetings with the Secwepémc People, whose unceded lands the university is built on, to develop an Indigenous Research Advisory Council that "included Indigenous Peoples from three different reserve-based communities, people living in urban centres, Indigenous and non-Indigenous academics employed at the university, Elders, and students" (Howe *et al*., 2021). A second round of meetings with educational leadership from First Nations communities followed. This process resulted in nine pedagogical practices for their Master of Education program:

1. "Each class would begin with a Secwepemctsin language lesson…
2. The course would physically begin on the land and be guided by Secwepemc Elders…
3. 50% of classes would be held on campus and 50% would be held in community.
4. Faculty … would contribute their expertise and research methodologies to guest lecture and co-teach for one hour of each class using a research methodology of their choosing…
5. All three assignments in the course would use oral traditions, and there would be no written papers.
6. A rubric for grading was created with colleagues and Elders.
7. Flexibility in the curriculum would be encouraged so that students could participate in experiences such as the Y powwow or the Indigenous National Gathering of Graduate Students to learn from community-based peoples, traditional teachings, and national and international scholars.

8. Over the course, students would develop relationships with community-based teachers and colleagues and invite them to their final presentations and a potluck gathering.
9. The course financial requirements would be transparent and accountable to the Dean and Master of Education Committee as the funder, and the final costs would be communicated in writing in a timely way."

(Howe *et al.*, 2021)

Students who have completed the program can speak introductory Secwepemctsin, have a better understanding of how to develop relationships with Indigenous Peoples, a greater knowledge of traditional Secwepémc beliefs and values, and are more skilled "at researching in Indigenous ways that are meaningful to Indigenous agencies, communities, and peoples" (Howe *et al.*, 2021). Other Indigenous pedagogies have also demonstrated positive impacts. A review of the literature on land-based education suggests multiple benefits for Indigenous and non-Indigenous students (e.g., increased connection to culture, improved physical and mental health, improved educational outcomes) (McDonald, 2023).

The top recommendation from students who completed the Thompson Rivers University course was that it should be required for all students (Howe *et al.*, 2021). Some universities have pursued mandated Indigenous content in their curricula (Macdonald, 2015; Cote-Meek, 2019). The University of Winnipeg's Senate approved the requirement in 2015, outlining that course content should be "derived from or based on an analysis of the cultures, languages, history, ways of knowing, or contemporary reality of the Indigenous peoples whose homelands are located within the modern boundaries of Canada and the continental USA" (UWinnipeg, 2015). An overview of curricula changes at Canadian universities shows that Indigenous perspectives have been integrated within field-specific curricula in education, geography, journalism, law, library and information studies, literary studies, medicine, nursing, pharmacy, psychology, social work, and STEM fields (Brunette-Debassige *et al.*, 2022). Many current approaches to curricula change, however, involve fragmented efforts rather than structured shifts in pedagogy (Brunette-Debassige *et al.*, 2022).

For these mandatory courses to be effective, Indigenous faculty must be hired to create and administer courses containing content that uses Indigenous pedagogies, and universities need to work on proactive messaging and broader institutional programs that can help address students' resistance to mandatory Indigenous course requirements (Gaudry & Lorenz, 2018b; Cote-Meek, 2019; Brunette-Debassige *et al.*, 2022).

Indigenization takes many forms, but they are all likely to encounter challenges working in a settler system; as Howe *et al.* (2021) describe, there is "truth in the metaphor that Indigenization can be like trying to pour a foundation after the house or post-secondary institution is built. It must be more than 'adding Indigenous content' and stirring." Settlers in colonial institutions must take responsibility for decolonizing themselves and the institutions they are part of, as past work has disproportionately fallen on Indigenous people (Antoine, 2017; Mooney, 2021). This allyship takes many forms: supporting the academic and pedagogical decolonization discussed above, collaborating with and listening to Indigenous scholars and communities, addressing pushback in one's own communities, and recognizing and avoiding instances of appropriation and misrepresentation of Indigenous knowledge systems (Antoine, 2017; Mooney, 2021; CCA, 2023).

3.4 Mentoring, peer groups, and work programs

Teaching happens in many ways outside of the traditional classroom. These interactions can generate opportunities to nurture students and future researchers. Reimagining these opportunities through an EDI lens can foster conditions that better serve people from equity-deserving groups while addressing biases and power dynamics that may hinder their success.

3.4.1 Top-down mentorship

Mentorship in universities has traditionally been viewed as the process by which senior faculty members support and advise less-experienced students and staff in their careers (Kogler Hill *et al.*, 1989). There are typically power differentials between mentor and mentee, especially across racial or gender divides, which can be exacerbated by elements of intersectional identities such as language and immigration status (National Academies of Sciences and Engineering *et al.*, 2019; Foteva *et al.*, 2023). When mentors fail to recognize the role of identity and privilege in these relationships and their effect on mentees' experiences and scholarship, they risk alienating mentees and perpetuating the dominant academic power structure (Williams *et al.*, 2018). Being conscious of these dynamics (e.g., race, gender) to create a more equitable relationship with people from equity-deserving groups is vital for successful mentorships that lead to fuller representation (Kent *et al.*, 2013; Byars-Winston *et al.*, 2018; National Academies of Sciences and Engineering *et al.*, 2019).

Traditional mentorship, advocacy, and sponsorship can improve the inclusion of equity-deserving staff and students

For students and faculty, networks of mentors (e.g., peers plus mentors of different career levels) can improve inclusion by lessening feelings of isolation while balancing power dynamics and reducing hierarchy (Deanna *et al*., 2022). Membership in relevant national organizations may be a way to increase access to mentorship for people facing marginalization when it is not available in their organization (Foteva *et al*., 2023). Likewise, international exchanges afford students from equity-deserving groups the opportunity to expand their mentorship networks, though the panel notes that the cost can be prohibitive if unsubsidized (Woods *et al*., 2013; Guiboche & Ghazani, 2021). For example, international exchanges can expose students with disabilities to new perspectives, strategies for improving access, and anti-discrimination policies, procedures, and services (Holben & Özel, 2015). Concerning the planning and pursuit of their goal of going abroad, one student said,

> *I was flooded with so much new information. … I had to make decisions and had no idea how to start deciding. With a mentor I did not panic.*
>
> ("Elif", as cited in Holben & Özel, 2015)

For Black students at McMaster University, exchange programs expanded their peer network and offered enriching academic and cultural insights. Of their experience, one fourth-year McMaster student said,

> *The camaraderie among Black students was palpable, creating a supportive environment where we could uplift and empower one another. It was inspiring to witness firsthand the manifestations of Black excellence through the achievements and aspirations of my peers, who demonstrated that success knows no bounds.*
>
> (Fourth-year McMaster student, personal correspondence with J. Daniels, 2024)

Advocacy or sponsorships can improve the EDI outcomes of mentorship (Chow, 2021; Foteva *et al*., 2023). Sponsorship in this respect means using one's social capital or influence to advocate for a mentee (Chow, 2021). For mentors working with mentees in other identity groups—especially mentors occupying a position of greater privilege—sponsorship can be a powerful form of allyship that allows sponsors to share their cachet and legitimacy with their mentees. Having a sponsor promote one's work can help overcome the backlash women experience when promoting themselves or help people subjected to marginalization whose work is systematically devalued (Rudman *et al*., 2012a;

Correll *et al.*, 2020; Chow, 2021). Sponsors can also expand a mentee's network and defend them against prejudice (Chow, 2021). In these ways, a sponsor can use their influence, reputation, and privilege to better support diverse mentees.

Mentorship can encourage people with diverse identities, creating support systems and contributing to institutional inclusion

Mentorship, in its various forms, can attract and retain new faculty who are racialized, women, or recruited internationally (Phillips, 2016). It has been shown to increase the likelihood of success among younger faculty while improving opportunities and retention among students (e.g., women students in STEM) (van der Weijden *et al.*, 2015; Dennehy & Dasgupta, 2017; Hernandez *et al.*, 2017). Mentorship has advanced career trajectories among Asian-American women faculty members and helped them obtain leadership positions by improving self-knowledge, demystifying leadership roles, and helping mentees navigate intersectional gender, race, and ethnicity experiences (Liang *et al.*, 2018). These improvements in recruitment, retention, and career success suggest that mentorship can contribute to a more diverse organization. Yet mentorship is lacking for some people subjected to underrepresentation, especially those with intersectional identities (Mocanu *et al.*, 2020).

Mentorship can be especially important for those encountering racist behaviours. For example, mentors can help Black men in predominantly white organizations deal with discrimination and microaggressions (Pitcan *et al.*, 2018). It can provide Black undergraduate students with the knowledge, skills, motivation, and confidence to pursue graduate school (Burt *et al.*, 2019). Black medical residents in Canada report "overcoming racial/gender barriers at work" as their top reason for seeking mentorship (Egbedeyi *et al.*, 2022). In this way, mentorship is an adaptation and a means of coping with the harms of racism, which is important given the persistence of racism and discrimination in the workplace. However, it does not override the need to empower people experiencing marginalization or reduce the need for accountability for racist actions (Hernández *et al.*, 2010).

Mentorship can be an important component of an institution's EDI strategy; however, the panel acknowledges the considerable time and effort the work requires (whether through formal programs or organic mentorship, both of which are important). It is also important to consider who takes on the work of mentorship and the type of support they are given to perform this work. Though it is necessary to have mentors who can speak to the specific lived experiences of mentees—since these relationships are deeply intertwined with cultural backgrounds—mentorship can disproportionately fall on

underrepresented people (e.g., women often spend more time mentoring than their men counterparts) (Boatright *et al.*, 2018; Davenport *et al.*, 2022; Egbedeyi *et al.*, 2022). Cross-cultural mentoring can also benefit both parties, but it requires acknowledging racism, power dynamics, and the burden and risks associated with visibility and otherness (Johnson-Bailey & Cervero, 2004).

Mentors require support to build skills and capacity, and to avoid burnout

Training programs can be used to develop mentorship skills and competencies needed to address EDI matters. These programs can also prepare more staff to take on mentorship, increasing institutional mentorship capacity. A seven-year study of the University of California San Francisco Center for AIDS Research Mentoring the Mentors program demonstrated a sustained increase in mentors' competence, including improving those skills that help the program's diverse mentees (Johnson *et al.*, 2021). The mentees in this program included those with disabilities, people experiencing discrimination based on ethnicity, gender, or race, and mentees who were the first in their immediate families to attend college. Johnson *et al.* (2021) conclude that the study "support[s] the impact and ongoing need for specialized training in tools and techniques of effective mentoring among researchers." Further, they state that these results "support an increased focus on dynamics related to diversity, equity, and inclusion in mentoring trainings to help cultivate and maintain a diverse pipeline of future researchers committed to clinical and translational research" (Johnson *et al.*, 2021). Training that includes both mentors and mentees has also been explored, potentially improving the experiences of both parties by addressing the dynamics between them, including traditional mentorship competencies and cultural diversity awareness (Pfund *et al.*, 2022).

There are numerous costs (e.g., burnout, emotional labour, time, productivity, reputation, resources, ethical obligations) associated with mentorship that can disproportionately fall on faculty experiencing minoritization (Schwartz, 2012; Lunsford *et al.*, 2013; Williams June, 2015; Diamond & Isaacs, 2017). Schwartz (2012) examines the cost of mentorship for racially minoritized faculty by studying students taking part in undergraduate research projects. The study reinforces the time and resource intensiveness of mentorship while also identifying how it is undervalued in tenure or promotion decisions. The effect of mentorship on student retention is often not seen by administrators as contributing to the overall value of the school (Schwartz, 2012). Other responsibilities, such as heavy teaching loads, limit the time dedicated to mentorship.

When combined with the often limited resources for mentorship programs, faculty members are prevented from offering an optimal experience for mentees (Schwartz, 2012). Faculty members "lament the fact that the need is great; they have a proven tool in [undergraduate STEM research] to help them, but they aren't certain if they personally and professionally can sustain the investment" (Schwartz, 2012).

3.5 Affinity groups

Affinity groups and employee resource groups (ERGs) are intra-organizational communities of workers built around shared identities (Schorr Lesnick, 2021; Catalino *et al.*, 2022). They have been widely implemented in the private sector and are increasingly used in universities (McMaster University, 2012; Chow *et al.*, 2017; Catalino *et al.*, 2022; U of T, n.d.-b). These groups can advocate for and increase inclusion as well as improve employee recruitment and retention in support of an overall EDI strategy (Catalino *et al.*, 2022).

U.S. data support the use of ERGs for retaining minoritized employees while increasing the career optimism of Black managers (Friedman *et al.*, 1998; Friedman & Holtom, 2002). Self-reported data from participants indicate that employees see benefits from involvement in ERGs in areas such as community building, external engagement, career success, and skill development (Ward, 2012; Gabriel, 2017; McNulty *et al.*, 2018; Kirilin & Varis, 2021; Catalino *et al.*, 2022). LGBTQ2S+ ERGs (supported by allies) can help reduce minority stress[19] and improve career outcomes for LGBTQ2S+ individuals (Beaver, 2022). Another potential benefit of ERGs is that they act as a sign of organizational commitment, which supports the disclosure decisions of people with disabilities, especially those with less apparent disabilities (von Schrader *et al.*, 2014). However, research on ERGs points to important cautions for their implementation. Dennissen *et al.* (2020) identify the risk that programs focussing on single identities may not address the intersectional needs of people with multiple identities and limit collaboration among diverse networks. A 2019 review of the ERG evidence concludes that they may provide some modest benefits, but there is an overall lack of research and evidence on their impact (Foldy, 2019).

19 This refers to "stress processes, including the experience of prejudice events, expectations of rejection, hiding and concealing, internalized homophobia, and ameliorative coping processes" (Meyer, 2003).

For students from underrepresented groups, peer and cultural affinity groups can foster inclusion and academic success

An analogous strategy for supporting student inclusion is peer and cultural affinity groups. These types of programs can be used to empower students experiencing minoritization and marginalization. For example, one identity-based leadership immersion program for Black men and open to students from any university aims to develop skills and capacity, challenge stereotypes, and empower Black student leaders (Collins *et al.*, 2017). By explicitly targeting leadership skills in Black men who attended a six-day international leadership conference, this program increased participants' leadership skills, self-confidence, and inclination to think of themselves as leaders. One of the goals of this program is to support Black men students through an anti-deficit achievement framework (e.g., combatting stereotypes "about Black male collegians as at-risk, underprepared, and underachieving") (Collins *et al.*, 2017).

In addition to building skills and combatting stereotypes, affinity groups can address the isolation, undermined confidence, and reduced career aspirations that result, in part, from tokenism. Women undergraduate engineering students, for instance, reported feeling less isolated and had increased confidence and career aspirations when they worked in women-majority or sex-parity groups rather than women-minority groups (Dasgupta *et al.*, 2015). Because affinity groups can be structured around multiple identities, they can support intersectionality (e.g., queer Black people, Indigenous people with disabilities) (oSTEM, n.d.). Affinity groups have benefited Latinx[20] engineers by providing a space to support each other's education and offering social guidance for women who were the first in their families to go to university (e.g., what courses to take, what resources are available); they also provide students with the opportunity to discuss topics in their first language to strengthen their understanding of course material (Villa *et al.*, 2016). In short, building community among equity-deserving students can contribute to broader changes in the inclusiveness of academic culture (e.g., Deng *et al.*, 2022).

Communication between student affinity groups and supportive allyship groups may promote inclusion

Groups that facilitate interactions among students with different identities (e.g., students with disabilities and those without) can be mutually beneficial and contribute to inclusion (Moola, 2020). One such program paired students with physical disabilities with peers without a physical disability as part of a

20 This cited study uses "Latina" rather than the term used throughout this report.

physical activities program. The program helped participants forge friendships across the ability–disability divide, improved the body image of the students with disabilities, and helped to correct problematic assumptions of the participants without disabilities (Moola, 2020).

Allyship groups aim to have people with privileged identities take on the burden of educating others with privilege, thus alleviating this burden for people in equity-deserving groups (Muraki *et al.*, 2024). As such, allyship shifts the burden of work from those who have experienced discrimination to those who have benefited from the system, creating a more equitable distribution of labour. A major goal of allyship groups is to cultivate and mobilize more active support from allies. A review of the relevant literature and an accompanying survey study of affinity and allyship groups, however, reveals a lack of evidence for implementation, best practices, and outcomes (Muraki *et al.*, 2024).

Allyship shifts the burden of work from those who have experienced discrimination to those who have benefited from the system, creating a more equitable distribution of labour.

3.5.1 Work-integrated learning programs

Work-integrated learning (WIL) programs encompass a range of opportunities such as internships, field and cooperative placements, apprenticeships, and residencies that help students as they leave school (BHER, 2016). WIL programs are important opportunities for students and recent graduates as they are an invaluable means of developing soft and hard skills (Itano-Boase *et al.*, 2021). Participation in WIL programs improves students' chances of finding full-time employment after graduation (Martin & Rouleau, 2020).

WIL programs that prioritize diverse participants can provide opportunities for equity-deserving students to demonstrate and develop their skills and build their work experiences (Itano-Boase *et al.*, 2021). For some employers, these types of programs can be used as a tool for recruiting diverse candidates. Internationally, WIL programs have provided benefits (e.g., networking, job attainment and quality) for bachelor graduates whose first language is not English, who come from lower socioeconomic backgrounds or rural communities, who are women, or who have disabilities (Di Meglio *et al.*, 2022; Jackson *et al.*, 2023).

Subsidizing WIL programs can allow more students from diverse backgrounds to access these opportunities

WIL programs have the potential to support the transition from post-secondary education to the labour force for a diverse body of students. However, in Canada, access to these programs is affected by systemic barriers, leading to underrepresentation linked to race, gender, LGBTQ2S+[21] identity, disability, and socioeconomic status (Gatto *et al.*, 2020; Itano-Boase *et al.*, 2021). In 2023, Mitacs introduced the Inclusive Innovation Action Plan, which, among other things, aims to collect data to identify barriers to access to its programs among Indigenous and other equity-deserving students, including women and gender-diverse people, racialized groups, persons living with disabilities, and LGBTQ2S+ communities (Mitacs, 2023). In addition, Mitacs has enacted some barrier-reduction initiatives that could improve the long-term employment outcomes of underrepresented groups. These include the development of a code of conduct to set expectations among students, faculty supervisors, and partner supervisors when new mentorship and professional networks are established (Mitacs, 2023). The action plan was implemented in 2023; therefore, there are not yet publicly available evaluations of the effectiveness of these initiatives.

Because many WIL programs are not subsidized, the costs incurred from pursuing them can create inequities. For example, social work placements are often a degree requirement but rarely funded, reducing the accessibility of these programs to people experiencing marginalization (Alonso, 2023). However, students in Canada have access to several publicly subsidized WIL programs. For example, Mitacs, which is jointly funded by different orders of government and partner organizations, provides paid opportunities and professional skills training to students and postdoctoral fellows across all disciplines (ISED, 2022). Mitacs has also implemented specialized initiatives for underrepresented groups. Its Indigenous Pathways initiative allocates additional subsidies for hiring Indigenous interns. Its Business Strategy Internship has increased the number of interns from the four underrepresented groups identified in the *Employment Equity Act* (women, Indigenous Peoples, people with disabilities, and racialized people) (ISED, 2022). The Government of Canada's Student Work Placement Program offers elevated wage subsidies to employers hiring students from five underrepresented groups: women in STEM, persons with disabilities, newcomers, Indigenous students, and racialized people (ESDC, 2023).

In addition to funding, application and selection processes may act as barriers and limit access to WIL programs. For example, neurodivergent people may

21 The cited study uses "LGBTQ+" rather than the term used throughout this report.

find the application and interview process for work placements and internships to be particularly challenging. Organizations such as Specialisterne Canada offer neurodivergent candidates help to connect with companies that are looking to hire or that offer WIL opportunities with accommodations in the application and interview process (Specialisterne Canada, n.d.).

3.6 Outward-facing actions

Some research organizations interact with the broader community through transparency about their values and EDI work. As highly visible aspects of EDI, outward-facing actions can express an organization's values to a broader audience, creating accountability for EDI outcomes.

3.6.1 Public diversity statements and program information

The information an organization shares publicly, such as diversity statements or program information, can increase its attractiveness to diverse applicants. Though relatively scarce, existing evidence suggests that diversity statements can be a signal to prospective employees about EDI commitments, potentially increasing interest in that organization (Varty, 2022). Highly positive and emotional diversity statements increase a company's attractiveness (Krivoshchekov *et al.*, 2023); however, and not surprisingly, if a diversity statement is considered insincere, it fails to increase interest (Varty, 2022). Perceptions of insincerity and its adverse effects on attracting new employees can be averted by expressing the value of diversity through visible accountability and actions (Varty, 2022). Evidence shows that correctly crafted messages can affect behaviour, reducing stereotyping and prejudice (Duguid & Thomas-Hunt, 2015). Messages highlighting people's efforts to overcome their stereotypical preconceptions can motivate people to regulate their stereotyping behaviours (Duguid & Thomas-Hunt, 2015). Focussing on change—the understanding that prejudice is not static—can reduce prejudice and increase interracial communication (Carr *et al.*, 2012).

Publicly available information about an organization's EDI efforts conveys a message to people inside and outside the organization about its culture and values. Dover (2020) identifies three intended and unintended messages that diversity initiatives communicate to new and current employees: fairness, inclusion, and competence. Public-facing diversity program information acts as a safety cue in a way that may be intersectional (Chaney *et al.*, 2016). For example, white women felt safer where there were diversity statements and structures aimed at racialized groups, and men of colour felt safer in organizations with diversity statements and structures designed to be inclusive

of women (Chaney *et al.*, 2016). In these scenarios, feelings of safety can be considered a positive inclusivity outcome (Dover *et al.*, 2020). Conveying a message of inclusion can also help organizations with hiring. One study of students suggests that racialized employees are more interested in working for companies with diversity initiatives (Waight & Madera, 2011). This effect was mediated by lower perceived discrimination, higher job satisfaction, and lower turnover intention (Waight & Madera, 2011).

There are, however, negative interpretations of the positive signals communicated by diversity program information that should be noted. The existence of diversity programs may suggest that these initiatives are necessary for people from underrepresented communities to succeed within the company, creating the presumption of incompetence, resulting in qualified candidates being viewed as less capable (Heilman & Welle, 2006). EDI initiatives may also influence perceived culpability in discrimination claims. For example, organizations with diversity initiatives were seen as less responsible for alleged discrimination than those without initiatives (Dover *et al.*, 2014). Understanding how diversity initiatives positively or negatively affect employees can help improve them by reducing the delegitimizing signals they can produce (Dover *et al.*, 2014).

3.6.2 EDI transparency

As suggested above, data and policy transparency help demonstrate inclusive values while producing accountability by measuring progress toward goals associated with those values. Motel (2016) details how transparency around diversity goals and measurable outcomes is a sign of commitment and a means of creating accountability. Transparency and public commitments positively affect diverse representation (Motel, 2016). Policies that increase transparency (e.g., job-posting policies, formal job eligibility criteria, promotion pathways) and oversight (e.g., diversity managers, federal disclosure mandates) "advance diversity by expanding the applicant pool and eliciting accountability" (Dobbin *et al.*, 2015).

Publishing wage data can contribute to improved equity. Evidence from Canada and the United States shows that public pay transparency can reduce the wage gap (i.e., improve pay equity and equality) (Baker *et al.*, 2019; Obloj & Zenger, 2022). An analysis of Canadian public sector salary disclosure laws affecting university faculty's salaries demonstrates that these laws helped reduce the overall gender pay gap (Baker *et al.*, 2019; Lyons & Zhang, 2023). The authors attribute this effect to a combination of public scrutiny of pay data, changes in faculty composition by attracting high-earning women to departments where

they will be fairly compensated, and individual bargaining (Lyons & Zhang, 2023). However, this strategy was ineffective for faculties with the largest pay disparities (Baker *et al.*, 2019). Studies of pay transparency from Austria indicate that programs with weaker enforcement (e.g., more relaxed reporting requirements and no legal consequences) are also less effective (Böheim & Gust, 2021; Gulyas *et al.*, 2023).

3.7 Summary

Institutions are more likely to be effective at fostering EDI when separate measures are complementary and collaborative, allowing them to permeate institutional practices and become more than just fragmented individual approaches. Institutional measures, such as diversifying leadership, establishing new offices and policies, or creating a more inclusive climate, exist to support the implementation of approaches that directly serve individuals. Evidence from Chapters 2 and 3 suggest that faculty member, staff, and student diversity initiatives support the implementation and success of the institutional measures necessary to make organizations more equitable and inclusive. Table 3.1 summarizes the institutional-focussed measures discussed in this chapter, including whether they rely on training, additional staff and faculty members, significant funding, or buy-in from senior leadership.

Table 3.1 Summary of EDI measures for building equitable, diverse, and inclusive institutions

Initiative	Requirements	Potential impact
Organizational structures and capacity		
Diverse representation on leadership teams	Leadership	Representation on leadership teams allows diverse voices to impact high-level decision-making, increasing equity for faculty members and staff from underrepresented groups.
Codes of conduct and ethical standards	Leadership	Codes and standards can signal that individuals are valued, included, and protected by institutions.
Organizational climate		
Safety and communication	Training	Policies that emphasize cultural safety and communication across the institution create a more transparent and accountable climate that can increase an individual's sense of community and inclusion.
Curricula and pedagogies		
Diversity curricula	Training, Leadership	Diversity curricula can expand students' understanding of barriers faced by people from underrepresented groups and build a culture of empathy and acceptance.
Inclusive pedagogy	Training, Leadership	Inclusive pedagogy can engage students who would otherwise be underserved or excluded by traditional learning techniques.
Indigenized and decolonized pedagogy	Training, Leadership, Staff	Engaging with Indigenous Peoples and Knowledges to fundamentally transform post-secondary institutions for all who attend.
Mentoring, peer groups, and work programs		
Top-down mentorship	Training, Staff, Funding	Mentorship can provide support and community for mentees who may otherwise struggle to navigate post-secondary institutional structures and policies.
Affinity groups	Training, Funding	Affinity groups help people from underrepresented groups advocate for their own needs in a unified and supported way.
Work-integrated learning (WIL)	Funding	WIL helps students develop soft and hard skills and improves their chances of finding full-time employment after graduation.
Outward-facing actions		
Public diversity statements	Leadership	Diversity statements can signal that institutions actively engage in the work required to make their spaces diverse and inclusive while promoting equity for all.

4

EDI Measures Attached to Government Funding

Chapter findings

- Funding programs that deliver consistent support to researchers from underrepresented groups throughout all stages of their academic careers are critical for building a more equitable and inclusive post-secondary research ecosystem.
- Accountability and transparency mechanisms in funding programs ensure compliance with equity targets and propel institution-wide EDI practices.
- Funding programs that embrace the interconnected nature of EDI create opportunities for meaningful government actions supporting changes in institutional culture.

Post-secondary institutions are not alone in cultivating EDI and supporting people from underrepresented groups. Research funders can also advance EDI across the post-secondary research ecosystem. This chapter reviews several EDI measures attached to government funding, focussing on research grants and scholarships; equality charters, recognition, and capacity-building programs; and employment equity targets introduced in the context of research excellence. Important questions remain about the ability of research funders to advance EDI. Measures accompanied by transparency and accountability mechanisms drive long-term positive developments; they also help research funders leverage various programs to identify the benefits and merits of EDI initiatives. However, there is limited evidence on the effectiveness of voluntary and self-enforcing approaches. In addition, the interconnected nature of EDI does not easily translate into policy design, often resulting in programs that focus on diversity and deliver fragmented outcomes.

4.1 Support for faculty members and research organizations

Various policy proposals have evolved over the years to address the barriers that stifle the careers of researchers from underrepresented groups. In the 1990s, several tri-agency policies focussed on increasing the number of female researchers in STEM. These initiatives were followed by programs that extended support to other federally designated underrepresented groups (women, Indigenous Peoples, people with disabilities, and racialized people)

(GC, 1995) at different stages of their academic careers. However, in the absence of a federal post-secondary research funding strategy (ISED, 2023), the current funding system delivers only fragmented support to different categories of researchers, depending on their identity, field, and level of study.

Researchers from underrepresented groups need support at all stages of their academic careers

In 1991, NSERC created the Women's Faculty Awards (WFA) program, which was designed to broaden career opportunities for women researchers in natural sciences and engineering (Ekos, 2006). From 1991 to 1995, 80 women researchers received the award, and the evaluation of the program concluded that it had been successful at encouraging universities to hire women faculty members. Building on the success of the WFA, NSERC established the University Faculty Awards (UFA) program in 1999 to increase the representation of women and Indigenous Peoples in faculty positions. The award consisted of a salary contribution and a research grant. UFA candidates were nominated by universities and were newly appointed tenured or tenure-track professors belonging to at least one of the two underrepresented groups (Ekos, 2006).

Throughout the span of the UFA program—1999 to 2009—NSERC allocated 211 awards. The program contributed to culture change in some departments, had a positive impact on university hiring practices, and enhanced the research funding and publication record of high-calibre women researchers (Ekos, 2006). In the words of one recipient, "I entered the university with my research grant in hand, unlike most starting professors who write their funding applications in their first year. I hit the ground running. The reduced teaching load also helped to start my research right away" (Ekos, 2006). The program also contributed to the repatriation of Canadian researchers from abroad (Robinson, 2000).

Despite the achieved results, the 2006 evaluation of the program concluded that the positive impact of the UFA could be greater if it offered support to graduate students and assistant professors on their path to promotion (Ekos, 2006). The evaluation also found that the UFA was not well equipped to increase the number of Indigenous professors due to a low number of Indigenous students pursuing degrees in natural sciences and engineering. Another drawback of the program was that it did not seek to increase the representation of people belonging to all designated groups under the *Employment Equity Act*. Racialized people and people with disabilities were not the focus of this program—the former due to a lack of data on underrepresentation, and the latter due to challenges related to defining *disability* (Ekos, 2006). In 2006, NSERC announced its decision to terminate the program and highlighted the need to design

specialized initiatives and general funding opportunities for researchers from underrepresented groups at different stages of their academic careers (NSERC, 2006).

Programs that balance teaching and research with community engagement can benefit researchers and the broader public

In 1989, NSERC established a Chair for Women in Engineering (CWE) that funded one nationwide chair, which was held by Dr. Monique Frize at the University of New Brunswick (NSERC, 2023b; ICL, n.d.). In 1996, NSERC expanded the reach of CWE funding by creating the Chairs for Women in Science and Engineering (CWSE) program (NSERC, 2023b). The CWSE supports one chair-holder in each of the following five regions: Atlantic, Quebec, Ontario, Prairies, and British Columbia/Yukon (NSERC, 2023b). Similar to NSERC Industrial Research Chairs, CWSE holders benefit from private and public funding, as well as cash and in-kind contributions of the host university (NSERC, 2019, 2021). The program aims to advance the participation and retention of women working in science and engineering and to encourage women to explore careers in these fields (NSERC, 2021). Dr. Claire Deschênes, the first woman professor of engineering at Laval University, describes how the CWSE helped her advance her career:

> *It helped me develop leadership skills and build a network of women for guidance and support. I acquired a better understanding of social and historical issues for women. It … increased my self-confidence. I had the chance to participate in many committees. I learned how the research and academic worlds function.*
>
> Millar & Wells (2017)

This program allows chair-holders to set 50% of their time aside to engage the public in STEM-related activities and explore barriers to greater participation among women and girls in the STEM ecosystem (NSERC, 2021). As of January 2024, 19 professors have held a CWSE (D'Amours *et al.*, 2024). Each chair-holder develops a plan outlining the strategic goals and key activities of the program in the region (NSERC, 2021). Many activities rely on partnerships and professional networks developed by the chair-holder throughout their academic career (NSERC, 2023c).

The 2021 evaluation of the CWSE found that a more detailed description of program outcomes could facilitate the achievement of EDI goals (NSERC, 2021). Despite this shortcoming, the program had a number of positive outcomes, such as bringing visibility and credibility to chair-holders' initiatives, raising

awareness of the challenges facing women in STEM, amplifying the benefits of diverse environments, and encouraging organizations to promote the participation of girls and women in STEM (NSERC, 2021; D'Amours *et al.*, 2024) (Table 4.1). For example, from 2021 to 2023, Dr. Jennifer Jakobi, the chair-holder in British Columbia and Yukon, conducted in-person and online activities for students, teachers, Indigenous people, and those from industry and academia (Jakobi, 2023). The overall reach of these activities through programs, events, and social media exceeded 275,000 people (Jakobi, 2023).

Table 4.1 Impacts of the five CWSE and their national network for the period 2015–2019

Impact	Metric
531	Lectures, panels, courses, and workshops
5	Conferences
312	Academic publications
38	Regional and national awards
36	Major grants received
$7 million	Leveraged beyond original NSERC and matching funds

Data source: D'Amours *et al.* (2024)

In 2023, NSERC broadened the scope of the CWSE program by establishing the Chairs for Inclusion in Science and Engineering (CISE) program in the Atlantic region (NSERC, 2023d). The CISE program will fund three researchers whose work enhances the understanding of barriers faced by women and members of other underrepresented groups in STEM (e.g., gender minorities, Indigenous Peoples, persons with disabilities, members of racialized groups, and LGBTQ2S+ communities) through an intersectional lens (NSERC, 2023d). As of May 2024, the CISE program is only available in the Atlantic region, and in the panel's view, it offers a model that can be expanded to other regions to address gaps in intersectional research and create a space for learning about the outcomes of programs that centre intersectionality. This approach is aligned with the recommendations of the Science Granting Councils Initiative (SGCI) in Sub-Saharan Africa on how to bolster intersectional research (Box 4.1).

Box 4.1 SGCI's recommendations to bolster intersectional research

The SGCI, which unites 17 research funding agencies in Sub-Saharan Africa, has been studying trends in intersectional research by African scholars and the role of research funders in advancing EDI in research through an intersectional lens. Its research findings contain several recommendations addressed to research funders on how to boost intersectional research in the region:

- introduce regional funding programs to address disparities in contributions among researchers from different regions, ensuring that intersectional research is attuned to and beneficial for specific contexts;
- allocate funds to projects that amplify the depth and diversity of identities and experiences in intersectional research; and
- explore funding mechanisms that enhance the capacity of grantees to apply intersectional frameworks, which may involve using quantitative and qualitative methods.

SGCI (2022)

Additional support for multi- and interdisciplinary research projects can benefit researchers from underrepresented groups

Canada's research funding system has faced criticism for being ill-equipped to support multi- and interdisciplinary approaches, which are required to address a variety of critical issues (ISED, 2023). Researchers who conduct multi- and interdisciplinary research[22] are forced to modify their research questions to align them with the mandates of targeted funding agencies (CCA, 2023; ISED, 2023). Even where research funders accept multi- or interdisciplinary proposals, peer reviewers may not always have the necessary expertise to determine their quality (CCA, 2021a).

Some specialized federal and provincial funding programs support multi- and interdisciplinary research. The New Frontiers in Research Fund (NFRF) has held competitions to fund interdisciplinary projects across the country, including, for example, the adaptation of vulnerable groups to climate change (CRCC, 2023b). In Quebec, the FRQ AUDACE program supports collaborations between researchers from at least two of three sectors—nature and technology, health,

22 Multidisciplinary research relies on methodologies or knowledge from several disciplines to answer a research question but does not always integrate these disciplines. Interdisciplinary research combines knowledge of methods from different disciplines to develop a more comprehensive understanding of complex research questions (Wagner *et al.*, 2011).

and society and culture (FRQ, 2020a, 2023). In 2023, the Advisory Panel on the Federal Research Support System suggested creating a body which would be responsible for handling the review of most multi- and interdisciplinary initiatives, including the NFRF (ISED, 2023). Budget 2024 has allocated funding that may support these efforts (GC, 2024a).

In the panel's view, additional support for multi- and interdisciplinary projects can benefit researchers from underrepresented groups who seek to perform—and understand the need for—interdisciplinary work from their unique intersectional viewpoints. For example, proposals from Indigenous researchers can often be supported only by interdisciplinary programs due to the holistic nature of Indigenous Knowledges (CCA, 2023). Additional support for interdisciplinary research may also facilitate access to funding for women who, according to a Danish study, participate in interdisciplinary collaborations more than men (Nielsen, 2017; CCA, 2021a).

Expanded eligibility requirements support Indigenous Peoples, institutions, and research organizations

The work of the Truth and Reconciliation Commission (TRC) in Canada sets out provisions on how to create a more equitable research ecosystem and highlights concrete actions that different orders of government must take to support the self-determination of Indigenous Peoples (TRC, 2015). Guided by TRC Call to Action 65, SSHRC and the National Centre for Truth and Reconciliation created a national research program to advance projects on reconciliation led by First Nations, Métis, or Inuit researchers affiliated with eligible Canadian institutions (i.e., universities, colleges and not-for-profit organizations) (SSHRC, 2022b). The requirement of institutional affiliation, however, creates obstacles to inclusion in research, barring many Indigenous people and research organizations from applying for funding (GC, 2019). To address these inequities, Indigenous organizations with a research mandate (e.g., the Indigenous Institutes Consortium) have been advocating for eligibility criteria reforms and more transparent and accountable decision-making procedures that govern research funding and proof of Indigenous identity (GC, 2019; IIC, 2021). When it comes to individual contributions, eligibility reforms are needed to enable Elders and Indigenous knowledge-holders to participate as co-applicants in funding programs and receive compensation for their work (CCA, 2023).

As a result of consultations between the Canada Research Coordinating Committee and Indigenous Peoples, some progress has been made in expanding the opportunities for participation of Indigenous organizations, researchers, and knowledge-holders in federal programs (GC, 2019). For example, the NFRF Exploration and Transformation competitions provide that Indigenous

Elders and knowledge-keepers can be listed as co-applicants and co-principal investigators of research projects and access grant funds (CRCC, 2022, 2024). The Government of Canada has also revised eligibility requirements to expand support for Indigenous research organizations (GC, 2019). These organizations can now apply for SSHRC Connection Grants, Knowledge Synthesis Grants, Partnership Development Grants, and Partnership Grants (SSHRC, 2023a). Despite these funding opportunities, Indigenous researchers without an academic affiliation continue to have limited access to tri-agency funds (CCA, 2023).

Research funding for Indigenous-led research is also allocated through specialized programs. For example, the Canada–Inuit Nunangat–United Kingdom Arctic Research Programme (CINUK),[23] funds research focussed on "changing Arctic ecosystems and the impacts to Inuit communities and beyond" (POLAR, 2022). The program supports principal investigators from Canada who are beneficiaries of Inuit land claims or belong to the Inuit Nunangat community (FRQ, 2022a). When this requirement is not met, "an Inuit partner must be a funded co-investigator in the Research Team and involved from the outset in the co-development of the research proposal" (FRQ, 2022a).

4.2 Support for postdoctoral fellows and students

A harmonized approach to the status and compensation of postdoctoral fellows can reduce the attrition of researchers belonging to underrepresented groups

At Canadian post-secondary institutions, postdoctoral fellows (PDFs) can be classified as students, employees, guests/visitors, or faculty (Kouwenhoven *et al.*, 2022). The status of PDFs often depends on the source of funding; PDFs funded by an institution (e.g., through the supervisor's grant) are usually considered employees and are covered by mandatory and supplementary benefits. However, those who have obtained financial support on their own—often through prestigious grants, such as the Banting Postdoctoral Fellowship and other federal awards—enjoy a different status (e.g., visiting scholars), making them ineligible for benefits. A survey conducted in 2020 by the Canadian Association of Postdoctoral Scholars (CAPS) showed that about 70% of PDFs in Canada were eligible for paid leave, 68% had extended health benefits, and 10% did not have access to provincial healthcare (Sparling *et al.*,

23 A partnership between FRQ, Inuit Tapiriit Kanatami, National Research Council Canada, Parks Canada, POLAR, and UK Research and Innovation (POLAR, 2022).

2023). These discrepancies can lead to the inequitable treatment of PDFs with comparable qualifications and experience working in the same department and on similar projects (Kouwenhoven *et al*., 2022).

For PDFs identifying with one or several underrepresented groups, inequities in status and compensation can be exacerbated by unpaid caregiving responsibilities and on-campus work, the adverse health impacts of even subtle racism and discrimination, and inaccessible workplaces (NASEM, 2023). The weight of these inequities can force researchers out of postdoctoral positions, which, in some disciplines, may be a requirement for a tenure-track professoriate position (CCA, 2021b). CAPS, for example, suggests that recognizing PDFs as employees and providing them with greater financial security and benefits is an important first step toward addressing the gender gap in Canadian universities (Kouwenhoven *et al*., 2022).

PDFs belonging to underrepresented groups also decide to leave academia because of low compensation levels (CCA, 2021b). In the absence of a national funding strategy for students and PDFs, institutions rely on federal funding levels to set salaries (SRSR, 2023). In the panel's opinion, given the far-reaching effects of federal funding, the Budget 2024 proposal to raise the value of federal postdoctoral awards and reduce the gaps among different types of awards could help mitigate pay inequities faced by PDFs across the entire Canadian post-secondary research ecosystem (GC, 2024a).

The tri-agency has introduced specialized funding for Indigenous and Black students, but this support is fragmented

Specialized student funding programs are other avenues to address underrepresentation in the post-secondary research ecosystem. The Scarborough Charter (recall Box 1.1), for example, considers "scholarships, bursaries, fellowships and related, dedicated support" for Black students as a path to achieving inclusive excellence in teaching and learning (Inter-Institutional Advisory Committee, 2021). To help address the disproportionate underfunding of Black people in academia, Canada's Budget 2022 announced additional support for Black scholars at the undergraduate, master's, doctoral, and postdoctoral levels, with new funding available in 2023 (NSERC, 2023e). Specialized scholarships and fellowships for Black scholars are allocated through existing and new programs administered by CIHR, NSERC, and SSHRC. To offer scholarships for Black undergraduate students, CIHR and SSHRC established the Undergraduate Student Research Awards (USRAs), which had previously only been offered by NSERC (NSERC, 2023e).

Despite these efforts, much more needs to be done if Canadian institutions wish to expand financial and other types of support to enable diverse talent

to flourish. Some Indigenous students, for example, benefit from additional funding at the bachelor's, master's and doctoral levels. This funding, however, is fragmented and applies inconsistently across different fields of study. At the master's level, supplemental funding offered by the Indigenous Scholars Awards and Supplements Pilot Initiative is available to students funded by NSERC and SSHRC (NSERC, 2023f; SSHRC, 2023b). At the undergraduate level, NSERC offers research scholarships to Indigenous students pursuing degrees in natural sciences and engineering, while other areas of study are omitted from funding (NSERC, 2024). In Quebec, Indigenous students can apply for additional scholarships that facilitate the transition between secondary and post-secondary studies (FRQ, 2022b). The outcomes of the pilot USRA program for Black students in social sciences, humanities, and health sciences can inform the tri-agency's decision to expand undergraduate funding to other categories of underrepresented students (NSERC, 2023e).

There are opportunities to improve the procedures for selecting candidates for scholarship programs

The assessment of meritorious candidates for federal graduate research awards is often a shared responsibility between the tri-agency and post-secondary institutions, with the latter selecting applicants for the national competition or administering the entire selection process (Advisory Committee, 2023). To address systemic barriers and selection bias, the tri-agency has introduced special policies governing research scholarships for Indigenous students, exempting them from institutional quotas that limit the number of applicants that can be put forward for federal doctoral scholarships (NSERC, 2023g). However, more needs to be done to address inequities in research funding for students from other underrepresented groups. For example, the Advisory Committee to Address Anti-Black Racism in Research and Research Training recommended exploring targets for Black students and following a more transparent process for the selection of applicants for the postgraduate awards, such as Canada Graduate Scholarships–Master's, Canada Graduate Scholarships–Doctoral, Vanier Canada Graduate Scholarships, and Banting Postdoctoral Fellowship (Advisory Committee, 2023).

4.3 Equality charters, recognition, and capacity-building programs

While most research funding programs in Canada aim to advance diversity among faculty members and students, the success of these efforts depends on continued support, which cultivates a sense of inclusion and belonging among people from underrepresented groups throughout all stages of their

academic careers. To enable the evolution of organizational culture—including through self-reflection, data collection, new structures, mandatory reporting—some institutions and research funders have been implementing specific accreditation initiatives, also known as equality charters (Gangotra, 2019).

By joining equality charters, organizations commit to a set of principles, such as implementing "robust, transparent and accountable processes" to advance gender equality, tackling actions and cultures that make work and study spaces unwelcoming and less safe, addressing inequalities that arise at the intersection of power and privilege, acknowledging that people are entitled to determine their gender identity, and addressing inequities experienced by trans and non-binary people) (Advance HE, 2022). To fulfill these principles, organizations develop and implement equality action plans (Advance HE, n.d.-a). Progress on these plans is assessed through an independent review process; based on the results, institutions may receive a non-monetary award (e.g., bronze, silver, and gold ratings) (Athena SWAN Charter Review Independent Steering Group, 2020). A review of equality charters in Canada and five other high-income countries (i.e., Australia, Germany, Ireland, the United Kingdom, and the United States) found that only one of them—Athena Scientific Women's Academic Network (SWAN) Ireland—was linked to public research funding, which could limit their transformative potential (Gangotra, 2019; Advance HE, n.d.-b; SFI, n.d.; Total E-Quality, n.d.).

The implementation of equality charters has improved women's experiences at work

The first equality charter, the Athena SWAN program designed in the United Kingdom, has received positive evaluations (Advance HE, n.d.-a). Award-holding departments had a slightly larger proportion of women faculty members and staff and higher career satisfaction among them (Graves *et al.*, 2019). When compared to the recipients of silver and bronze ratings, women in departments and institutes that qualified for a gold rating were more satisfied with performance reviews, promotions, and career and mentoring opportunities (Graves *et al.*, 2019). An evaluation of the Athena SWAN charter found that participants perceived it as having a positive impact on the careers of women in STEM and medicine and as a valuable driver of gender diversity (Munir *et al.*, 2014). The extent to which Athena SWAN improves women's experiences at work or increases gender diversity is difficult to determine because the effectiveness of the program is affected by other institutional initiatives and contexts (Rosser *et al.*, 2019).

One evaluation has expressed concerns about the consistency of Athena SWAN evaluations and whether the format of the application for the award accurately reflects progress achieved by all institutions (Athena SWAN Charter Review Independent Steering Group, 2020). Moreover, with no funding attached to the award, resources including dedicated time for administering burdensome reporting requirements must come from institutions themselves, often resulting in women undertaking extra unpaid work due to their commitment to the cause (Rosser *et al*., 2019). Given these pressures, the Athena SWAN Charter Review Independent Steering Group (2020) recommended simplifying the reporting requirements, so that universities and research institutes could focus on improving their "outcomes around gender inequality for staff and students and meet wider inclusivity aims."

The Government of Canada introduced pilot capacity-building and recognition programs, but these are no longer funded

While many equality charters focus on achieving gender equality (Gangotra, 2019), some have a broader reach. For example, the STEMM Equity Achievement (SEA) Change program of the American Association for the Advancement of Science (AAAS) encourages participating institutions to address discrimination based on "race, ethnicity, disability status, socioeconomic status, sexual orientation, age, familial history of higher education, and any other factor that is unrelated to ability" (AAAS, n.d.). The Race Equality Charter, recently launched in the United Kingdom, focuses on improving "the representation, experiences, progression and success" of racialized staff and students. In 2019, the Government of Canada launched the Dimensions pilot program, sometimes referred to as a "made-in-Canada Athena SWAN initiative" (al Shaibah, 2021). Similar to SEA Change, the program had a broad scope and aimed to address barriers faced by women, Indigenous Peoples, persons with disabilities, members of racialized groups and LGBTQ2S+ communities (NSERC, 2023a). It consisted of a charter of principles and had a four-stage recognition process reflecting several stages of institutional progress (Box 4.2).

The Dimensions pilot program came to an end in March 2023, with 10 institutions recognized for achieving the foundation or construction stage of the process (NSERC, 2023a,i,j). Unlike similar programs in foreign jurisdictions, Dimensions did not have a formal accreditation mechanism or other compliance measures attached to it. As of May 2024, there is no publicly available evaluation of the program (NSERC, 2023j).

Box 4.2 Dimensions' four-stage recognition process

1. **Foundation:** At this stage, institutions are developing a coordinated approach to addressing EDI and starting a cycle of Dimensions work consisting of "reflection, critical self-assessment and engagement; development and implementation of activities and initiatives in the action plan; [and] assessment of [the] impact of actions taken and dissemination of results."
2. **Construction:** The institution is implementing the objectives and metrics identified at the foundation stage and has completed one cycle of Dimensions work.
3. **Consolidation:** To reach this stage, the institution must demonstrate that it achieved considerable progress in dealing with problems identified in its action plan and completed two cycles of Dimensions work.
4. **Transformation:** The institution can demonstrate changes in its organizational culture regarding EDI and has likely completed three cycles of Dimensions work.

NSERC (2023f)

Access to resources and expertise also plays an important role in implementing comprehensive EDI measures that go beyond increasing diversity (Thomson *et al*., 2022). A 2019 survey by Universities Canada found that many institutions lacked continuous funding to support EDI initiatives (Universities Canada, 2019b). The tri-agency EDI Institutional Capacity-Building Grant, established in 2018, was a pilot program that supported EDI projects in institutions that may not have been eligible for the CRCP EDI stipend (NSERC, 2022a) (Section 4.4). The participation in the pilot was not linked to Dimensions accreditation (Baskaran *et al*., 2021). Smaller institutions and colleges requiring funding to cover, among other things, the development and procurement of EDI resources and training materials and EDI-focussed restructuring and communication strategies were eligible to apply for the program (NSERC, 2022a). The final round of funding under the EDI Institutional Capacity-Building Grant pilot program was allocated in 2021, with 12 post-secondary institutions receiving around $4.8 million in funding in the final year (Benoit, 2021; NSERC, 2022a).

In the panel's opinion, by embracing the interconnected nature of EDI, the Dimensions program and the capacity-building grants represented a

positive shift from a diversity-focussed policy design toward initiatives that also focussed on equity and inclusion. Due to both pilots being terminated despite their positive contribution to EDI work, the government has limited opportunities to cultivate equity and inclusion across the post-secondary research ecosystem, leaving these tasks to individual institutions instead.

Had they been maintained, these initiatives could have delivered further support to innovative institutional EDI projects, as seen, for example, in the U.S. National Science Foundation (NSF) ADVANCE program. The program's main funding stream, a five-year non-renewable Institutional Transformation grant, is awarded to implement initiatives such as gender-disaggregated data collection methods, mentoring and work-life balance programs, and training for institutional leadership (Rosser *et al.*, 2019). These grants also support research on gender equity and inclusion (e.g., how to train recruitment, tenure, and promotion committees to minimize implicit bias) (Rosser *et al.*, 2019). To address criticism that ADVANCE disproportionately supports white women (Torres, 2013), the NSF has required, since 2016, that an intersectional lens be included in the systemic change and gender equity work supported by the program (NSF, 2021). ADVANCE has raised awareness of gender inequality and implicit bias, and the number of women faculty members in STEM has increased at institutions awarded ADVANCE Institutional Transformation grants (Rosser *et al.*, 2019; Zippel & Ferree, 2019).

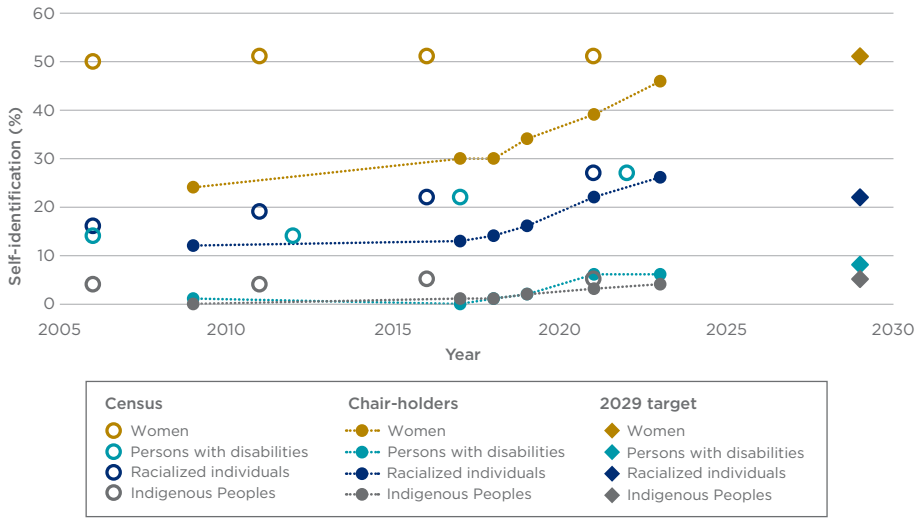
Other jurisdictions have been using public funding to support the assessment of EDI programs implemented in post-secondary research institutions. For example, in Australia, the Department of Education has introduced the Student Equity in Higher Education Evaluation Framework that supports universities in evaluating federally funded equity programs and initiatives, gathering evidence on effective programs, and exchanging best practices (Gov. of Australia, 2023).

4.4 Equity targets as a condition of research excellence programs

The requirement of academic excellence, defined through conventional metrics (e.g., citations, publication venues, grades, academic achievements), has underpinned Canada's research funding system for several decades. Framed exclusively in these terms, excellence reinforces homogeneity in research by allocating support to those who are well-positioned to benefit from the funding system in the first place (Venne, 2023). The repercussions of this approach to excellence were visible in program design. In 2000, the Government of Canada created the CRCP research excellence program "to attract and retain a diverse cadre of world-class researchers, to reinforce academic research and training

excellence in Canadian postsecondary institutions" (Canada Research Chairs, 2022) (recall Figure 1.2). Under the program, funding was allocated to establish 2,285 research professorships in all disciplines across the country (Canada Research Chairs, 2022).

Since its establishment, the CRCP has been criticized for lacking employment equity targets and prioritizing STEM (CCA, 2012). In the program's first year, women represented only 14% of all chair-holders (Canada Research Chairs, 2023a). In 2003, eight women filed a complaint against the Government of Canada, asserting that the CRCP was violating the *Canadian Human Rights Act* by discriminating against protected groups (GC, 1985; Cohen *et al*., 2003). The 2006 settlement agreement between the plaintiffs and the Government of Canada required that the CRCP implement equity targets in universities across the country to increase the representation of women, racialized individuals, persons with disabilities, and Indigenous Peoples (Canada Research Chairs, 2023a) (Figure 4.1).



Data sources: StatCan (2009, 2010, 2015a,b,c, 2023a,b); ESDC (2011); GC (2023d)

Figure 4.1 Progress in addressing underrepresentation in the CRCP and targets for 2029

Since 2009, there has been some progress in increasing the number of chair-holders from the four designated groups. In 2021, the CRCP set the latest equity targets for 2029 based on Canada's population according to the 2016 Census (PRA, 2023). The data for each category are not mutually exclusive because the same person can be represented in several designated groups (PRA, 2023). The 2029 target of 8% for persons with disabilities does not reflect the percentage of the population with disabilities as of 2016. This target-setting method takes into account that "low self-identification rates could impact the ability to achieve a higher target" (Canada Research Chairs, 2024).

Accountability and transparency mechanisms can improve institutional compliance with employment equity targets

Despite the requirements listed in the 2006 settlement agreement, a 2016 evaluation of the CRCP concluded that institutions lacked transparency in their chair allocation and renewal processes and needed "greater accountability in terms of meeting … equity targets" (Goss Gilroy Inc, 2016). In 2017, the CRCP steering committee published the program's Equity, Diversity and Inclusion Action Plan and required universities to implement their own plans. These plans must meet specific guidelines, including a review of the institutional employment system and support available to chair-holders (Canada Research Chairs, 2023b). In addition, universities must maintain CRCP public accountability and transparency websites (Canada Research Chairs, 2023c) and submit annual EDI reports in which they describe "the progress made in implementing their action plans and meeting their equity and diversity targets and objectives" (Canada Research Chairs, 2023b). In addition to the four designated groups, in 2019, the CRCP started implementing approaches to increase the representation of LGBTQ2S+[24] chair-holders (Canada Research Chairs, 2019). Universities that do not meet the CRCP equity targets can face a number of consequences, including a reduction in the number of nominees and allocated chairs (Canada Research Chairs, 2023d). In the panel's view, the evolution of the CRCP and its current EDI requirements have had transformative positive EDI impacts across the country.

In the panel's view, the evolution of the CRCP and its current EDI requirements have had transformative positive EDI impacts across the country.

Overall, annual reporting to the tri-agency improved institutional accountability for achieving the employment equity targets (Tamtik & Guenter, 2019). CRCP policies also inform provincial best practices. For example, an independent review of the Ontario Research Fund (ORF) recommended that it rely on federal practices to collect information on the four designated groups in order "to achieve better equity and diversity outcomes in the allocation of research funding" (MRIS, 2018). In addition, the CRCP guidelines on recruitment, hiring, and retention are incorporated by reference into the ORF policies (ORF, 2023).

Canada is not alone in trying to leverage equity targets through research funding. In the European Union, equity targets have been implemented through a research funding program called Horizon Europe. Unlike in Canada, however,

24 This cited study uses "2SLGBTQI+" rather than the term used throughout this report.

these targets focus exclusively on promoting gender equality (EC, n.d.). To comply with eligibility requirements under Horizon Europe, an institution must publish a gender equality plan (GEP), dedicate resources and expertise to its implementation, collect and annually report data disaggregated by sex/gender on personnel (and students, if applicable), and promote ongoing awareness and training on gender equality for the entire organization, including unconscious gender bias training for staff and decision-makers (EC, 2021). The European Commission also recommends that GEPs address the following areas using measures and targets: "work-life balance and organizational culture; gender balance in leadership and decision-making; gender equality in recruitment and career progression; integration of the gender dimension into research and teaching content; [and] measures against gender-based violence, including sexual harassment." Organizations requesting funding must submit a self-declaration on compliance with mandatory and recommended areas. The European Commission monitors compliance with GEPs through random checks. Non-compliance with the four mandatory requirements can lead to the termination of funding (EC, 2021).

Government programs accompanied by accountability and transparency mechanisms can encourage institution-wide EDI practices

In the panel's view, the transformative nature of the CRCP stems from its unique ability to improve hiring practices, making them more transparent and streamlined. When CRCP selection and nomination procedures are well integrated into specific policies (e.g., collective agreements), they can inform institutional best practices for recruiting faculty members. CRCP requirements can also identify systemic issues and deficiencies and propel institution-wide strategies that extend to promotions and administrative support (Box 4.3). Institutions eligible for the CRCP can avail themselves of other opportunities (e.g., EDI stipend, Robbins-Ollivier Award for Excellence in Equity) that support collective and individual efforts to create a more inclusive academic and research environment (Canada Research Chairs, 2023f,g).

Box 4.3 Strengthening the University of Ottawa's commitment to EDI through compliance with the CRCP

In 2017, the University of Ottawa had an allocation of 75 Canada Research Chairs and met its CRCP targets for one designated group: visible minorities (Campbell & Bourbonnais, 2023). While developing the new EDI Action Plan to meet CRCP targets, the University of Ottawa identified the following institutional barriers to the recruitment of candidates from the four designated groups: a lack of mandatory training on the impact of unconscious bias for recruitment committees; fragmented data collection practices; a lack of support for chair-holders belonging to the four designated groups; and a lack of commitment to diversity and inclusion at the institutional level (UOttawa, 2017).

Each of these barriers was addressed through targeted measures, such as self-reported data collection of CRCP applicants, mandatory unconscious bias training, preferential and selective hiring mechanisms, review of internal CRCP recruitment guidelines, and the appointment of the Special Advisor to the President on Diversity and Inclusion to sit on all CRCP selection committees (UOttawa, 2017). These and other measures allowed the University of Ottawa to meet all targets set by the CRCP and exceed targets for three of the four designated groups (women, racialized people, and Indigenous Peoples) (Campbell & Bourbonnais, 2023). To strengthen its commitment to EDI, the university created a dedicated full-time staff position to lead the development of an institution-wide EDI Action Plan for Research, established equity targets for institution-level chairs, and revised procedures for the allocation of prizes and awards (EDI in Research Advisory Committee, 2021). The development of this plan drew on lessons learned from implementing the CRCP EDI Action Plan and consultations with CRCP chair-holders (Campbell & Bourbonnais, 2023).

Introducing additional EDI considerations into the CRCP selection criteria could amplify the positive impact of the program

Some federal research funding programs evaluate EDI in research design (e.g., research question and methods, knowledge mobilization) and practice (e.g., team composition, training of highly qualified personnel) as part of merit review (Section 5.1.1). Neither of these EDI requirements is addressed in CRCP selection criteria, which assess "[the] quality of the nominee and

the proposed research program" and "[the] quality of the institutional environment, institutional commitment, and fit of the proposed chair with the institution's strategic research plan" (Canada Research Chairs, 2023g). While the CRCP advances EDI through the recruitment and retention of candidates from designated groups, introducing additional requirements that focus on EDI in research design and practice as part of the selection process could, in the panel's view, amplify the positive impact of the program.

4.5 Summary

In Canada and across the world, research funders have focussed on EDI measures of varying scope and complexity, including grants and scholarships, expanded eligibility requirements, equity targets, recognition programs, equality charters, and capacity-building programs. The panel found that measures accompanied by transparency and accountability requirements can drive long-term positive developments and enable meaningful changes at the institutional level. In addition, government programs that allow people from underrepresented groups to conduct research while promoting EDI among the broader public have benefited individuals and communities.

Some measures, however, face challenges. For example, support offered through grants and scholarships remains fragmented, creating disparities among researchers who identify with different underrepresented groups and who pursue different fields and levels of study. Additionally, several successful EDI programs have been cut, leaving institutions with punctuated and unpredictable funding and challenging the continuity and longevity of institutional programs reliant on federal funds. This challenge highlights the need for a national research funding strategy designed with equity in mind. Such a strategy could also consider further expanding the eligibility requirements for federal research grants, making them more accessible to Indigenous researchers and organizations. Finally, the government has limited opportunities to facilitate positive changes at the institutional level because federal EDI capacity-building and recognition pilot programs were discontinued.

5

EDI in the Research Process

Chapter findings

- EDI considerations apply across all stages of the research process—funding application, research, and post-research—and guide the actions of individuals and institutions undertaking research in Canada.
- EDI in research design and practice, informed by the specific objectives of funding programs, is central to projects in all fields and disciplines.
- Policies that minimize bias in evaluating applications for funding and advance more inclusive research output evaluation criteria are instrumental in cultivating a more equitable research ecosystem. Ongoing scrutiny of these policies is necessary to ensure the research funding system responds to the needs of Canada's diverse post-secondary research community and society more broadly.
- Conditions attached to federal research funding programs are ill-suited to support those engaged in Indigenous research. Reform of funding programs guided by the principle of Indigenous self-determination can support the decolonization and Indigenization of the post-secondary research ecosystem.

As suggested in Chapter 4, research funders rely on two main measures—scholarships and research grants—to support individuals, groups, and organizations facing systemic barriers in the post-secondary research ecosystem. The remit of public funding, however, extends beyond supporting researchers and applies to the research process as well. This chapter examines the extent to which requirements attached to public funding can implement EDI throughout the research process—the application phase (i.e., the preparation and review of a research proposal), the research phase, and the post-research phase. The diversity of Canada's post-secondary research community and Canadian society more broadly calls for a flexible and agile approach to the research process, which elevates diverse expertise and research outputs and treats the principle of Indigenous self-determination as a foundation for any research that involves Indigenous Peoples.

5.1 Application phase

The application phase of the research process determines who gets access to research funding and with what conditions. When designed with EDI in mind, this phase can effectively fund innovative projects, elevate diverse talent, and support impactful research.

5.1.1 EDI in research design and practice

Applications for a number of federal funding opportunities require that candidates integrate EDI into their research projects. Depending on the funding agency and program, this can be accomplished by incorporating EDI considerations in research design (EDI-RD) and research practice (EDI-RP).

EDI-RD requires applying an EDI lens to all stages of the research process: developing the research question; designing the study, methodology, and data collection; making the research environment accessible and inclusive for research participants; analyzing and interpreting results; identifying research users and partners; and mobilizing knowledge (CRCC, 2023a).

There are discrepancies in how federal funding programs approach EDI-RD and EDI-RP

The tri-agency has different approaches to incorporating these considerations into research funding applications (Table 5.1). For example, applicants for the CIHR Project Grant must demonstrate how they plan to integrate sex and/or gender into research design (CIHR, 2023). Reviewers are asked to assess the proposed research design plan and suggest improvements (CIHR, 2023). The NSERC Discovery Grants require that applicants address both EDI-RD and EDI-RP in their proposals (NSERC, 2023l). These EDI considerations are assessed when selecting successful projects (NSERC, 2023l). Discrepancies in funding program requirements (Table 5.1) may be due, in part, to the fact that the benefits of diversity have been studied more extensively in disciplines that focus on innovation and problem-solving (e.g., natural sciences, health) and where research is conducted by teams rather than by individual scholars (Stewart & Valian, 2018).

EDI-RP refers to making the research environment accessible and inclusive for the research team and providing "equitable opportunities for all members of the team to engage with the work being conducted" (NSERC, 2023k).

Table 5.1 EDI considerations in select federal grant programs

Grant	EDI-RD	EDI-RP	Included in the assessment of merit
CIHR Project Grant	Yes The research proposal should describe how applicants will include sex and/or gender in the research design, if applicable.	No	Yes EDI-RD is assessed as part of the project's feasibility (i.e., the quality of the project's design and plan).
CIHR Training Grant Health Research Training Platform	Yes The proposal should describe how the platform will provide training on emerging approaches to research (e.g., sex- and gender-based analysis, embedding EDI considerations and analysis in all stages of research).	Yes The proposal should, among other things, describe how EDI is integrated in "the recruitment and training plans for trainees and [early career researchers], and in the design and delivery of mentorship activities."	Yes Each evaluation criterion assumes "applications are building inclusive, equitable, and diverse platforms."
NSERC Discovery Grant (Individual)	Yes The merit of the proposal criterion evaluates how well sex, gender, and diversity are incorporated in the research design if relevant to the field of research.	Yes The applicant must demonstrate a commitment to EDI in past and planned training of highly qualified personnel.	Yes Applications are rated according to these and other criteria.
NSERC Alliance Grant	No	Yes The proposal must address EDI considerations in the proposed training plan.	Yes EDI-RP is one of several criteria used to assess the merit of the proposal.
NSERC CREATE	No There are no specific requirements; NSERC CREATE is a training program.	Yes The application should address EDI in "the rationale of the team composition and in the designated roles within the team."	Yes EDI-RP is considered when "arriving at an overall rating for the application."
SSHRC Insight Grant	No	No	No Successful projects are selected based on "the aim and importance of the endeavour," the project's feasibility, and the applicant's expertise.

Grant	EDI-RD	EDI-RP	Included in the assessment of merit
SSHRC Partnership Grant	Yes The proposal should examine considerations related to EDI-RD, as applicable.	Yes The proposal should contain a plan for building "a diverse team, inclusive working environment, and equitable opportunities within the partnership."	Yes The appropriateness of EDI-RP and the quality of EDI-RD are evaluated as part of criteria that assess the aim and importance of the endeavour and the plan to achieve excellence.
New Frontiers in Research Fund	Yes The proposal should describe how EDI is incorporated into each stage of the research process.	Yes Applicants must consider "team composition and recruitment processes, training and development opportunities, [and] inclusion in the research environment."	Yes EDI-RD and EDI-RP are assessed under two criteria: EDI in research practice and feasibility (the research plan). If the EDI components receive a failing grade, the remainder of the application is not considered.

Sources: CIHR (2023a,b); CRCC (2023a); NSERC (2022b; 2023l,m); SSHRC (2023c,d)

EDI-RD and EDI-RP are central to research projects in social sciences and humanities

Although the SSHRC Insight Grant is one of the main funding mechanisms available to researchers in social sciences and humanities (Volk *et al.*, 2023), applicants are not required to explain the relevance of EDI to research design and practice in their proposals, and evaluators do not take these considerations into account during the peer review process. Researchers in social sciences and humanities, however, often carry out projects that focus on EDI and engage directly with people from underrepresented groups (SSHRC, 2022c). Such projects could benefit from paying closer attention to EDI-RD and EDI-RP, particularly when engaging with populations experiencing marginalization (Stewart & Valian, 2018; Weinberg, 2022). The importance of EDI-RD and EDI-RP in community-based and community-led research was highlighted in the SSHRC Race, Gender and Diversity Initiative, which supported research projects "grounded in the lived experience of underrepresented or disadvantaged groups" and assessed EDI-RD and EDI-RP as part of merit review (SSHRC, 2022a). The Scarborough Charter (Box 1.1) extends the principles of this initiative to all research projects involving Black communities and provides that researchers should adhere to co-construction, "including sustained outreach to relevant communities on inputs and the interpretation of research results" (Inter-Institutional Advisory Committee, 2021). The tri-agency

can play an instrumental role in advancing community-centric research and respecting lived experiences (Inter-Institutional Advisory Committee, 2021). In the panel's opinion, one way to fulfill this role is to consider EDI-RD and EDI-RP when designing funding opportunities.

GBA+ can advance intersectionality in research design, but its application prioritizes sex and gender

Gender-Based Analysis Plus (GBA+) (Box 5.1) is an analytical approach that can be used in a variety of contexts to assess how people's intersecting characteristics (e.g., sex, gender, class, ethnicity, age, sexuality, and geographic location) may influence how they experience policies and programs (Hankivsky & Mussell, 2018; WAGE, 2022). Following the Auditor General's 2015 report, the Government of Canada renewed its commitment to implement GBA+ more rigorously across departments and agencies and monitor and report on its practice and outcomes (WAGE, 2021). It has been relying on GBA+ as an instrument to integrate EDI practices into the work of its departments, agencies, and publicly funded programs (CIHR, 2022a; NSERC, 2022c; SSHRC, 2022b).

Box 5.1 The implementation of gender mainstreaming, GBA, and GBA+ by the Government of Canada

The Federal Plan for Gender Equality, published in 1995, introduced the internationally acknowledged strategy of gender mainstreaming into federal policy-making (SWC, 1995). The goal of gender mainstreaming is to consider, before any decisions are made, an analysis of the impacts of policies and initiatives on women and men, respectively. The Government of Canada has introduced GBA as an instrument to operationalize gender mainstreaming by incorporating gender considerations into policies, plans, and decision-making (Hankivsky, 2012) and later implemented GBA+, building on these earlier policies and instruments.

GBA+ is a tool that can be used to incorporate EDI-RP. For example, best practices developed by the Canada Research Coordinating Committee to support applicants and reviewers for the New Frontiers in Research Fund and other

federal research funding programs state that EDI-RP "may be incorporated in different ways, such as through intersectional analysis [and] gender-based analysis plus" (CRCC, 2023a).

Research by Hankivsky and Mussell (2018) showed that, despite frequent references to GBA+ in government policies and documents, policy actors were confused about the role and purpose of this approach. Interviews with federal employees revealed that the respondents used the terms GBA and GBA+ interchangeably (Paterson & Scala, 2017), lacked clarity about the connection between intersectionality and GBA+, and used GBA+ as an analytical instrument that prioritized sex and gender while overlooking intersectionality (Hankivsky & Mussell, 2018). The Office of the Auditor General of Canada found inconsistencies in the interpretation and application of GBA+ across federal departments and agencies (OAG, 2022). Such inconsistencies and confusion may affect government policies that require the implementation of GBA+ as a condition of public funding, limiting their potential to effect positive changes (Hankivsky & Mussell, 2018).

The principle of Indigenous self-determination is fundamental to the merit and ethics review of Indigenous research

SSHRC's Indigenous Advisory Circle defines Indigenous research as:

> *Research in any field or discipline that is conducted by, grounded in or engaged with First Nations, Inuit, Métis or other Indigenous nations, communities, societies or individuals, and their wisdom, cultures, experiences or knowledge systems, as expressed in their dynamic forms, past and present. Indigenous research can embrace the intellectual, physical, emotional and/or spiritual dimensions of knowledge in creative and interconnected relationships with people, places and the natural environment.*
>
> SSHRC (2022c)

Nothing about us without us is the underlying principle of Indigenous research that promotes Indigenous rights, self-determination, and self-governance (ICC, 2022). A rights- and distinctions-based approach to Indigenous research implies that Indigenous Peoples should control data collected during the research process and how these data can be used (Drawson *et al.*, 2017). These rights are asserted in UNDRIP (Section 1.3.2) as well as in a set of principles on ownership, control, access, and possession (OCAP®) of data developed by the

First Nations Information Governance Centre (FNIGC, n.d.).[25] Guidelines for the merit review of proposals related to Indigenous research must "ensure that researchers are accountable to Indigenous [Peoples and their] communities, and that First Nations, Métis and Inuit knowledge systems … are recognized and contribute to scientific/scholarly excellence" (GC, 2019). If researchers and funding bodies wish to uphold the *nothing about us without us* principle, Elders—highly respected experts in Indigenous Knowledges and ethics—must participate during the merit review of research proposals involving Indigenous research and funding agencies must support Elders in this role (CCA, 2023).

In addition, researchers receiving tri-agency funding must adhere to the Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans (TCPS 2) (CIHR *et al.*, 2022). TCPS 2 guides the work of research ethics boards (REBs) that review research methodologies to ensure they are ethical and uphold the rights of participants (CIHR *et al.*, 2022). Some researchers in Canada have encouraged the REB system to be more respectful of the principles of Indigenous self-determination and data sovereignty (Glass & Kaufert, 2007; CCA, 2023). To accomplish this, it is necessary to introduce processes and structures consistent with Indigenous Knowledges (Glass & Kaufert, 2007; CCA, 2023). A standardized approach to ethics review does not fully recognize the importance of community consent and the value of existing, well-established relationships between the Indigenous researcher and their community. Indigenous researchers suggesting projects in their communities are governed by the same REB procedures as their non-Indigenous colleagues (Grenz, 2023). A system of Indigenous ethical review could be implemented in Canada but requires "adequate resourcing and capacity consistent with the values of the Indigenous Peoples concerned" (CCA, 2023).

5.1.2 Assessment of research contributions

Research funders assessing the merit of applicants—and research more broadly—rely on evaluation criteria informed by the specific goals of individual programs; in many instances, however, the number of publications and citations has been deemed more important than other research outputs (CCA, 2021a). These conventional research impact metrics are ill-equipped to capture the value of different types of research and approaches to conducting it (CCA, 2023). In order to change the status quo, a group of journal editors and publishers developed the San Francisco Declaration on Research Assessment (DORA) (Box 5.2).

25 OCAP® is a registered trademark of the First Nations Information Governance Centre (FNIGC). To fully understand these principles, see their website at https://fnigc.ca/ocap-training/. While no single organization advocates for data sovereignty for all Indigenous Peoples in Canada, the FNIGC has been performing important work in this area (CCA, 2023).

Box 5.2 An overview of DORA

DORA contains several recommendations for actors in the research ecosystem:

- It calls upon all actors—funding agencies, institutions, publishers, organizations that supply metrics, and researchers—to stop using journal-based metrics to assess the quality of research and in "hiring, promotion, or funding decisions."
- Funding agencies are encouraged to emphasize the importance of the scientific content of contributions and consider various research outputs and impact measures.
- Institutions are encouraged to be clear about the metrics used to make hiring and promotion decisions, prioritize the scientific content of research outputs over other metrics, and consider various research outputs and impact measures.
- Publishers are encouraged, among other things, to deemphasize "the journal impact factor as a promotional tool," "make available a range of article-level metrics," and provide information about each author's contributions.
- Organizations that supply metrics are encouraged, among other things, to disclose data and methods for calculating metrics, facilitate unrestricted reuse of data, and address inappropriate use of metrics.
- Researchers participating in decision-making on "funding, hiring, tenure, or promotion" are encouraged to assess "scientific content rather than publication metrics," use various metrics to assess the impact of research outputs, challenge conventional research assessment approaches, and advance best practices aligned with DORA.

ASCB (2012)

Since 2012, more than 22,300 individuals and organizations have signed on to DORA, including CFI, CIHR, NSERC, SSHRC, and Fonds de recherche du Québec (FRQ, 2020b; NSERC, 2023m). As a signatory, the tri-agency ensures that a wide range of research outputs are considered as part of the funding application review process. For example, applicants for the CIHR Project Grant can include various research outputs in the section of the application dedicated to the most important contributions (CIHR, 2023). Reviewers are encouraged to consider the applicant's context (e.g., career stage, leave history) when assessing productivity. The CIHR bias in peer review mandatory learning

module recognizes that some metrics (e.g., publications and citations) can lead to biased evaluations and includes a section on DORA (CIHR, n.d.). Other federal funding agencies include similar provisions in their application and evaluation materials (SSHRC, 2021; NSERC, 2023m).

Elevating diverse research impacts and outputs helps recognize the value of Indigenous research

Despite positive changes introduced by DORA, conventional research impact metrics—such as publications and citations—remain highly valued (CCA, 2021a). These metrics may be particularly ill-equipped to reflect the value of community-centric Indigenous research, which can often be properly assessed only through the inclusion of social and cultural indicators in evaluation methodology (Gifford & Boulton, 2007; Gittelsohn *et al.*, 2020). Some peer reviewers for the SSHRC Postdoctoral Fellowship indicated that more guidance from the funding agency could improve the merit review of applications for Indigenous research and encouraged SSHRC to revise the weight of the evaluation criteria for Indigenous research (SSHRC, 2023d). As noted by one peer reviewer, "the way the competition is organized, and the added weight given to the criterion [sic] of 'capacity' (measured in great part by previous funding and publications), is a barrier to equity" (SSHRC, 2023d). When it comes to defining Indigenous metrics of success in Indigenous research, these need to be co-developed with Indigenous communities to consider Indigenous Knowledges and data sovereignty (Smith *et al.*, 2018; Wilks *et al.*, 2020). According to Smith (2018), any assessment of the impact of Indigenous research must take place in the context of an "intergenerational long game of decolonization" and result in "positive fundamental shifts for Indigenous Peoples." Furthermore, researchers who spend time cultivating relationships with Indigenous communities as part of their research project have less time to generate an extensive publication record (Gewin, 2021). Valuing alternative research impacts and outputs elevates the importance of relationship-building and benefits Indigenous communities engaged in or spearheading research projects (Kovach, 2021). Relationship-building is an inherently positive research outcome, which can enable future collaborations and enrich the experiences of all participants (CCA, 2023). In the panel's opinion, elevating diverse research impacts and outputs would also promote community-centred research with other underrepresented communities (Section 5.2).

5.1.3 Addressing bias in peer review of grants

Similar to more inclusive research output evaluation metrics, strategies to address bias in the peer review of research proposals can cultivate a more inclusive post-secondary research ecosystem. At the tri-agency, these

strategies include the following: recruiting committee members from diverse backgrounds, collecting self-identification data from peer review committee members, online training in unconscious bias for peer reviewers, and quality assurance of the peer review process.

Diversity in the composition of peer review committees advances fair access to research funding

A lack of diversity among Canada's researchers translates into relatively homogenous peer review committees. According to the report of the SSHRC Advisory Committee to Address Anti-Black Racism in Research and Research Training ("the Advisory Committee") released in 2023, many Black scholars "report inadequate review of their research proposals and biases within the merit review process with inadequate representation of Black scholars on these committees" (Advisory Committee, 2023). Black scholars are reluctant to apply for funding opportunities for a number of reasons, including a "lack of understanding of their research expertise and field by merit review committees" (Advisory Committee, 2023). To implement the tri-agency's commitment to increase the diversity of peer review and selection committees (NSERC, 2018), the Advisory Committee made several recommendations, including:

- "Collaborate with postsecondary institutions to identify potential reviewers and develop a list of experts;
- Implement policies that will reinforce an open call for participation in the merit review process;
- Develop an inclusive approach to the recruitment of reviewers that invites researchers with less experience to participate;
- Expand recruitment to reinforce the knowledge and relevant expertise."

Advisory Committee (2023)

These recommendations are only operationalized in the SSHRC Action Plan for Black Researchers (2024–2029) (SSHRC, 2024). While these recommendations aim to increase Black representation on peer review committees, in the panel's view, they may apply to other underrepresented groups across all research sectors. In addition, regular publication of data on the correlation between the diversity of peer review committees and the success rates of underrepresented applicants could advance public accountability for reaching the goals outlined in the tri-agency EDI Action Plan for 2018–2025.

Funding agencies use training, anonymization of applications, and internal reviews of the evaluation process to reduce bias

The tri-agency and the Fonds de recherche du Québec (FRQ) use bias in peer review training as one of the mechanisms to address research funding inequities (FRQ, n.d.). For example, CIHR's quality assurance guidelines recommend that peer reviewers take the bias in peer review training after completing the review of proposals—in order "to review comments for possible bias that may contribute to inequities" (CIHR, 2022b). Reviewers are also encouraged to pay particular attention to those reviews and scores submitted by their colleagues that are substantially different from theirs (CIHR, 2022b). An evaluation conducted by SSHRC in 2022 showed that the majority of peer reviewers (56%) found it "extremely useful or very useful" (SSHRC, 2023d). However, implicit bias training has limitations and is more effective when combined with other interventions (Section 6.3).

Research funding agencies in foreign jurisdictions have introduced some innovative procedures to address bias in grant review, which could be useful in a Canadian context. In the United States, the National Institutes of Health, for example, has unveiled a strategy to anonymize peer review for its Transformative Research Awards (Lauer, 2020). This initiative draws on changes made to the Pioneer Award and New Investigator Award, which delay the evaluation of researcher bio sketches until the later stages of review (NIH, 2019). Nonetheless, anonymous reviews can present challenges. There are instances where reviewers may deduce the identity of the author based on the description of the research, thereby undermining the effectiveness of the strategy (CCA, 2021a).

To reduce bias in peer review, the Swedish Research Council (SRC) performs a qualitative review of the evaluation process for funding applications every two years (Söderqvist *et al.*, 2017). A team of observers monitors the discussions of review panels, focussing on how they use and interpret the evaluation criteria. Since 2012, SRC has published several reports on gender equality based on observations made during these meetings, the analysis of which led to recommendations on improving evaluation procedures, including the guidelines shared with review panels. Gender equality reports also help SRC assess the effectiveness of other measures implemented in the context of its gender equality strategy and better target its programming. Reports are used to train staff and review committees (Söderqvist *et al.*, 2017). These procedures, however, have been criticized for focussing solely on gender and for having a limited impact on increasing the overall number of women applying for funding (RIQEDI, 2022).

5.2 Research phase

In Canada, some people and groups have been unfairly excluded from participating in research on the basis of characteristics such as "culture, language, gender, race, ethnicity, age and disability" (CIHR *et al.*, 2022). Inclusive design of the research phase—through community engagement and recruitment of diverse research participants—helps remedy these inequities and leads to more impactful research outcomes for all people (Allmark, 2004; NCCDH, 2013; Roscoe, 2021; Willis *et al.*, 2021; Zhao, 2021; Shea *et al.*, 2022).

Inclusive research design relies on various community engagement strategies

Some research funding programs support inclusive research design by requiring that people from underrepresented groups be included in the research team at the outset of the project in a meaningful way.

Some research funding programs support inclusive research design by requiring that people from underrepresented groups be included in the research team at the outset of the project in a meaningful way. This is the case with Canada–Inuit Nunangat–United Kingdom Arctic Research Programme (CINUK), which funds research focussed on the impacts of the changing Arctic ecosystem on Inuit communities (FRQ, 2022a) (Section 4.1). Similarly, the University of Ottawa Community-Based Research grants pilot requires that projects be co-led by "a regular full-time University of Ottawa professor and a community-based applicant who is affiliated to a community-based organization working with equity-deserving or marginalized groups, and involve community-based partners working with Indigenous, equity-deserving or marginalized groups" (UOttawa, 2024).

Community engagement strategies support inclusive participation in research to best address issues affecting people who share common characteristics (e.g., geographic proximity, race, socioeconomic status) (Ahmed & Palermo, 2010). For example, to ensure the participation of Indigenous and racialized people in COVID-19 clinical trials, researchers in the United States implemented and measured the effect of multiple community engagement strategies (e.g., community-based participatory research approaches; stakeholder engagement and trust building; communications and community influencers) and made several conclusions (Andrasik *et al.*, 2021). First, robust community engagement is essential to including Black, Indigenous and racialized people in clinical trials, and equitable enrollment is achievable with sufficient resources (e.g., staffing). Second, despite considerable financial resources and existing

collaborations with the community, white enrollment still outpaced that of Indigenous and racialized patients, contributing to underrepresentation early in the trial (Andrasik *et al.*, 2021).

These results led to other recommendations, including leveraging community spaces (e.g., Black-owned barbershops) to run population-specific trials (Victor *et al.*, 2011, 2018) and establishing demographic goals from the outset (Andrasik *et al.*, 2021). Surveys that generate disaggregated data reflecting the diversity of potential research participants can establish accurate demographic goals (Fernandez *et al.*, 2016). Offering more options (e.g., separate questions about race, ethnicity, country of birth, or language spoken) can limit homogenization and facilitate intersectional analysis (Fernandez *et al.*, 2016). Data generated in this way also mitigates bias that arises from overly broad demographic classifications (Fernandez *et al.*, 2016). In all cases, ongoing community partnerships are needed to strengthen rapport and build trust among researchers, their institutions, and underserved communities (Andrasik *et al.*, 2021). These community engagement strategies can benefit all parts of the research process (e.g., design, writing, peer review, publication, and dissemination) (Ahmed & Palermo, 2010; Ramsden *et al.*, 2017).

Inclusive research design requires additional time and resources

Community engagement often requires additional resources, and research funders use different strategies to support it. CIHR, for example, has increased its overall investment in Indigenous health research to 4.6% of their annual budget (proportional to the Indigenous population according to the 2016 Census) (GC, 2024b). The increased investment provides additional funding to projects on Indigenous health research through grants and award competitions. In Aotearoa New Zealand, research by and about Māori and Pacific Islanders is considered more costly than other types of research, and universities and other eligible organizations engaging in it are automatically entitled to a greater share of public research funding (Ross, 2021). Changes to the research funding model were implemented to ensure, among other things, that researchers were able to foster relationships with Māori and Pacific Islanders and had access to the necessary infrastructure (Ross, 2021).

Because consultation fatigue is a common consequence of community engagement in health research (Nakibinge *et al.*, 2009), reimbursements and compensation can reduce the burden of participation. Consultations with community representatives can help researchers tailor their compensation strategies to local needs (Adhikari *et al.*, 2018, 2020). For example, upon the advice of community members, the research team that administered an antimalarial drug in Laos offered non-monetary compensation, such

as cooking utensils, to participating families (Adhikari *et al.*, 2018, 2020). In the panel's experience, however, grant administration policies and reporting requirements can preclude researchers from compensating research participants in a way that best responds to their needs. More broadly, due to slow and inflexible procedures, researchers may have to cover some expenses out-of-pocket or experience reimbursement delays (Sagers, 2019; Favaro & Hind-Ozan, 2020). These delays can have an adverse effect on careers of researchers who face socioeconomic challenges (Thomson, 2019; Malloy, 2020).

A key contributor to successful community engagement is the research staff's competence in engaging with a broader public (Jabbar & Abelson, 2011). Recruiters, researchers, and clinicians can make research more inclusive by adopting community engagement behaviours and techniques to build trust and better serve participants experiencing minoritization (Otado *et al.*, 2015; Morgan *et al.*, 2017; Boilevin *et al.*, 2022). Trust, developed through interpersonal interactions, is necessary for the recruitment and retention of members of minoritized communities, especially when addressing the "historical experiences of many racial and ethnic groups" (Otado *et al.*, 2015). Direct contact through community-based outreach approaches (i.e., field-based strategy), along with the necessary cultural competence and sensitivity, can increase research participation rates and the retention of participants (Otado *et al.*, 2015). Community engagement, however, is rarely taught in graduate school curricula (Ahmed & Palermo, 2010).

Research on medical study recruiters identified several behaviours that improve relationships with underserved patients and potential research participants (Morgan *et al.*, 2017). These include "repeated contact, demonstrating respect, exerting extra efforts on participants' behalf, and developing personal trust (through listening, expressions of empathy, and creating a sense of personal connection)." The practitioners in this study reported that these early interactions can contribute to trust in subsequent encounters with physicians and other parts of the research organization (Morgan *et al.*, 2017).

5.3 Post-research phase

Knowledge translation strategies and open-access policies advance inclusive access to research outputs

Knowledge translation is a key component of the post-research phase that aims to accelerate the implementation of research outputs. The needs of the targeted population inform EDI-focussed knowledge translation practices and include "advocacy to improve access, reduce barriers, … or change systems to reduce inequity" (Ruzycki & Ahmed, 2022). Oftentimes, to facilitate

knowledge translation, researchers must ensure that their data are accessible to communities experiencing marginalization—"both literally and considering the language, culture and scientific literacy of the research subjects" (Ruzycki & Ahmed, 2022). Targeted funding for innovative research outreach activities can help initiate and sustain inclusive knowledge translation (Coombe *et al.*, 2023). Small grants, also known as seed grants, supporting community–academic partnerships have been effectively used in the United States to disseminate research findings to diverse audiences, build infrastructure and processes, and translate research into interventions and policies (Coombe *et al.*, 2023).

Similar to knowledge translation, open-access policies advance inclusive access to research outputs. Generally, such policies allow "for free sharing and downloading of knowledge (which may be directly or indirectly related to topics pertaining to EDI)," making research more accessible to all, including end-users belonging to underrepresented groups (UKRI, 2021). The tri-agency open-access policy on publications, released in 2015, requires that researchers make publications publicly available within one year. The implementation of this policy, however, is challenged by a lack of enforcement and financial support to help researchers offset the cost of open-access publishing (GC, 2015; Nguyen & Tabrizian, 2022). Acknowledging the importance of open access for advancing EDI, the tri-agency is changing this policy to ensure immediate access to peer-reviewed publications arising from publicly funded research by the end of 2025 (GC, 2023c).

To make research outputs more accessible, researchers themselves have to look for open-access publication venues and alternative ways to share research results (Owens, 2023). However, many of them are reluctant to do so as publications in high-impact subscription journals, which have high fees for open access, are highly valued by promotion and peer review committees. Broader criteria for evaluating research impact and better enforcement of the tri-agency publication policy are needed to incentivize open-access publishing (Owens, 2023).

Accountability mechanisms can help ensure that researchers comply with EDI-RD and EDI-RP considerations stated in their research proposals

Incorporating EDI into research funding applications is an important step toward reducing disparities throughout the research process. However, to achieve meaningful results, accountability mechanisms are necessary to ensure that researchers implement the EDI-RD and EDI-RP plans stated in their research proposals. Such mechanisms are starting to emerge. For example, the recipients of the 2022 Canada First Research Excellence Fund were given

one year following the receipt of the award to submit a comprehensive EDI action plan (GC, 2022). The midterm review of the seven-year grant will consider compliance with the EDI action plan, among other metrics that affect the continuation of funding (GC, 2022). Research funders can also draw on reporting requirements implemented at the institutional level to design accountability mechanisms. The California Institute for Regenerative Medicine, for example, requires that each trial grant submission be accompanied by a plan that outlines steps toward achieving EDI-RD and EDI-RP (Moore & Piddini, 2023). Grantees are then required to submit quarterly EDI reports reviewed by clinical advisory panels (Moore & Piddini, 2023). While a shift toward greater accountability is a positive development, there is no universal solution for EDI reporting. In the panel's opinion, procedures informed by grantees' first-hand experiences and the objectives of funding programs could provide meaningful accountability without exacerbating the administrative burden for researchers.

5.4 Summary

Research funding is an important tool for implementing EDI in the research process. At the application stage, researchers from underrepresented groups benefit from policies that minimize bias in peer review and elevate the importance of various research outputs. Many tri-agency programs contribute to positive changes in the post-secondary research ecosystem by asking applicants to demonstrate how their research design and practice are informed by EDI. There are opportunities to extend these requirements to additional programs and accompany them with accountability and reporting procedures, amplifying the transformative potential of public funding.

At the research phase, inclusive design (e.g., through community engagement and recruitment of diverse research participants) remedies the longstanding, unjust exclusion of underrepresented groups from the research process, leading to more equitable and impactful research outcomes for all. Inclusive research design and post-research knowledge translation practices, however, often require additional time and resources, highlighting the importance of implementing flexible funding policies that respond to the needs of Canada's diverse society.

6

Factors Enabling the Implementation of EDI Measures

Chapter findings

- Allocating appropriate resources—whether financial, human, or institutional—supports the implementation of numerous EDI measures.
- The rationale for and assessment of EDI measures requires fulsome disaggregated national EDI data collection.
- Addressing bias within institutions can positively impact EDI measures across the research ecosystem.
- Addressing resistance to EDI is integral to supporting the success of any measure instituted in the post-secondary research ecosystem.

This chapter examines several key supporting factors that enable the implementation of EDI measures across the post-secondary research ecosystem. These factors include allocating resources to advance EDI; collecting and sharing disaggregated data; tackling bias, harassment, and discrimination; and addressing criticism of EDI measures. While these enabling factors are operationalized at different levels and by different actors of the post-secondary research ecosystem, all of them are necessary to create spaces conducive to implementing EDI measures.

6.1 Allocating resources to advance EDI

Providing the resources necessary to meet the unique needs of people belonging to underrepresented groups and support equitable outcomes is foundational to the principle of equity and the fair treatment of all (Nwoga, 2023). Beginning to address EDI issues takes considerable time and money (e.g., Andrasik *et al.*, 2021); doing so in an inclusive way that accounts for varied needs, backgrounds, and skill sets requires additional resources.

Human and financial resources are needed to establish and deploy EDI measures

Allocating resources is required to adopt more inclusive practices that rely on apportioning additional labour, time, or material support. For example, the necessary strategies for cohort hiring need resources to facilitate the more intense hiring process and support newly hired staff. Because it is an active process, cohort hiring often requires a significant investment in labour (including emotional labour), money and planning, in addition to diligent adherence to best practices (Freeman, 2019). Resources and best practices

enable the hiring of positions in multiple fields simultaneously; funding, mentorship, networking, and EDI programs are then needed to support those hires (Freeman, 2019; Mervis, 2020) (Chapter 3).

Government funding for programs, such as work-integrated learning programs, is vital to their success (Itano-Boase *et al.*, 2021) (Section 3.5.1). It enables additional financial, HR, and supervisory support, especially for small companies with limited resources (Itano-Boase *et al.*, 2021). In the United States, the NSF ADVANCE program has increased women's representation in university faculties by providing resources to advance gender equality within institutional structures (Stepan-Norris & Kerrissey, 2016; Rosser *et al.*, 2019) (Box 6.1).

Box 6.1 The Equity Advisor (EA) program at the University of California, Irvine helped increase the number of women hired for faculty positions

At the University of California, Irvine, EAs are senior faculty members with strong interpersonal skills who are committed to gender equity. Hiring, pay equality, mentorship, women's advancement, improving organizational climate issues, award nomination, and supporting faculty and graduate students are part of their official duties. EAs monitor hiring practices, intervening when needed so women receive equitable treatment. EAs are also given additional authority by a special appointment and receive monetary compensation. The time commitment of highly regarded faculty (i.e., knowledgeable, influential, and credible), the funding for stipends and programs, and the monitoring of activities reflect the considerable resource commitment required for this program's success.

Stepan-Norris & Kerrissey (2016)

6.2 Data and transparency

Collecting and analyzing quantitative and qualitative data at both individual (e.g., student, faculty member, staff, executive) and institutional (e.g., funding, programs) levels help to identify existing barriers to advancing EDI in the post-secondary research ecosystem, develop policies to address these barriers, and monitor progress in overcoming them (Universities Canada, 2019b; Center for Employment Equity, 2021).

Collaboration and consistency in data collection support the rationale for and assessment of EDI measures

More and better data are critical to facilitate the implementation and amplify the impacts of EDI measures. Universities, the tri-agency, academic societies, advocacy groups, and Statistics Canada all collect EDI data (i.e., qualitative and quantitative data, including self-identification data and data on EDI policies and measures) or contribute to the process (BCOHRC, 2020; GC, 2021b; CMS, 2022; Díaz *et al*., 2022; StatCan, 2022b; UCalgary, 2024b). In 2019, Universities Canada began conducting EDI surveys that include information on institutional policies and plans, campus culture, and key obstacles to advancing EDI (Universities Canada, 2023). There are now requirements within the tri-agency to improve data collection and analysis, which includes harmonizing self-identification data to better inform program design (GC, 2021b). In 2022, Statistics Canada launched a pilot project to collect various data (e.g., department, subject taught, type of contract, salary information, teaching load, number of courses taught) on the full-time university and college academic staff belonging to the following underrepresented groups: women, Indigenous Peoples, persons with disabilities, members of racialized groups and LGBTQ2S+[26] communities, and people who identify as or belong to several of these groups (StatCan, 2022b). This project is aligned with Statistic Canada's Disaggregated Data Action Plan that was introduced in 2021 (StatCan, 2022a).

Although there have been improvements to data collection, there are still gaps that need to be addressed to gain a complete picture of EDI in Canada. Data that are comparable across institutions are not always available beyond what Statistics Canada collects, making national-level aggregated studies on EDI in the post-secondary research ecosystem difficult (Usher, 2017, 2023). Concerning existing data, it is also important to note that using information initially collected for other purposes can violate research ethics and have other negative implications. For example, using biased data (i.e., missing, incorrect, or inconsistent data) about people experiencing marginalization risks perpetuating systemic discrimination (Kim, 2016; Bogen, 2019).

In some cases, a lack of resources, particularly at smaller institutions, may impede the collection of EDI data and data anonymization. Questions about the intent of the collection process can make data gathering difficult. In particular, the intersection of data collection and privacy affects all equity-deserving groups; some people may feel this sort of collection is intrusive and may wish not to disclose details about identity (Miller *et al*., 2019; Blackett, 2023). Other data collection challenges exist specific to distinct jurisdictions in Canada. For

26 This cited study uses "LGBTQ2+" rather than the term used throughout this report.

example, the Quebec *Commission des droits de la personne et des droits de la jeunesse* considers an employer who collects disaggregated data that is not required by an employment equity program to be acting contrary to the *Quebec Charter of human rights and freedoms* (Blackett, 2023).

To improve the collection of EDI data across Canada, the Scarborough Charter (Box 1.1) has identified several important recommendations, including establishing baseline data, sharing data with Statistics Canada and other pertinent organizations, creating consistency in data governance and sharing, "enabling and reporting on co-creation in the data collection process by communities," and collecting suitable disaggregated data (Inter-Institutional Advisory Committee, 2021).

Pay data enable evaluation and support of pay equity strategies

Transparent and accessible pay data support equitable pay measures. At the University of Guelph, an evaluation of wage inequities resulted in more than 300 women and people identifying as a gender other than male receiving a raise (Casey, 2018). The University of Guelph's provost, Charlotte Yates, said this about the wage gap: "it creeps in and is cumulative over time. It's important we take stock, which is what we were doing with this salary review, so we take stock and then make the correction as suggested" (Casey, 2018). Even when pay inequity has been addressed, it is essential to continue to monitor pay through time, as there are instances where inequity has returned following initial redress. In provinces where pay equity is legally guaranteed, data can support an equity compliant pay structure (Yu, 2021; Blackett, 2023; Gov. of ON, 2024).

Institutional pay anomaly reporting systems can be used to track and remedy pay inequity, though these have significant limitations (CAUT, 2023). The success of these processes can be difficult to measure when not coupled with pay transparency (OCUFA, 2016; Lyons & Zhang, 2023). Because pay anomaly systems, as currently envisioned, are complex to administer and run transparently, they do not create the widespread change many universities look for (CAUT, 2023). Some universities have opted for group-based adjustments in response to pay discrepancies (CAUT, 2023).

Equitable compensation is not limited to equal pay; therefore, data about other forms of compensation are integral to assessing and addressing inequity. Pension disparity, differences in workload, and lower promotion rates all contribute to inequity (Kessler & Pendakur, 2015; Smith-Carrier *et al.*, 2021). Not measuring these and other forms of inequitable compensation leads to

underestimating inequality and wage discrimination, especially when the cumulative effects are considered throughout a whole career (Smith-Carrier *et al.*, 2021).

Inclusive excellence relies on diverse criteria to inform decision-making

Adopting, promoting, and reporting on inclusive excellence can bolster EDI efforts. The concept of inclusive excellence encompasses two different but complementary ideas: how effectively one achieves EDI and measuring the effect of diversity on research excellence (Ofili *et al.*, 2021). In line with the first idea, Universities Canada has created the Principles on Indigenous Education and the Inclusive Excellence Principles, demonstrating an explicit public commitment to improving EDI and Indigenization (Universities Canada, 2015, 2023). As part of this effort, Universities Canada conducts ongoing surveys to measure progress toward inclusive campuses (Universities Canada, 2019b, 2023). In Canada and the United States, there is also support for more inclusive measures of excellence aligning with the second interpretation of the concept—diversity's effect on research excellence (Dengate *et al.*, 2019; Ofili *et al.*, 2021). Both of these ideas are reflected in the principle of inclusive excellence found in the Scarborough Charter (Inter-Institutional Advisory Committee, 2021).

According to Universities Canada (2017), inclusive excellence requires that institutions make informed decisions based on evidence. However, it has been suggested that traditional conceptions of *excellence* and *impact* perpetuate inequities and do not reflect the evolving priorities in academia (O'Connor & Barnard, 2021); changing the metrics used in evaluating success builds a more equitable model for evaluation (Davies *et al.*, 2021). As noted in Chapter 5, expanding the metrics of excellence to include both contributions to EDI and broader forms of engagement and impact (e.g., mentorship, collaborations, community engagement, and pedagogy) is one strategy for more inclusively assessing academic success (Davies *et al.*, 2021).

Disclosure enhances data quality and provides impetus for supportive programming

People with invisible disabilities may wish to disclose their conditions to colleagues, teachers, or institutions. However, the stigma around disability and the fear of being perceived as less competent, the subject of gossip, or otherwise treated differently by coworkers and supervisors leads some to forego disclosing details about themselves that would help them receive the support they are entitled to (Patton, 2022; Cogan *et al.*, 2023). In one study, Canadian interviewees expressed a default stance of non-disclosure related to mental

disorders at work, explaining the decision as a cost–benefit analysis weighing the potential benefits of disclosure against the risk of stigma they may face (Toth & Dewa, 2014). In the panel's experience, a lack of disclosure may also result from individuals being unaware they qualify for disability-based support, leading them to experience inequity in the workplace. This lack of disclosure prevents institutions from accurately understanding potential EDI measures that would foster equity and inclusion in their organization.

Supports within an institution incentivize disclosure. The behaviour of the individual to whom stigmatizing information is being disclosed has a profound effect on the individual disclosing this information (Johnson *et al.*, 2020). Disclosure events often occur between an individual belonging to a group experiencing marginalization and an individual who is not (Johnson *et al.*, 2020). This emphasizes the importance of having a trustworthy point of contact aware of the challenges and needs of employees (Capell *et al.*, 2016).

Positive disclosure interactions can thus be encouraged through training, particularly for a *no wrong door* approach that seeks to enable all employees to either provide support or guide people to someone who can (CSPS, 2016). Beyond the initial point of contact, the environment in which disclosure occurs is critical. Employers can reduce the stigma associated with mental health disclosure via education, training, and a review of existing processes and policies for appropriate inclusion (CCOHS, 2023). Similar recommendations may be applied to reducing the stigma associated with disclosures about stigmatized identity more broadly (Capell *et al.*, 2016).

6.3 Managing bias

Evaluation conducted during hiring or performance review processes is one area where bias can negatively affect people from underrepresented groups. For example, gender gaps for success in 2014 CIHR grant programs showed a 0.9 percentage point difference between male and female applicants when evaluated based on the quality of the research proposed but a 4.0 percentage point difference when evaluations focussed on the calibre of the principal investigator (Witteman *et al.*, 2019). Research has suggested that different behaviours may be perceived differently for men and women, supporting the theory that individual bias contributes to the evaluation of grant applicants (Rudman *et al.*, 2012). Due to bias against women, racialized people, and academic staff who do not teach in their first language, the Canadian Association of University Teachers recommended against using student teaching evaluations "in any career procedures and decision making involving academic staff" (CAUT, n.d.)

Formalizing evaluations and data collection help address bias

Formalized evaluations and data collection can be a way of reducing bias in employee appraisal. Standardized and structured recruitment practices, for example, reduce bias faced by people with disabilities (Schloemer–Jarvis *et al.*, 2022). However, biases can still exist in some types of formalized data collection, which can worsen existing inequities. Creating formal systems to prevent subjective bias leading to discrimination requires evaluating current practices for bias and removing formal processes that perpetuate discrimination (Kalev, 2014).

Changes to data collection and analysis can help address the effects of bias in the evaluation of teaching staff. Providing a short reminder to students about potential biases before they complete the evaluation or eliciting a brief reflection on their self-image can reduce bias (Peterson *et al.*, 2019). Teaching evaluations are affected by the broader diversity environment, such that more diverse staffing—including better representation of women and people whose first language is other than English—can reduce these biases (Fan *et al.*, 2019; Keng, 2020). Therefore, efforts to improve staffing diversity may promote a more equitable evaluation of teaching (Fan *et al.*, 2019; Keng, 2020). Addressing these biases is important for preventing discrimination in promotion or compensation.

Combining unconscious bias training with other interventions reduces habitual biases in behaviour

Although many organizational EDI education initiatives focus on the core concept of unconscious or implicit bias, the concept of implicit bias and the effectiveness of implicit bias training are contentious topics (Noon, 2018; Campbell, 2021). This training seeks to increase participant awareness of snap judgments that lead to bias and discrimination (Gino & Coffman, 2021), and to reduce the impact of bias on discretionary decision-making (Campbell, 2021). Awareness alone, however, is insufficient to address prejudice and discrimination (Tate & Page, 2018). Moreover, characterizing bias and stereotyping as unconscious risks normalizing discrimination, while repeated exposure to stereotypes through implicit bias training may have the unintended opposite effect of increasing bias (Kalev *et al.*, 2006; Duguid & Thomas-Hunt, 2015).

As an alternative, organizations explore anti-bias training that encourages continuous learning, and teach bias-management and behaviour-changing skills (Carter *et al.*, 2020). For example, an approach that combines unconscious

bias training with prejudice habit-breaking interventions[27] can have long-term effects on reducing habitual biases in behaviour (Forscher *et al.*, 2017). Evaluations of the effectiveness of bias habit-changing interventions related to gender show that this training increases self-reported, equity-promoting activities and positive feelings post-intervention (Carnes *et al.*, 2015). These feelings included a sense of belonging in the department, believing that colleagues valued one's work, and being more comfortable raising personal or family obligations in scheduling discussions (Carnes *et al.*, 2015). While unconscious bias training is insufficient on its own, it remains an important element in a larger toolbox of strategies used to reduce bias.

6.4 Diversity, anti-harassment, and anti-discrimination training

The long-term impacts of diversity training on changing behaviour are unclear

Diversity training is designed to raise awareness of diversity issues and to promote positive interactions among members of different groups; it has long-term positive effects on learning about cultural diversity issues but is less effective at changing trainees' reactions and attitudes toward diversity (Bezrukova *et al.*, 2016). However, mandatory sessions may increase reluctance, disdain, or even backlash among those who do not support EDI principles (Dobbin & Kalev, 2016). The success of diversity training depends on its integration into other initiatives that promote EDI as an organizational value (Bezrukova *et al.*, 2016).

The tools necessary to support the full inclusion of people from underrepresented groups across the post-secondary research ecosystem often go beyond the skills and topics covered by standard diversity training. Additional training can be used to equip staff with the specific skills necessary to facilitate inclusion. For example, specific training is needed—and often absent—on providing people with disabilities equitable access to university services (Gatto *et al.*, 2020). Both training and resources are required to facilitate full participation to empower people with disabilities with greater self-determination and self-advocacy as measures of improved inclusion (Summers *et al.*, 2014; Gatto *et al.*, 2020).

27 Prejudice habit-breaking interventions guide individuals through the complexities of bias. It introduces participants to the origins and ramifications of unintentional bias and equips them with evidence-based techniques to combat bias effectively. Participants' implicit biases are assessed through the Implicit Association Test (Forscher *et al.*, 2017).

Anti-harassment and anti-discrimination training is important but difficult to implement

When anti-harassment and anti-discrimination training are effective, the benefits can be short-term and fade over time without an institutional culture of support (Medeiros & Griffith, 2019). Manager training characterized by allyship (e.g., bystander intervention) can provide the tools to recognize and handle harassment and positively affect organizational diversity. However, employee training focussed on wrong behaviours, thereby treating employees as potential suspects, can be ineffective or backfire (Dobbin & Kalev, 2019). Supporting bystander interventions and solidarity can help reduce harassment, but individuals supporting victims and survivors may need support in turn since witnessing harassment is deleterious to psychological well-being (Low *et al.*, 2007; Flecha, 2021). According to Dobbin and Kalev (2019), recruiting and training managers who are committed to ending harassment are essential because managers must treat harassment complaints as credible if they are to address grievances effectively. Anti-harassment training can be improved by creating a culture centred on respect, further decreasing identity-based harassment (Robotham & Cortina, 2019).

6.5 Addressing critiques of EDI measures

Unwelcoming institutional culture and external and internal resistance from individuals, groups, and organizations can impede the implementation of EDI measures in Canada's post-secondary research ecosystem (Universities Canada, 2019b). Critiques of EDI measures often arise at the intersections of power, oppression, fear, and privilege when members of some groups object to EDI for ideological reasons, believe that implemented measures are inherently unfair (e.g., exclude people outside of the four designated groups listed in the *Employment Equity Act*), or fear that EDI can undermine their success, sense of belonging, or ethnic identity (Ballinger & Crocker, 2021; Peters, 2022; Shuman *et al.*, 2023; Taylor, 2024). According to Gartner's framework published in 2022, the resulting pushback against EDI often takes three forms: denial, disengagement, or derailment (Gartner, 2022) (Figure 6.1).

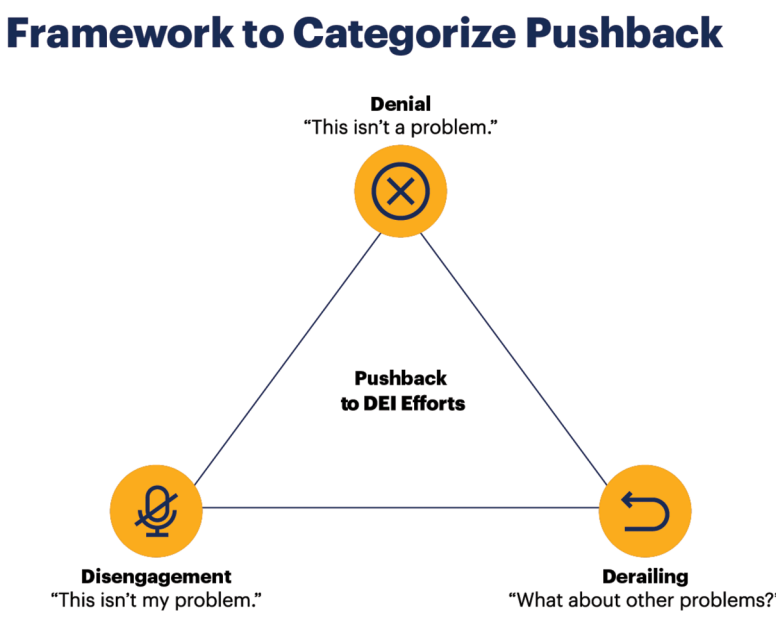


Figure 6.1 Framework for pushback against EDI

Pushback against EDI often takes three forms: denial ("This is not a problem"), disengagement ("This is not my problem"), and derailment ("What about other problems?").

Pushback can take many forms, including collecting insufficient data (MacKenzie *et al.*, 2023), creating education programs that ignore the underlying causes of racism (Gorski, 2019), reversing changes to research funding application criteria (Langelier *et al.*, 2023), and claiming that EDI compromises the merit principle and academic and research excellence (Venne, 2023).

Tension also exists at the intersection of academic freedom and EDI in universities (UOttawa, 2021; WLU, 2022), as some feel EDI measures limit the topics or texts covered in class or the kind of research conducted. This type of resistance can also come from outside the organization through coordinated, ideologically motivated resistance (Confessore, 2024). Some provinces have taken steps that aim to solidify academic freedom (Marom, 2023). For example, Quebec's *Act respecting academic freedom in the university sector* empowers the Minister of Higher Education to make "necessary corrections" in educational

institutions deemed non-compliant with the principle of academic freedom (Gov. of QC, 2022). Such policies can have a chilling effect on institutional support for EDI-focussed measures (Marom, 2023).

People engaged in EDI work within the post-secondary research ecosystem often encounter objections and criticisms (Box 6.2). These challenges not only impede EDI efforts at the institutional level but also exert significant negative impacts on the individuals involved, many of whom belong to underrepresented groups.

Box 6.2 The panel's experiences with criticism and objections to EDI measures

Like many contributing to EDI efforts in academia, the panel members have themselves experienced resistance to these measures. The list below highlights some of their interactions:

- Being told by colleagues that their actions are discriminatory
- Colleagues using the term *equity hire* with a negative connotation after hiring activities incorporated EDI measures
- Leadership using the excuse that EDI initiatives, programs, and activities are too expensive
- Leadership or colleagues using privacy as an excuse to avoid talking about bad actors
- Identifying and explaining an EDI issue, then having the situation flipped and being told they are the one creating a problem.

In the panel's view, a sustainable approach to EDI is essential to foster allyship at the intersection of fear, power, and privilege. This approach includes leadership buy-in, integrating evidence-based EDI measures into institutional structures, and introducing metrics and accountabilities tied to specific measures.

Training and resources that address fear encourage people to participate in EDI initiatives

Fear, often of saying or doing something wrong, can arise in people who otherwise want to contribute meaningfully to EDI. This fear leads to inaction, leaving the EDI work to people belonging to underrepresented groups (Auger-Dominguez, 2019). Training and resources are helpful in providing staff with

the knowledge to participate and the language to do so inclusively (Auger-Dominguez, 2019; Street, 2021; Brooking, 2022). These may also help staff become comfortable with being uncomfortable, which enables necessary but difficult conversations (Pulsely, n.d.). If a mistake is made, it is more constructive to admit the error and learn from it; admitting mistakes is one of the most impactful managerial behaviours when it comes to building trust and demonstrating integrity (McCloskey, 2016). Because learning from mistakes contributes to organizational change, leadership's responses to mistakes of employees should focus on future opportunities for improvement and growth (Weinzimmer & Esken, 2017; Bregman, 2019). However, in the panel's opinion, such responses should not undermine efforts to recognize and address microaggressions and discrimination experienced by underrepresented groups.

Training and resources may also help staff become comfortable with being uncomfortable, which enables necessary but difficult conversations (Pulsely, n.d.).

Building trust and open communication are important in overcoming criticism

Interviews with EDI consultants offer insight into strategies that help overcome criticism of EDI measures (Schöller & Northeved, 2022). Though these techniques are not directly applicable at the organizational level, they may help those responsible for implementing EDI measures within organizations. Building trust, including assuring confidentiality, shows commitment and credibility and allows for the dialogue necessary to determine expectations and address an organization's specific needs (Schöller & Northeved, 2022).

Consultants engaged in conversations with resistant members of the organization, including in one-on-one discussions, can deal with fear, anger, and feelings of exclusion (Schöller & Northeved, 2022). Wasserman *et al.* (2008) identify the need to engage with resistance rather than silencing it. In this way, leaders can leverage resistance to prompt a conversation (Wasserman *et al.*, 2008). Using language such as we and identifying commonalities (e.g., "I also do this") can help people feel included. When vocal resistance arises in the moment, simultaneous conversations can address the issue, de-escalate conflict-filled situations, and work toward collaborative implementation of EDI measures. Practitioners can also strategically employ data relevant to the particular forms of resistance, be it to make a business case for EDI, to improve recognition of the problem by sharing the lived experience of employees, or to help people understand organizational issues (Schöller & Northeved, 2022).

In settings where resistance to EDI efforts is encountered, those resisting may have more power afforded by their identity or position in the organization. For example, encouraging white cisgender men, who typically hold significant institutional power, to be effective allies is crucial for addressing resistance and fostering change (Nash *et al.*, 2021). Not acknowledging these power dynamics can adversely affect diverse groups, limit underrepresented staff participation, and impede change (Foldy *et al.*, 2009; Bates, 2018; CSPS, 2021; Gagnon *et al.*, 2022). Though the effectiveness of these techniques is hard to quantify because they are employed situationally, they are primary ways to address individual-level apprehension that comes with change.

Providing context and additional information about EDI measures can facilitate their implementation

Offering a more detailed context for an EDI program cultivates an environment conducive to successful implementation. For instance, if a program was created to address labour market disparities between Black and white people in Canada, institutions can contextualize it by examining the particular history and long-term effects of anti-Black racism on pay structures and by calling on all employees to help reduce the disparities (UNHRC, 2017; Gartner, 2022; Banerjee *et al.*, 2024).

When programs are seen as zero-sum—advancing diversity at the expense of the majority group—they elicit resistance from the majority (Ballinger & Crocker, 2021; Shuman *et al.*, 2023). Resistance toward a program aiming to increase the admission of racialized students can be reduced by explaining that the program will benefit targeted and non-targeted groups (e.g., racialized and white students) (Knight & Hebl, 2005). Resistance can also be addressed by including majority group members in diversity policies (Ballinger & Crocker, 2021). For members of advantaged groups, addressing inequality depends on their acceptance that they have already gained from their group's privileged position; however, being faced with the idea of this advantage can itself provoke backlash (reviewed in Does *et al.*, 2011). To avoid these defensive reactions, reframing solutions as attempting to achieve a moral ideal (e.g., achieve the ideal of equity) rather than failing to meet a moral obligation (e.g., fulfill an equality obligation) is a successful tactic. This increases the tendency of the majority group to promote equality and accept EDI policies (e.g., affirmative action) (Does *et al.*, 2011).

7

Panel Reflections

Over the past several decades, EDI initiatives have led to transformative changes within the post-secondary research ecosystem in Canada. Indeed, it is hard to think of another area that has produced such shifts in a typically slow-to-adapt ecosystem. Much of this significant change has occurred due to legal action and advocacy work of students, faculty members, and staff who have endeavoured to make post-secondary institutions a true reflection of Canada's diverse and talented population. EDI measures adopted in response to these efforts aim to facilitate the recruitment and retention of people belonging to underrepresented groups (Chapter 2), effect positive changes in post-secondary institutions (Chapter 3), transform funding programs (Chapter 4), and reshape the research process itself (Chapter 5) (Figure 7.1).

EDI initiatives have led to transformative changes within the post-secondary research ecosystem in Canada.

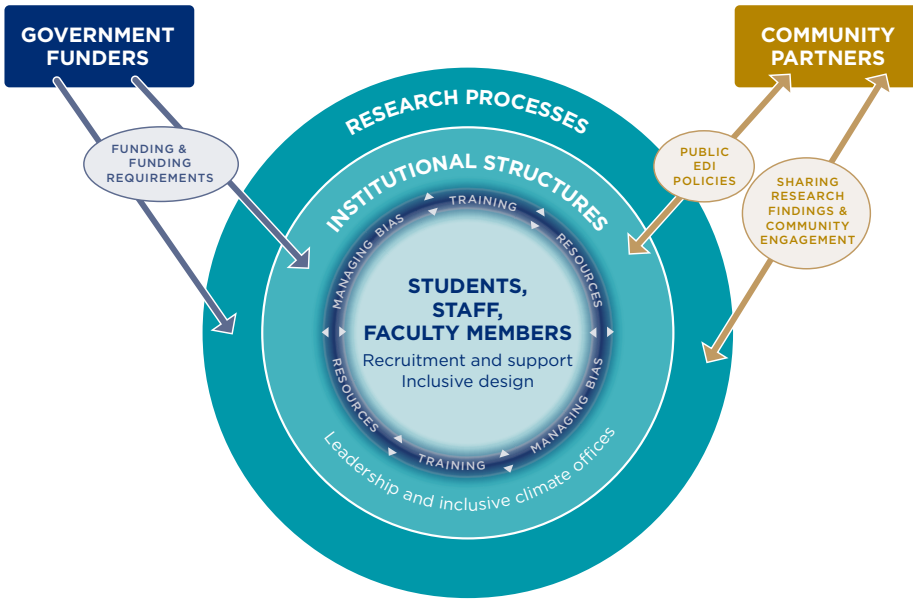


Figure 7.1 EDI measures and the environment in which they are designed and operate

In the post-secondary research ecosystem, EDI measures extend to: (i) students, staff, and faculty members; (ii) post-secondary institutional structures; and (iii) the research process itself. Government research funders and community partners (e.g., research participants, different orders of government, and not-for-profit organizations) participate in the design and implementation of these EDI measures by co-constructing the research process, sharing research findings, and establishing research-focussed and broader public policies. Multiple exchanges and connections emerge among the actors of the post-secondary research ecosystem in the process of designing and implementing EDI measures.

Post-secondary institutions have been making changes for positive EDI impact through a combination of actions—hiring and developing leaders, articulating institutional values, and creating the necessary offices and departments. These actions have created the impetus and authority to do EDI work and facilitated the allocation of resources to support offices and their staff in enacting transformation.

Funding agencies have effectuated positive shifts by tying funding decisions to EDI requirements.

Funding agencies have effectuated positive shifts by tying funding decisions to EDI requirements. For example, the CRCP demonstrates that policy measures accompanied by accountability, transparency, and enforcement structures produce meaningful changes in the ecosystem. Other work that does not target EDI broadly, such as the Truth and Reconciliation Commission of Canada and its 95 Calls to Action, have spurred on Indigenous programming that has had some positive impacts on Indigenous people within the post-secondary research ecosystem. Measures enacted specifically with EDI goals in mind, such as the requirements that EDI be part of research design (EDI-RD) and research practice (EDI-RP), can have positive impacts when included as conditions of public funding.

In the panel's experience, transformative changes brought about by these and other EDI initiatives manifest themselves across the entire post-secondary research ecosystem and in Canadian society more broadly (Table 7.1).

Table 7.1 Positive EDI developments witnessed by the panel

Positive developments	Examples of efforts, programs, and actions
Research funders have created funding and partnership programs to advance reconciliation and relationship-building with Indigenous Peoples and support Indigenous research.	• NFRF Exploration and Transformation competitions; • The Canada–Inuit Nunangat–United Kingdom Arctic Research Programme (CINUK).
Research funders, post-secondary institutions, and organizations acknowledge the importance of community-based research and the principle of co-construction and co-creation of knowledges.	• SSHRC Connection Grants; • CIHR Community Based Research in Climate Change Priority Areas; • University community-based research grants; • Dalhousie's Black and African Diaspora Studies program.
Post-secondary institutions have created positions to advance reconciliation and relationship-building with Indigenous Peoples.	• Offices of the Vice-President or Vice-Provost (Indigenous) at multiple universities across the country.

Positive developments	Examples of efforts, programs, and actions
Post-secondary institutions have established EDI leadership positions and offices, and some created similar structures at the faculty level.	• Offices of the Vice-Provost or Associate Vice-President for EDI at multiple universities across the country.
Post-secondary institutions and the private sector have been directing efforts and resources to increase diversity in STEM and other fields through outreach and hiring programs.	• The Claire-Deschênes Postdoctoral Fellowship Competition for Women in Engineering at Université de Sherbrooke; • The McMaster University Black Excellence Cohort hiring initiative; • Mitacs' Indigenous Pathways program; • Dalhousie University's Imhotep's Legacy Academy for students of African descent.
Post-secondary institutions develop EDI planning and programming in consultation with Canada's increasingly diverse student population to better reflect their needs and promote a sense of belonging.	• McGill University Equity, Diversity & Inclusion (EDI) Strategic Plan 2020–2025; • The University of Alberta Strategic Plan for Equity, Diversity and Inclusivity; • The University of Manitoba Strategic Plan.
Post-secondary institutions have created specialized bridging programs to bring underrepresented people into the academy.	• Dalhousie University's Transition Year Program launched in 1970; • The University of Manitoba Engineering Access Program for Indigenous students; • The University of Calgary Faculty of Law admissions process for Black students.
Post-secondary institutions acknowledge the importance of collecting data on EDI to help affect and track systemic changes.	• The University of Calgary EDI Data HUB.
Academic and professional development training, conferences, and events focus on EDI, especially regarding race and Indigeneity.	• Annual National Conference for Black Excellence in STEMM (BE-STEMM); • Annual equality, diversity and inclusion training for the members of the Law Society of Ontario.

Although there have been many positive changes and successful initiatives, barriers to participation and inclusion persist, stifling the flourishing of Canada's diverse talent. There is also concern that in increasingly turbulent and polarized times the progress that has already been achieved could be lost. These issues speak to the need for the actors of Canada's post–secondary research ecosystem to ensure the resilience of EDI measures.

Canada's post-secondary research ecosystem needs to build on existing programs and policies to sustain forward action for EDI progress

Enhancing institutional and government accountability for implementing EDI measures is necessary to achieve progress on EDI. Because EDI is continually evolving, periodic reviews of government initiatives will facilitate ongoing

adaptation and adjustment of relevant measures. In the panel's view, there is an urgent need for a structured and consistent approach to identifying and addressing gaps in current initiatives. Publicly available and easily accessible disaggregated data, studies, and program evaluations will help researchers assess the effectiveness and impacts of EDI measures on certain groups whose experiences remain overlooked (e.g., people with disabilities, neurodiverse people, people belonging to the LGBTQ2S+ community, and those facing discrimination based on intersectional identities). Similar to government actors, post-secondary institutions should be required to demonstrate actions and impacts, not just policies and plans. Moving forward, sustained data tracking and sharing of best practices across institutions regarding various measures will allow for a more comprehensive analysis. Without these efforts, promising EDI measures could be discarded simply because they have not yet been proven effective.

In the panel's view, there is an urgent need for a structured and consistent approach to identifying and addressing gaps in current initiatives.

Further, a framework rooted in the *Employment Equity Act* (EEA), which only recognizes four broad groups (women, people with disabilities, Indigenous Peoples, and visible minorities), limits federal funding agencies in the impacts they can have through available programming. Redefining and disaggregating the four groups within the existing legislation will align the provisions of the EEA with the human rights framework and extend EDI actions to people facing discrimination on various grounds.

In addition, a new approach to research excellence is needed, one which results in a sea change from a focus on hyper-competition to collaboration and recognizes diverse forms of excellence. It will move us away from researching on communities to researching *with* communities, leading to broader and more profound impacts for all actors in the ecosystem.

For EDI measures to bring about lasting and meaningful changes, they need to remain resilient to criticism, ideological pressure, and changing political contexts.

Finally, for EDI measures to bring about lasting and meaningful changes, they need to remain resilient to criticism, ideological pressure, and changing political contexts. The rolling back of EDI programs and positions due to political pressure has happened in several U.S. states, and Canada is not immune to similar influences. Although there is no single recipe for success, the panel believes that the following actions help solidify the achieved progress and ensure the continuation of EDI work despite persistent obstacles and challenges:

- Embedding EDI offices, positions, and responsibilities in the institutional structure.
- Fostering broad engagement and support for EDI initiatives among students and staff.
- Acknowledging the interconnectedness of equity, diversity, and inclusion, and implementing not just measures that increase diversity, but those that also explicitly seek equity and inclusion.
- Developing metrics and accountabilities attached to specific measures and holding actors accountable for complying with these metrics.

The panel has identified future research directions to advance EDI in Canada's post-secondary research ecosystem

If EDI is to be fully realized in Canada's post-secondary research ecosystem, a comprehensive examination of Indigeneity in its own right needs to be pursued. Other dimensions that were not in scope for this report, including but not limited to age, neurodiversity, poverty, class, religion, and language, are important considerations for future research. Intersectionality, while part of the panel's charge, for the most part, has not been included as a consideration in EDI measures to date, nor are data collected in a way that makes it feasible to assess existing measures that support people facing discrimination on multiple intersecting grounds. People experience marginalization in complex and overlapping ways, so measures that promote EDI need to consider this complexity. Therefore, the panel notes that intersectionality, as a key consideration of EDI measures in Canada and across the globe, is a knowledge gap to be explored moving forward.

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