Leaving No Canadian Behind:

Measuring the well-being of vulnerable Canadians for effective SDG implementation

IISD REPORT

Livia Bizikova
Stefan Jungcurt
Kieran McDougal
Jennifer Temmer
Kyle Wiebe

May 2021

IISD

International Institute for
Sustainable Development

International Institute for Sustainable Development

The International Institute for Sustainable Development (IISD) is an
award-winning independent think tank working to accelerate solutions for
a stable climate, sustainable resource management, and fair economies.
Our work inspires better decisions and sparks meaningful action to help
people and the planet thrive. We shine a light on what can be achieved
when governments, businesses, non-profits, and communities come
together. IISD's staff of more than 120 people, plus over 150 associates and
consultants, come from across the globe and from many disciplines. Our
work affects lives in nearly 100 countries.

IISD is a registered charitable organization in Canada and has 501(c)(3)
status in the United States. IISD receives core operating support from the
Province of Manitoba and project funding from governments inside and
outside Canada, United Nations agencies, foundations, the private sector,
and individuals.

Executive Summary

Rationale for the Report

The 2030 Agenda and the Sustainable Development Goals (SDGs) place a special emphasis on ensuring no one is left behind in implementation, meaning the SDGs must be achieved for all people in all places. Achieving this implies that implementation should start with those furthest behind, and adequate monitoring should be in place to ensure that the well-being of affected groups improves—and no new groups are harmed. One prerequisite for implementation is that people currently left behind and those at risk of being left behind—i.e., vulnerable groups—can be clearly identified, and their progress in achieving the SDGs can be monitored.

This creates new requirements and challenges for inclusive monitoring, including new demands for disaggregated data, localized monitoring systems, and approaches that ensure all vulnerable groups are included in monitoring, with their needs and perceptions reflected in the indicator framework used.

The SDGs are an opportunity for Canada to develop just such an inclusive approach to monitoring progress. The research conducted under this project aims to support the development of the Canadian national strategy for SDG implementation and the Canadian indicator framework.

For this project, we conducted six research activities using a combination of literature research, systematic scans, interviews, and data analysis. The results are summarized in five chapters on:

- Measurement challenges related to leaving no one behind
- International practices
- Vulnerable populations in Canada
- A scan of available complementary data sources
- The role of data interoperability

The sixth activity was the creation of an online demonstration website to show how local data on vulnerable groups can be visualized using the International Institute for Sustainable Development's (IISD's) Tracking Progress platform for community indicator systems.[1]

Main Findings

The research conducted for this report led to the following conclusions:

---

[1] Since the conclusion of the project this demonstration site has been developed into an online indicator platform on the well-being of immigrants in Canada hosted by the Calgary Local Immigration Partnership: see https://lipdata.ca/.

1. **While most Canadians enjoy a high standard of living, numerous groups are being left behind in the country.** A low income, for example, hampers almost 15% of Canadian households. The groups being left behind are very diverse—and include Indigenous Peoples (First Nations, Métis, and Inuit), recent and elderly immigrants, people with disabilities, lone-parent households, and members of the LGBTQ⋆ community.

2. **The factors that burden these groups are similarly diverse** and include access to income, access to education, discrimination, geographic isolation, age, language abilities, access to land and other natural resources, and many more. Each group is affected by a particular combination of factors. For example, young immigrants often have good access to education and jobs, with their risk of being left behind determined mainly by location; second-generation and older immigrants are more likely to be affected by low income regardless of where they live.

3. **The challenges for measuring the well-being of vulnerable groups relate to the inclusion of vulnerable groups in data collection as well as the specific risk factors they face.** Some groups, such as homeless people or Indigenous People living on reserve are difficult to include in large-scale studies such as the Statistics Canada census. Estimating the number of people not captured, such as the measure of "hidden homelessness," may give an idea of the size of a group excluded, but not of the reasons why they are being left behind. Additional measurement efforts are needed to adequately characterize these groups and ensure data and indicators are inclusive.

4. **Vulnerable groups have different perceptions, values, and priorities, leading to diverging perceptions of their situation and the measures needed to improve their situation.** A familiar example is of an Indigenous person who may be identified as poor because of her low income but sees herself as poor because she lacks access to the land and resources she would need to care for her family. The inability to capture different perceptions of vulnerable groups is one reason why interventions are difficult to target, and existing interventions may turn out to be ineffective. A new job may provide income to the Indigenous person but not change her perception of poverty.

5. These findings suggest that **the challenge of inclusive monitoring of vulnerable groups is not only one of data quantity and quality but also of ownership over the use of data and the information intended to be conveyed**. Expanding the coverage of indicator systems to include more diverse data sources (along with increasing the level of disaggregation) are important parts of a strategy for inclusive monitoring. In addition, there is a need for complementary measurement strategies driven by the affected groups themselves. Providing communities and vulnerable groups with control over the selection and use of data empowers them to tell their own "story of deprivation." This ability is important for both decision makers designing interventions and for community members stimulating engagement.

6. **The need to integrate data from various sources using those sources' own methods and standards creates challenges for data interoperability.** Data interoperability is the ability to join up data from different sources without losing meaning.

This includes both technical interoperability to access, share, combine, and analyze data (syntactic operability), as well as interoperability of meanings to ensure a common understanding of concepts and definitions used in the generation and interpretation of data (semantic interoperability).

7. Our research shows **there are several opportunities to provide a space and support for bottom-up community-driven measurement that complements existing indicator frameworks and data**, including:

    a. **Integrating data from organizations working with vulnerable groups:** The data scan reveals there are many organizations working directly with vulnerable groups as well as initiatives at local, regional, or national levels that produce (or could produce) relevant data. These include educational organizations maintaining open-data repositories for research, research institutions that conduct longitudinal studies, custodian organizations acting as stewards over community-generated data, and for-profit research firms providing commercial data services.

    b. **Investments in the data capacity of local communities and organizations working with vulnerable groups:** Many organizations that work with specific vulnerable groups generate data for reporting or as a way of managing interactions with their clients. However, they lack the resources to make these data sets accessible for other uses (standardization, anonymization, etc.). Similarly, smaller communities lack the resources to work with data sources in a way larger cities can. Investing in the data capacity of these organizations would allow them to take ownership of their data and generate value for both internal and external uses.

    c. **Engagement of local communities and organizations working with vulnerable groups to develop indicator frameworks for SDG monitoring:** Building inclusive monitoring systems requires the participation of all stakeholders so their interests and perspectives can be included. While developing a Canadian indicator framework for SDG management is challenging, its usefulness and acceptance could be greatly enhanced by recognizing the interests of local communities and vulnerable groups as data stakeholders who can make important contributions.

    d. **Investments in data interoperability:** The findings of a related project led by MaRS Innovations on "Pathways Towards Data Interoperability for the Sustainable Development Goals in Canada" and our own research suggest investments in mission-oriented data ecosystems focused on specific vulnerable groups could help mobilize complementary data and fill important data gaps.

Recommendation: Our research establishes a rationale for Canada to take a multi-tiered measurement approach where local communities and organizations working with vulnerable communities participate in gathering, governing, and using data to measure the state of their well-being in the SDG context.

Table of Contents

1.0 Introduction: Measurement challenges related to leaving no one behind

The 2030 Agenda differs from previous multilateral efforts for sustainable development in several important ways, with implications for the data and measurement efforts needed to track progress. This chapter introduces the most relevant principles and discusses related data challenges.

In September 2015, the member countries of the United Nations (UN) adopted the 2030 Agenda for Sustainable Development, including the 17 Sustainable Development Goals (SDGs). The 2030 Agenda and the SDGs differ from previous multilateral efforts toward sustainable development in several important ways.

The bottom-up principle puts a strong focus on the responsibility of states to select their own priorities for implementing the SDGs domestically and to voluntarily report at regular intervals on progress made. To track progress toward the SDGs at the global level, UN member states developed a Global Indicator Framework consisting of 232 accepted indicators to monitor the 196 targets included under the SDGs.

One of the main challenges all countries face in implementing the SDGs is developing national approaches toward monitoring progress that are both compatible with the Global Indicator Framework and reflect domestic characteristics and needs. Many SDG targets and proposed indicators require additional data gathering and analysis as well as the integration of data from multiple sources. One area in which measurement is particularly challenging is monitoring population groups being left behind—or at risk of being left behind—in SDG implementation.

The SDGs substantially increase the need for data gathering and measurement as well as the number of organizations and institutions involved in measurement efforts at the national and subnational levels. The 2030 Agenda and its principles have clear implications for data and measurement to monitor achievement of the Goals:

- **Bottom-up approach:** At the international level, the SDGs and their targets are fixed, but countries and subnational actors are responsible for identifying their own priorities for implementation. Monitoring systems must be tailored to national or subnational targets leading to multiple indicator systems that are managed by a range of institutions, organizations, and other actors (entities). Each entity faces the challenge of "reporting up" and ensuring its progress is adequately reflected at the portfolio level (sector, region, country), including a country's Voluntary National Review.

- **Universality:** Each SDG addresses the full spectrum of potentially relevant entities that must be reflected in the data used to report on their activities as well as on how they are

affected by SDG action. All entities involved need to interpret and share data in a way that makes sense.

- **Indivisibility:** Success requires progress on all SDGs everywhere. Many goals and targets are linked through positive (synergies) or negative (trade-offs) linkages. Data can help decision makers identify SDGs and targets likely to provide win-win solutions and demonstrate co-benefits of their actions. Data can also reveal trade-offs, allowing decision makers to develop alternative means of implementation to avoid negative interactions among targets.

- **Leaving no one behind and prioritizing the needs of those most behind:** These principles require disaggregated data on populations that previously often remained "hidden" because of data challenges (marginalized populations not represented in census data, for example). Filling the gap may require integrating non-conventional data sources and collection methods.

The principle of leaving no one behind addresses a fundamental shortcoming of the Millennium Development Goals (MDGs). A key lesson learned from the implementation of the MDGs is that progress was distributed unevenly among and within countries. For example, while many were lifted out of poverty, the people who benefited most were those already close to the international poverty line. The poorest did not benefit. At the same time, inequality within and between countries continued to increase. In many rich countries, more people were poorer in 2015 than in 2000 (Klasen & Fleurbaey, 2018). The 2030 Agenda addresses these shortcomings with the principle of leaving no one behind, explicitly committing all countries to prioritizing those furthest behind.

Leaving no one behind and prioritizing those most behind creates new challenges for measuring progress. Prioritizing those most in need requires changes to the way progress is measured. Countries typically measure the number of people affected by a problem—such as poverty or hunger—in relation to a fixed or relative benchmark, for example the international poverty line or the market basket measure. This focus on headcounts ignores differences within the affected groups. Often the people lifted out of poverty are those who were already close to the poverty measure applied. Lifting this group a slight degree above a poverty measure can create the appearance of substantial change, while the situation did not improve for the poorest. Focusing on those most behind means these groups must be assigned a heavier weight in evaluating the success of policies to alleviate poverty (Fleurbaey, 2018; Klasen & Fleurbaey 2018).

The choice of metrics and data collection methods must be driven by inclusion. A precondition for assisting the most destitute is clearly identifying and counting these groups. These people, however, are historically the hardest to measure. They are often unintentionally excluded through the choice of metrics applied or methodological limitations. Phenomena like "hidden homelessness" or estimated numbers of unreported cases point to the systematic exclusion of precisely those groups most in need. The choice of what data is collected is often driven by a desire for cost efficiency. The proportionally higher cost of collecting data on hard-to-reach populations means the choice to minimize cost unintentionally leads to their exclusion. This

paradigm must be replaced by deliberate efforts to include all vulnerable groups in data collection (Fukuda-Parr & McNeill 2019; Thinyane, 2018).

Conclusion: Bottom-up implementation requires bottom-up measurement. The principles of bottom-up implementation and leaving no one behind require inclusive, bottom-up strategies for measurement to complement existing measurement approaches. Such strategies must deliberately aim to generate and mobilize disaggregated data on groups that are inherently difficult to include in measurement efforts.

2.0 International Practices—How are Canada's peers succeeding in leaving no one behind?

This chapter provides an overview of the practices and approaches used by other countries, focusing on countries with conditions similar to Canada, based on a review of these countries' Voluntary National Reviews (VNRs), national SDG strategies, and other relevant literature. The review shows that, while many countries focus on their international policy for leaving no one behind, several have national policies and support strategies for vulnerable populations in place. These are often based on existing human rights conventions and include strong mechanisms for consultations and participation in decision making.

Countries mostly focus on domestic groups that have been marginalized due to poverty, low income, and employment access challenges within their domestic part of the SDG strategies. Based on our review of the national SDG strategies, it seems there is a limited focus on addressing leaving no one behind in the domestic country context. There has been little focus on how to identify domestic vulnerable groups and groups at risk of becoming vulnerable.

The reviewed countries focus on groups marginalized by poverty, low income, and limited access to education and employment opportunities (mostly due to low or mismatched education). Some countries' strategies have a dedicated section on leaving no one behind, but vulnerable groups are often discussed in relation to specific goals, primarily Goal 3 (Health) and Goal 10 (Inequality). This is a limitation for the overarching principle of leaving no one behind, as it has been pointed out that vulnerable groups face issues related to all 17 SDGs. It is therefore important to ensure vulnerable groups are identified and their integration into SDG planning is done in a holistic manner (Feiring et al., 2017).

Many developed countries see international development programs as the primary area to address the leaving no one behind principle. It was apparent in the reviewed strategies that developed countries see their international development and aid strategies as places to address the leaving no one behind principle. In their national SDG strategies, the countries reviewed mentioned the importance of the development strategy to supporting marginalized groups, such as young girls, youth, and people affected by poverty and food insecurity. For example, Denmark envisions the SDGs as an international framework for development cooperation and commits to realize this global ambition through an active development policy guided by the new strategy (Ministry of Foreign Affairs of Denmark, 2017).

Many countries pointed to a human rights-based approach when supporting the principle of leaving no one behind, including both national and international commitments and obligations. Countries highlighted both national rights constitutions as well

as international human rights obligations as key components of their strategies to leave no one behind. Such rights-based approaches aim to guarantee equality for all and equal treatment under law. However, as noted in the French VNR (Republique Francaise, 2016), there can be difficulties related to enforcement of universal rights, and inequalities persist despite the long history of national human rights-based efforts. As a result, it is important to ensure there are enforcement mechanisms in place and an avenue for legal recourse for those who had their rights contravened.

Existing UN conventions and declarations, including the UN Convention on the Rights of Persons with Disabilities (CRPD), the UN Declaration on the Rights of Indigenous People (UNDRIP), and the International Labour Organization (ILO) Convention 169 are referenced as guiding frameworks by the reviewed countries. Australia reports its National Disability Strategy implements the core principles of CRPD into domestic policy while also addressing key SDG themes (Box 1) (Australian Government, 2018). The six major policy areas of the National Disability Strategy are aligned with the CRPD (Commonwealth of Australia, 2011). Other countries that linked implementation of the CRPD and the SDGs include Finland and Germany.

Box 1. Australia's National Disability Strategy 2010–2020

Australia ratified the UN CRPD in 2008. Its National Disability Strategy was developed to embed the principles of the CRPD into national policy. There are six policy areas in the strategy, which are aligned with the CRPD:

- Inclusive and accessible communities, which includes the physical and digital environment as well as access to social and cultural participation.
- Justice and legislation, which includes protection against discrimination and access to legal mechanisms to lodge complaints.
- Economic security, which includes employment support, income support, and access to housing.
- Personal and community support, including person-centred care and support for inclusion.
- Learning and skills, including early childhood education, continued learning, and support for the transition from school to work.
- Health and well-being, including health care support and well-being.

Each of the six policy areas has a related strategy and indicators for monitoring progress. Reports are developed every two years using national trend data. The strategy also outlines a research program to fill gaps in knowledge and data, and better align policy with the needs of people with disabilities.

The strategy uses data disaggregated by sex, age, and Indigenous and cultural background. It is understood people can suffer from marginalization on several axes, and so it is important to address these overlapping identities. The strategy also includes a section on Indigenous People, women, and recent migrants.

> The strategy was developed through a consultation process that included submissions from the public and advocacy organizations. The implementation plan includes a stakeholder process that includes people with disabilities, their families and caregivers, and advocacy organizations.
>
> *Source: Commonwealth of Australia, 2011.*

Referenced less often than the CRPD, the UNDRIP and ILO Convention 169 were mentioned primarily by the Northern European countries with Sami populations. Australia did not reference UNDRIP or ILO Convention 169. In its VNR, Norway notes consultations on the SDGs between the Sami people and the government were conducted through established mechanisms based on ILO Convention 169, highlighting these consultations have strengthened the Sami people's role and raised awareness of their concerns (Box 2) (Government of Norway, 2016). Finland's VNR observes they have not yet implemented ILO Convention 169 (Prime Minister's Office Finland, 2016).

There was little discussion in VNRs and national SDG strategies of the connections between UN obligations and recent migrants. Countries often focused on their role in maintaining peace and security for countries of origin in development assistance. Much less attention was given to migrants and refugees already in the country, although some countries such as Ireland and Germany referenced domestic integration strategies. It may be that there is a relative lack of human rights guidance aimed specifically at migrants from the international level (United Nations Human Rights Office of the High Commissioner, n.d.).

Many countries pointed to strong universal support programs as a means of addressing the leaving no one behind principle, but stated it is important to develop targeted programs for vulnerable groups as well. Human rights-based approaches often emphasize universal programs that seek to ensure everyone has access to supports and can participate in society. Such programs include universal health care and education, employment insurance programs, and benefits payments. However, a rights-based approach must also recognize the unique and specific challenges faced by marginalized and vulnerable groups. These challenges require targeted programs aimed at specific vulnerable groups, including programs aimed at people with disabilities, women, youth, and Indigenous Peoples (Thinyane, 2018).

Box 2. Addressing marginalization and involving Indigenous People in Norway's 2030 Agenda strategy

In its VNR, Norway reports it prioritized SDGs on ensuring quality education and employment, especially for young people and those at risk of marginalization. National challenges identified include:

- Reducing non-communicable diseases and promoting mental health

- Increasing high school completion rates

- Eliminating all forms of violence against women and girls

- Reducing the proportion of young people not in employment, education, or training

- Sustaining income growth of the bottom 40% of the population at a rate higher than the national average

- Reducing all forms of violence and related death rates and combating organized crime.

Other priorities focus on infrastructure, alien species, urban air quality, and reducing waste and food waste.

The Indigenous Peoples' assembly, the Sámediggi (Sami Parliament), was involved through dialogue with the line ministries as well as via formal consultation mechanisms. The government made use of existing mechanisms for cooperation with local and regional authorities.

The VNR states these consultations have strengthened the Sámediggi's role as a representative for the Sami people and increased the awareness of Sami issues in the planned 2030 Agenda strategy. Sami culture is taken into consideration in policies, particularly for fisheries and ecosystems protection (SDG 14), along with restoration and sustainable use of natural resources (SDG 15).

Another important SDG for Sami people was SDG 3 on health. In Norway, Sami people encounter specific challenges in terms of access to culturally adapted health care services. To address these challenges, specific targets, including SDG 3.3, 3.4, 3.5, and 3.9, were identified as being of particular concern in the national SDG priorities to address these challenges.

Sources: Government of Norway, 2016; United Nations Department of Economic and Social Affairs, 2019; United Nations Sustainable Development Goals Knowledge Platform, 2021.

Vulnerable groups often face marginalization on many dimensions, and programs must be aware of this intersectionality and address it in policy. It is important not to cluster marginalized groups and to be aware individuals may suffer from marginalization on many fronts (Thinyane, 2018). The Australia National Disability Strategy addresses the intersectional issues faced by Indigenous People and new migrants with disabilities (Commonwealth of Australia, 2011). The report notes Aboriginal and Torres Strait Islanders (as well as newly arrived migrants with disabilities) are particularly vulnerable, and the Disability Strategy must address the specific challenges of these groups—and be integrated with existing policies for them.

Box 3. Ireland's Migrant Integration Strategy

Ireland's Migrant Integration Strategy ran from 2017 to 2020, and it builds on existing efforts and legislation for integration. Its development included a consultation process that engaged the public and civil society organizations (CSOs) working with migrants. The strategy is aimed at the public, CSOs, and businesses, in addition to government departments.

The strategy covers migrants from countries both within and outside the EU. Second- and third-generation migrants are also included within the strategy. These groups often face different challenges and may need different supports and programs. There is also recognition that individual migrants may face different challenges based on gender, ethnicity, or religion.

The strategy lays out 12 actions to be undertaken by various actors in Ireland, including access to services, social inclusion, anti-discrimination work, education, employment support, health, and political participation. In addition, it includes the development and analysis of indicators to monitor progress in a regular reporting mechanism.

Source: Ireland Department of Justice and Equality, 2017.

The reviewed countries have strong collaborations with CSOs, which provide comments on strategy development, progress reports by goals, and awareness-raising activities. Consultation and representation are central to ensuring no one is left behind, as they help vulnerable groups be heard and included in SDG implementation. All reviewed countries have developed stakeholder engagement mechanisms to ensure continued partnership with civil society and the public. Often, these consultation mechanisms include representatives of vulnerable groups. The Finnish National Commission includes representatives of the Sami people, the Finnish Somali League, and the Finnish Disability Forum (Prime Minister's Office Finland, 2016). Norway has also consulted with the Sami people through a mechanism based on ILO Convention 169 (Government of Norway, 2016). Engagement with the public requires a suite of indicators that are relevant to people's lives (Thinyane, 2018). Ensuring representatives of marginalized groups have a voice in SDG strategy development offers an opportunity to learn what sorts of data and data sources people use on a regular basis.

Public awareness of the SDGs is important to the success of the 2030 Agenda, and many countries have developed awareness campaigns in partnership with CSOs. In Japan, the SDG Promotion Headquarters runs a promotion campaign in partnership with stakeholders, and the Global Festival Japan in 2016 adopted the SDGs as a theme (Government of Japan, 2017). In Denmark, the World's Best News is a journalism awareness campaign initiated by CSOs that aims to communicate information on the SDGs to the Danish people (Danish Government, 2017). The initiative also targets youth, creating lesson plans for primary and secondary schools. Ireland's SDG implementation plan includes partnering with SDG champions: CSOs selected to raise awareness about specific goals, and to make use of their existing reputations to engage the public (Box 3) (Government of Ireland, 2018).

Partnerships with CSOs are also important in the process of implementation. CSOs work directly with vulnerable groups and are often in a better position to provide services and ensure the issues facing them are made explicit and addressed in policy. Australia's VNR points to the experience of First 1000 Days Australia, a program aimed at early childhood education from pre-conception to 2 years of age. The program focuses on the family and partners with Aboriginal and Torres Strait Islander groups using Indigenous knowledge to advance learning (Australian Government, 2018).

While countries report on policies and programs targeting vulnerable populations, information on approaches to identifying and measuring impact on marginalized groups is focused on disaggregated data. None of the reviewed VNRs included specific indicators to track progress with the implementation of the leaving no one behind principles in their SDG strategy. Although there was often reference to the need to disaggregate data, there was little discussion of what specific data gaps exist and what steps need to be taken to fill them. Although fully disaggregated data is important in identifying vulnerable groups, it is not sufficient because many groups may be missing from data sets for a wide variety of reasons.

A United Nations University report (Thinyane, 2018) identifies five types of data marginalization that must be addressed along the entire indicator chain, from collection to impact.

- Unknown voices are those not known to the data agency, and includes groups such as illegal immigrants who may be deliberately hiding.

- Silent voices are those that do not have the capacity to be heard in data collection and can include people with disabilities.

- Muted voices are those stigmatized and discriminated against, such as Indigenous groups and migrant workers.

- Unheard voices are groups excluded during data collection, including digitally unconnected groups or those facing language barriers.

- Ignored voices are groups excluded during data analysis, such as when aggregated data erases the experience of some groups.

In order to address the issues of data marginalization, a community-based indicator framework and community-based monitoring program need to be adopted. Data development driven solely

by national statistical offices disconnects data from community goals and actions, as data is
focused on macro-level understanding. Creating more micro-level indicators and monitoring
networks can help connect the SDGs to the holistic reality of a society and encourage engagement
from individuals and communities (Thinyane, 2018).

Conclusion: The review of VNRs and national SDG strategies of Canada's peer countries
shows most countries focus their efforts on foreign assistance policy in their reporting on
leaving no one behind. Many countries do nonetheless outline their policies and activities
to support domestic vulnerable groups. Many of these efforts are based on human rights-
based approaches, including policies to implement existing international commitments.
Countries generally did not report on specific measurement and data collection efforts
to monitor domestic vulnerable populations, though several highlighted the need for
disaggregated data.

3.0 Vulnerable Populations in Canada

This chapter identifies vulnerable populations in Canada using multiple data sources. It looks at several aspects of poverty and deprivation, bearing in mind the fact that a critical aspect of the SDGs is not only to improve the averages for each target, but to focus specifically on people who are being left behind.

Despite the high average level of well-being in Canada, many Canadians are currently being left behind. For example, the median total income of Canadian households rose from CAD 63,457 in 2005 to CAD 70,336 in 2015, a 10.8% increase (Statistics Canada, 2017b). The percentage of households in the low-income group did not change considerably during this decade, growing slightly from 14% in 2005 to 14.2% in 2015 (Statistics Canada, 2017b).[2] The low-income bracket includes several groups that can be distinguished, including immigrants, young children in one-family households, people with low literacy rates, people with disabilities, and Indigenous People.

Ensuring no one is left behind requires a clear understanding of the groups at risk, the reasons why they are vulnerable, and what their needs are in order to catch up. At its core, the no one left behind principle aims to address deepening inequality in society. This focus has important implications for the development of strategies to achieve the SDGs. It not only requires identifying the groups that are left behind, but also understanding the reasons for their vulnerability and determining their needs. All these elements are needed to inform strategies to implement the 2030 Agenda and subsequent policies and programs. The Agenda also requires building on and ensuring policy coherence with existing programs and efforts to improve the situation of vulnerable groups (Elson, 2018; United Nations Development Programme [UNDP], 2018).

There are multiple factors that push people behind, including discrimination, geographic remoteness, governance, socio-economic status, and vulnerability to shocks and crises. There are several frameworks that identify aspects of vulnerability that can be considered when applying the no one left behind principle and defining vulnerable populations. For this analysis, we used a framework for SDG implementation created by the United Nations Development Program, focusing on five categories of factors that push people behind (Figure 1) (UNDP, 2018).

---

[2] This census release uses the After Tax Low Income Measure (LIM-AT). The concept underlying the LIM-AT is that a household has low income if its income is less than half of the median income of all households.

Figure 1. Who is being left behind and why—five key factors

Source: UNDP, 2018.

- **Discrimination:** Exclusion, unjust treatment/mistreatment of people because of their gender, age, class, disability, deprivation.

- **Geography:** Vulnerability resulting from isolation and related inferior public services (health, transportation, infrastructure, etc.).

- **Governance:** Ineffective, unjust, unaccountable government and governance structures; unjust or inequitable laws.

- **Socio-economic factors:** Disadvantages in terms of income, life expectancy and educational attainment.

- **Shocks and fragility:** Exposure to economic shocks, natural hazards or conflicts. Low resilience to recover from shocks.

In Canada, vulnerable groups include immigrants, Indigenous People on and off reserves, people with disabilities, members of the LGBTQ+ community, and children. They face multiple challenges, including combinations of low income, low educational attainment, and health issues. These groups are identified based on factors such as access to decent income and jobs, good education, and good health. A deeper analysis shows most groups are affected by multiple vulnerabilities, further aggravating their situation and the degree to which they have been left behind. Low income combined with low educational levels/literacy rates are the major types of disadvantages for people living in Canada; however, we can further disaggregate these groups into specific subgroups that share other common characteristics. Canada's Poverty Reduction Strategy, adopted in 2018, identifies many of these groups as targeted beneficiaries and outlines policies and programs targeting these groups (Box 4).

Box 4. Canada's Poverty Reduction Strategy

Canada's Poverty Reduction Strategy "Opportunity for All" (2018) integrates a human rights-based approach in the development and implementation process, adopting the principle to leave no one behind as its central vision. The principle recognizes that many groups face multiple barriers and require additional support. The strategy identifies immigrants, children, seniors, people with disabilities, Indigenous People, singles aged 45 to 64, Black Canadians and people from other racialized communities, LGBTQ+, and people with significant health issues.

The strategy identifies a number of existing programs targeted at these vulnerable groups, including: the Canada Child Benefit; Old Age Security; the Guaranteed Income Supplement; Early Learning and Child Care; Indigenous Skills and Employment Training Program; and the National Housing Strategy, which includes support for seniors, Indigenous People, people with disabilities, and refugees, among others.

Progress on the strategy will be measured with a publicly available dashboard of indicators, including disaggregated data. In addition, the government has created the Centre for Gender, Diversity and Inclusion Statistics to provide data disaggregated by gender, race, and other factors. The goal of the Centre is to help track social equality and provide evidence for the formation of policy.

Source: Government of Canada, 2018.

3.1 Subgroups of Vulnerable Populations Affected by Specific Vulnerabilities

Recent Immigrants

Recent immigrants are more than three times more likely than average Canadians to suffer from low income. Recent immigrants who are older than 65 or lone parents fare even worse. Food insecurity is more prevalent among recent immigrants than among all Canadians. Recent immigrants are also twice as likely to be affected by core housing need as other Canadians. Recent immigrants generally suffer from low income. The chronic low-income[3] rate was 2.6 times higher among immigrants than Canadian-born citizens in 2000, and 3.3 times higher in 2012 (Picot & Lu, 2017). The highest chronic low-income rates in 2012 were observed among recent immigrants over the age of 65. Immigrants who were unattached or lone parents also displayed higher-than-average chronic low-income rates.

---

[3] This analysis focuses on immigrants during the 2000s who were in Canada for 5 to 20 years and over the age of 25.

In terms of immigration, the prevalence of food insecurity among households where the respondent was a recent immigrant to Canada (less than 5 years) was 15.2%, but the rate for households where the respondent had immigrated to the country 5 or more years ago was 12%, similar to the rate for Canadian-born respondents (11.8%). Among different population groups, food insecurity was highest in Black households at 29.4% (Tarasuk et al., 2016).

The prevalence of core housing needs is nearly 7.5 times higher for the low-income group than the highest-income group. Recent immigrants are affected twice as often as non-immigrants by core housing needs, especially those belonging to a visible minority group. The most affected regions were Nunavut, with 36.5% in 2016 (down by 0.8% from 2006); Northwest Territories with 15.5% in 2016 (down by 2% from 2006); and the Yukon, with 15.2% in 2016 (down by 1.1% from 2006) (Statistics Canada, 2017a, 2017b, 2017c, 2018a, 2018b).

Box 5. Immigration and high school completion

Canada performs well in the Programme for International Student Assessment (PISA) international comparisons (Organisation for Economic Co-operation and Development [OECD], n.d.). A detailed assessment was conducted of PISA studies between 2000 and 2012 to look at the role of immigration in success rates in math, reading, and high school completion in Canada and for each province. It revealed that immigrants in British Columbia and the Atlantic provinces had significantly higher PISA math scores than third- or higher-generation children, while in Manitoba, Quebec, and Saskatchewan immigrants scored lower in math than their third- or higher-generation counterparts (Statistics Canada, 2015). The reading PISA scores of immigrants aged 15 varied but were generally lower than for third- or higher-generation immigrants (Statistics Canada, 2015). Furthermore, youth who immigrated before the age of 15 had high school and university completion rates higher than those of third- or higher-generation individuals in every region. In Canada as a whole, 40% of immigrants aged 25 to 29 had a university degree in 2011, compared with 26% among third- or higher-generation individuals in the same age group. Regionally, the portion of immigrants aged 25 to 29 with university degrees was highest in British Columbia (44%) and Ontario (41%) and the lowest in Manitoba and Saskatchewan (29%) and Quebec (32%) (Statistics Canada, 2015).

People With a Disability

People with a disability are almost three times more likely to live in poverty than average Canadians, and this rate increases with the severity of the disability. People living with a disability are also less likely to be employed than average Canadians. In 2017, persons with more severe disabilities (28%) aged 25 to 64 years were more likely to be living in poverty (as measured by the Market Basket Measure) than their counterparts without disabilities (10%) or with milder disabilities (14%) (Morris et al., 2018). Among those aged 25 to 64 years, persons with disabilities were less likely to be employed (59%) than those without disabilities (80%). As

the level of disability severity increased, so too did the likelihood of not being employed (Morris et al., 2018; Statistics Canada, 2018b; Wall, 2017).

Female lone parents are affected by food insecurity more than twice as often as the Canadian average. The likelihood increases for women who have low education levels and are unemployed. A large part of this group also identifies as immigrants or people with disabilities. Lone-parent households—especially those headed by a female—have 2.5-times higher food insecurity than the average Canadian household (Tarasuk et al., 2016). In terms of education, women with less than high school diploma attainment are more likely to be lone parents and be out of the workforce, experiencing low rates of employment (Statistics Canada, 2017c). Many women in this group belong to other groups such as immigrants, people with disabilities, and/or Indigenous People.

Members of the LGBTQ+ community are more likely to suffer from food insecurity and mental health issues than average Canadians. Low self-rated mental health was more common among those identifying as bisexual or gay/lesbian compared with those identifying as heterosexual. The prevalence of household food insecurity was also nearly three times higher among adults who identified as bisexual than those who identified as heterosexual (Statistics Canada, 2018c).

Box 6. Veterans and health challenges

There are currently an estimated 658,000 Canadian veterans (4% of the total population) (VanTil et al., 2018). VanTil et al. (2018) provide evidence veterans will live longer but with generally greater activity limitations and mental health problems than average Canadians. Self-rated mental health of earlier-era veterans (released between 1954 and 2003) was better than that of the Canadian general population. However, self-rated mental health for recent-era veterans was worse than for their Canadian comparators. Recent-era veterans (released between 1998 and 2012) had a higher prevalence of additional indicators, including self-rated health, obesity, needing help with activities of daily living, employment, postsecondary education, life satisfaction, and sense of community belonging. Earlier-era veterans were the same as the Canadian general population in these areas. Recent-era veterans were less likely to be daily smokers than comparable Canadians.

Indigenous People

Indigenous People endure multiple vulnerabilities, including low income, lower education, lower life expectancy, higher prevalence of health conditions and disease, high prevalence of alcohol consumption, and food insecurity. Indigenous women, children, and Indigenous People with lower education and living on reserve are more affected by these conditions than the average Indigenous person. According to the Indigenous population profile of the 2016 Census (Statistics Canada, 2016), 4.9% (1,673,785) of the Canadian population identified as Indigenous in 2015, with 20% of this population living on reserve.

There are 977,235 First Nations people in Canada, 587,545 Métis, and 65,030 Inuit. The prevalence of low income for the Indigenous population was 23.6%, well above the non-Indigenous prevalence. The prevalence of low income is even higher for Indigenous women and children under the age of 14 at 25.1% and 31.6%, respectively.

Prevalence of poverty estimates are not available for Indigenous Peoples on reserve, but the average after-tax income for this group was CAD 22,450, compared to CAD 33,169 for the off-reserve Indigenous population, CAD 31,205 for the whole Aboriginal population and CAD 39,313 for the non-Indigenous population. Most of the Indigenous population living on reserve identifies as First Nation (98%), although there are some Métis and Inuit people living on reserve. The prevalence of low income is 29.7% for First Nations, 17.5% for Métis, and 18.9% for Inuit.

According to the 2016 Census Aboriginal Population Profile (Statistics Canada, 2016), 51% of the Indigenous population 15 years or older on reserve had no high school or postsecondary certificate or diploma. For Indigenous women on reserve, 48% had no diploma or certificate. The unemployment rate and participation rate were 24.8% and 48.4%, respectively, for the on-reserve Indigenous population over 15 years of age (Statistics Canada, 2017c).

Health-adjusted life expectancy was consistently lower, and infant mortality and unintentional injury mortality were consistently higher for the low-income and low education attainment population. They were also worse in areas with a high concentration of First Nations, Inuit, and Métis people. In terms of mental health hospitalizations, the links to low income and education were present as well as in areas with a high concentration of people identifying as Métis, Inuit, or First Nations. In these areas, the mental illness hospitalization rates were two to three times higher than in areas with a low concentration of people identifying as Indigenous (Carrière et al., 2018; Statistics Canada, 2018c).

Table 1. Summary of groups who are vulnerable due to income inequality

Vulnerable groups	Subgroups that are particularly vulnerable due to income inequality
Immigrant (both recent and long-term covering from 5 to 20 years in Canada)[4]	• Senior immigrants over 65 (unattached and lone parent) • Senior recent immigrants (over 65 years, in country for less than 5 years)[5]
Children living with a lone parent[6]	• Young children (less than 6 years) with one-family household[7]
Persons with disability	• Persons with severe disability • Persons with combination of disabilities • Persons with disability living alone • Persons with disability and lone parents
Indigenous People	• First Nations (on and off reserve) • Métis • Inuit • Women • Children (less than 14 years)

---

[4] The focus is on chronic low income, which is defined as having a family income below the low-income cutoff for 5 consecutive years or more. Rates of low income among immigrants continue to be high relative to the Canadian-born population. The proportion of immigrants who were in chronic low income fell from 16.3% in 2004 to 12.3% in 2012, but even then, the chronic low-income rate was 2.6 times higher among immigrants than Canadian-born in 2000 and 3.3 times higher in 2012 (Picot & Lu, 2017). Chronic low income seems to affect recent and non-recent immigrants equally.

[5] The highest chronic low-income rates in 2012 were observed among immigrants over the age of 65. These relatively high rates included all immigrant seniors, but the rates were very high for more recent immigrant seniors; these are significantly higher than for the Canadian-born population (about 2%). Immigrants who were unattached or lone parents also displayed higher-than-average chronic low-income rates. Finally, in terms of the geographical location of people with low income, Canada's three largest cities were among the one-quarter of communities with the highest chronic low-income rates in both 2000 and 2012.

[6] In 2015, 17.7% of children in a one-family household had low income, compared with 10.6% of children whose families shared a dwelling with others (Statistics Canada, 2016a).

[7] Another group affected by low income is younger children partly because the new mother's income tends to be lower following childbirth and years thereafter. While 15.9% of children aged 11 to 17 lived in a low-income household, for children younger than 6 this rate climbed to 17.8% (Morris et al., 2018).

Indigenous People also face inequalities in the rate of occurrence of specific diseases. The prevalence of arthritis, asthma, diabetes, and obesity[8] was higher among First Nations adults living off reserve, First Nations adults living on reserve and in Northern communities, and Métis adults than among non-Indigenous adults. Among Inuit adults, obesity was also higher than among non-Indigenous Canadians; results for other cause-specific outcomes were not statistically significant. Finally, based on case report data, the incidence of active tuberculosis was exceptionally high among the Inuit, at nearly 300 times the rate among Canadian-born non-Indigenous People. Active tuberculosis incidence rates were also very high among First Nations people living on reserve and foreign-born Canadians, at 32 times (Statistics Canada, 2018c).

High alcohol consumption and smoking were also higher among Inuit, Métis, and First Nations people living both off reserve and on reserve than among non-Indigenous People (Statistics Canada, 2018c)

Indigenous People are significantly impacted by food security. In the years 2009 to 2012, food insecurity was 3.7, 2.7, and 2.2 times as prevalent among Inuit, First Nations living off reserve, and Métis adults, respectively, as among non-Indigenous adults (Statistics Canada, 2018c). Food insecurity presents a particularly serious and growing challenge in Canada's Northern and remote Indigenous communities. Food insecurity was most prevalent in Canada's North (especially Nunavut) in 2014. Based on Tarasuk et al. (2016), in Nunavut and the Northwest Territories, the prevalence rose to the highest levels observed since monitoring began in 2005, 46.8% and 24.1% respectively.

3.2 SDG Targets Relevant for Vulnerable Groups

Several targets of the SDG framework and associated indicators are particularly important for measuring the well-being of vulnerable groups. We analyzed SDGs 1 to 8 (which focus on social issues) and assessed the data availability for the most relevant indicators. The situation of vulnerable groups is most relevant to SDG 1 on poverty reduction, SDG 3 on addressing health inequality, and SDG 4 on addressing educational attainment and literacy rates that often directly contribute to income and job opportunities.

Other relevant SDGs include SDG 2, covering malnutrition and food security, which was identified as a challenge for specific groups in Canada. SDG 5 covers gender inequality, which should intersect with every effort to support vulnerable groups. SDGs 6 and 7 cover key components of quality of life for vulnerable groups: access to clean water; adequate sewage service; reliable (and preferably renewable) energy. They also cover indicators relevant in the context of inadequate housing and infrastructure in Northern communities. SDG 8 focuses on decent jobs and employment relevant to earning differences between different vulnerable groups,

---

[8] Recent immigrants (≤10 years) to Canada had lower rates of obesity compared with non-immigrants. The health of recent immigrants is generally better than the health of those born in Canada (reflecting the "healthy immigrant" effect); however, this health advantage tends to decline the longer immigrants live in Canada (Statistics Canada, 2018c, p. 247)

youth employment, and employment rates among different groups. Other relevant SDGs not included in this analysis are SDG 10 on inequalities and SDG 16 on governance and institutions.

Table 2. Overview of potential integration of vulnerable groups into SDGs 1–8

SDG	Number of indicators	Relevance for vulnerable groups			Data availability at national level		
		Relevant	Somewhat relevant	Not relevant	Relevant + somewhat relevant indicators	National data available	National data not available
1	14	9	3	2	12	4	7
2	13	3	2	8	5	4	1
3	27	10	13	4	23	18	5
4	11	7	3	1	10	7	3
5	14	3	10	1	13	7	6
6	11	2	3	6	5	0	5
7	6	2	0	4	2	1	1
8	17	3	2	12	5	5	0
Total	**113**	**39**	**36**	**38**	**75**	**43**	**31**

Most of the indicators proposed to track progress on SDGs 1–8 are relevant or somewhat relevant to the well-being of vulnerable groups in Canada. Out of a total of 113 indicators used to measure progress toward targets under SDGs 1–8, roughly two thirds are either relevant or somewhat relevant to the well-being of vulnerable groups. The relevant indicators cover many areas of individual and community well-being, such as access to food, clean water, land and natural resources, education, and health care services. Indicators that are not relevant include those for targets that do not apply to the Canadian context, apply to specific sectors such as agriculture, or to physical and economic measures rather than individuals or communities.

Out of the 75 indicators that are relevant to vulnerable populations, data is available for 43 indicators at the national level through Statistics Canada's SDG Data Hub. Most of the remaining indicators are under development, although a search for appropriate data sources is underway for some of them. Coverage of available indicators varies across SDGs. While indicators for several SDGs are well covered—including SDG 3 on health (18/23 relevant indicators available); SDG 4 on education (7/10 available); and SDG 8 on decent work (8/8 available)—indicators for some goals are not well covered, in particular SDG 2 on food security and nutrition (1/5 available), and SDG 6 on water (0/5 available). It should be noted

that issues for which SDG data was not available at the time of writing may be monitored using other indicators not aligned with the SDG framework. Furthermore, we did not verify whether data is available at the level of disaggregation needed to detect differences between vulnerable groups and other parts of the population.

Conclusion: Despite Canada's high average standard of living, several groups of Canadians are being left behind, including immigrants, Indigenous People on and off reserves, people with disabilities, members of the LGBTQ+ community, and children. Vulnerable groups face multiple factors that push them behind. Recent immigrants suffer from low income, food insecurity, and poor housing, especially if they are over 65. People with disabilities are also more likely to live in poverty and face food insecurity, especially if they are lone parents. Members of the LGBTQ+ community and recent veterans with disabilities are also more likely to suffer from mental health problems. First Nations, Métis, and Inuit people face low income combined with poor education, poor health, higher prevalence of alcohol consumption, food insecurity, and lower life expectancy. The importance of these factors varies between groups and for First Nations living on or off reserve. Canada can report at the national level on more than half of the indicators proposed under the SDG framework that are relevant to the well-being of vulnerable groups. New data sources are being explored for the remaining indicators. A related challenge is making the necessary data available in a disaggregated form and at the community level to allow tracking of the factors that push each group behind.

4.0 Complementary Data Sources

This chapter provides an overview of alternative, community-developed and managed data sources and their potential for improving the measurement of vulnerable groups. We found a wide diversity of potential data sources; however, many face barriers in collecting and sharing their data with the public.

The findings presented in this chapter are based on three activities. First, we conducted an initial scan of potential complementary data sources at national, provincial, and local levels using sources from academic literature and web-based research. In parallel, we conducted informal conversations with organizations representing or working with vulnerable groups. Based on the results of these activities, we began to build a list of example indicators to track progress of vulnerable groups toward selected SDGs. The list would be based on both existing data sources or data sources that could be developed. It focuses on the four case study groups: Indigenous Peoples, recent immigrants, persons with disabilities, and seniors.

The SDG framework creates new needs for indicators and data, some of which are not covered by current data collection efforts. As the analysis in the previous chapter demonstrated, the SDG framework requires indicators in several areas not covered by Canadian national data sources in early 2019. This may mean the necessary data has not been collected, or existing data must be accessed, and indicators developed. At the time of writing, Statistics Canada was undertaking a mapping exercise to discover relevant data available from national and provincial governmental sources: that exercise may soon lead to the development of indicators currently missing.

Some aspects of the well-being of vulnerable populations are inherently difficult to measure. Individuals belonging to several groups are difficult to reach with traditional data collection methods such as household surveys (see Chapters 1 and 3). While many questions about the health, well-being, and prosperity of vulnerable populations in Canada can be answered using official statistics, these groups can be difficult to measure at the community or region-specific level. Data at the community level may be inaccessible because of the cost of producing custom data sets, or it may be unavailable due to data suppression or the group not being considered in survey design and consequently left unidentified.

Where traditional data sources fall short, there are many alternative open-data sources that can provide insight into the lives of vulnerable and undercounted populations. These can be divided into several categories.

Data Repositories

A general increase in—and understanding of—the usefulness of data has helped spur an "open-data revolution." Data repositories were developed so researchers, students, and others can share and access a multitude of data sets on a wide variety of topics. Most repositories contain data sets on the natural environment, physical health, and health care-related themes. In many cases, data repositories are open source, as anyone can upload or download or share data. One example is the Scholars Portal Dataverse (Ontario Council of University Libraries, n.d.). This open-source data repository is a collaborative initiative of 21 universities from Ontario and four from Western Canada. The portal is managed by the Ontario Council of University Libraries and hosted at the University of Toronto. While this type of system potentially creates a vast amount of available data on vulnerable populations, the nature of the data shared can be questionable in terms of quality, format compatibility, and comparability with standardized data sets. As a precautionary measure, all data sets retrieved from data repositories should be scrutinized to ensure the data sources are trusted and collection methods rigorous.

Longitudinal Studies

Longitudinal studies often combine large sample sizes with data collected over long periods of time. Data sets such as these are often the result of research institutes publishing data sets for the benefit of the public. Typically, longitudinal studies focus on health. One example is the Canadian Longitudinal Study on Aging (CLSA) (CLSA, n.d.). This data set provides information on topics such as degree of social interaction, independence, types of assistive devices used, access to formal and informal care supports, and potential health risks. Data can be cross tabulated to identify subgroups within the ageing population, including immigrants, veterans, and Indigenous People. Data from this study is restricted, requiring an application process and fee to access the information.

Custodian Groups or Organizations

Data in this category is collected and maintained by organizations whose target population is traditionally undercounted in official surveys. First Nations, Métis, and Inuit organizations may fall into this category. The Manitoba Métis Federation (MMF) and the First Nations Indigenous Governance Centre (FNIGC)[9] both collect and maintain data sets that are important for decision making for the populations they serve (Box 7) (MMF, 2010). These data sets are an important source of information, as they are rooted in community priorities and can have higher participation rates than Statistics Canada data. Without access to ongoing funding, custodian group-held data sets that provide detailed information about vulnerable populations quickly become outdated.

---

[9] https://fnigc.ca/online-library/?wpv-publication-topic=first-nations-regional-health-survey-phase-3

Box 7. The Métis Health Atlas

The Métis Health Atlas was developed out of a desire to understand the health outcomes of the Métis population in Manitoba. To obtain the data, the MMF membership database was connected to provincial health records and Statistics Canada's Canadian Community Health Survey to create a customized population-health record for the Métis population based on Métis jurisdictions across the province. This initiative was undertaken by the MMF and the Manitoba Centre for Health Policy (MCHP) at the University of Manitoba. Funds for the 2010 research were provided by the Canadian Institute of Health Research. Subsequent studies to update this database have not received funding. Thus, while this data is of high quality, the most recent data point is 2006.

Source: MMF, 2010.

For-Profit Data Generation

For-profit groups such as Angus Reid and IPSOS develop tailored surveys for organizations looking to understand specific populations. For example, the Angus Reid Surveys commissioned by the Rick Hansen Foundation surveyed individuals with disabilities to better understand perceived barriers to participation (Rick Hansen Foundation, n.d.). While this type of data can be valuable for understanding generalities about vulnerable groups, the sample sizes are often quite small, and the data is not region or community specific. Private companies also can develop custom surveys and collect customized data for vulnerable groups but charge for the service.

Community Data

Community-level data can come from a variety of sources such as academia, not-for-profit service providers, private companies, and institutional administrative data sets. This type of data can provide an understanding that is unobtainable from official statistics. There is significant added value that can be obtained from existing data sets if data is made available at the community level and with the appropriate disaggregation. Such data can be obtained from Statistics Canada on a cost-recovery basis. Many communities, however, lack the resources or expertise to order custom data sets. The Community Data Program is an example of how an organization can help communities access localized data. Originally established by the Canadian Council for Social Development the program is now hosted by the Canadian Community Economic Development Network (CCEDNet, n.d.). The program pools requests for data and maintains its own database. Members of the program benefit from a much larger data pool than they would be able to access through individual orders.

Community indicator systems—such as IISD's Tracking Progress tool (IISD, 2021) and partnerships for maintaining an online community data portal such as Peg (Peg, n.d.)—can also facilitate access to community-level data. They can also make available (and help visualize)

smaller data sets that may not meet the quality criteria of larger data repositories. Community indicator systems can also help municipalities provide access to internal data, thereby increasing transparency and accountability of decision making.

4.1 Data Scan

A comprehensive scan of data sources available for the three case study groups was undertaken for this report. This exercise sought to identify data sources to complement official government statistics. Complementary data sources are important because they help tell a detailed story about the needs, barriers, and special circumstances of vulnerable populations, providing information that may not be available using only official statistics. Data sets were identified based on their relevance to the five dimensions of vulnerability: discrimination, geography, socio-economic status, shocks, and fragility (UN, 2018). The complementary data sets identified in this scan have both advantages and limitations in terms of focus, collection methods, sample sizes, geographic scope, and identification of subgroups within the populations.

Indigenous Groups

Much of the available data is generated and stewarded by First Nations, Métis, and Inuit governing bodies. The FNIGC coordinates the development and administration of region-specific surveys targeted for the off-reserve First Nations population (FNIGC, n.d.). Data collected touches predominantly on themes of food security (SDG 2), chronic disease and access to health services (SDG 3), quality and culturally appropriate education (SDG 4), clean water and sanitation (SDG 6), and, to a lesser extent, governance (SDG 16). FNIGC survey indicators encompass all dimensions of vulnerability. However, most indicators touching on quality education are connected to discrimination and geography while indicators touching on community sustainability and access to clean water and sanitation are connected to shocks and fragility. Health and health services indicators are most abundant and are related to socio-economic status and geography. While surveys and some data highlights are available from the FNIGC website, data is developed and held by FNIGC and its regional groups and is not made readily available to the public.

Within the Métis population, regional governments hold significant amounts of information connected to their members. In 2010, in Manitoba, the MMF and the MCHP connected the MMF membership database to the provincial health card registry to identify health outcomes for the Métis population in each health region across the province. The Métis Health Atlas (MMF, 2010) focuses primarily on health outcomes (SDG 3). This is the most comprehensive study of its kind and shows the potential that linking administrative databases can have for collecting quality data for vulnerable populations. Other Métis Nations, such as the Métis Nations of Alberta, British Columbia, Nova Scotia, Ontario, and Saskatchewan also use a membership system that could generate similar data using provincial administrative databases.

Similarly, Inuit Tapiriit Kanatami (ITK) (n.d.) undertakes research that promotes the health and well-being of Inuit peoples. This research uses data from a variety of sources, including primary data collection and the government. One such initiative is an Inuit Food Security Map (ITK, 2021) that catalogues food security projects within Inuit regions.

Other important data sources for Indigenous groups include administrative data from local band councils and school boards, postsecondary institution databases, and voter registries. Obtaining administrative data from these sources will require significant relationship building as well as a standard protocol for data use and sharing. It could be onerous to collect this information due to the significant number of jurisdictions holding data.

Recent Immigrants

Much of the data available relating to recent immigrants focuses primarily on skills inventories, settlement/housing, and integration into Canadian society. The Canadian Index for Measuring Integration (CIMI) shares provincial and city-level data (CIMI, n.d.). The CIMI index has four categories: economic, social, civic and democratic participation, and health. While the raw data used to develop the index is sourced through Statistics Canada surveys, manipulating it to create an integration index helps individuals better understand the vulnerabilities and integration barriers this group faces.

The BC Refugee Hub (n.d.) publishes a quarterly bulletin that provides readers with indicators and data related to the demographics and nationality of government-assisted refugee claimants in each quarter, predominant refugee settlement areas in BC, temporary and permanent housing locations, and job skills inventory. This information touches on areas of vulnerability such as socio-economic status and geography. Information on settlement data at the sub-municipality level can be obtained on request. This data is available for British Columbia only.

The Canadian Research Data Centre Network (CRDCN, n.d.) is the custodian of the Longitudinal Immigration Database (IMDB) which combines tax files and administrative data to better understand the socio-economic situation of immigrants in Canada. While the database is maintained by Statistics Canada, researchers can gain access to the database to generate specialized and region-specific information. Subjects found in the database include education and training, ethnic diversity, labour market and income, population and demographics, as well as mobility and migration. The CRDCN also hosts a reports database of all academic publications using this system.

Persons with Disabilities and Seniors

This population can be broken down into numerous subgroups, each with their own unique barriers, risks, and vulnerabilities. Limited data was found for individuals with disabilities. Much of the information in this field relies on the Statistics Canada Survey on Disability. The Rick Hansen Institute reports data from an observational study with data collected from their Spinal

Cord Injury (SCI) Registry.[10] This annual study focuses on individuals with spinal cord injuries in 15 cities across Canada. The data pertains to this population's demographics and the types of care they access regularly. The Rick Hansen Foundation has also worked in partnership with the Angus Reid Institute to better understand the experience of living with a physical disability in Canada (Angus Reid Institute & Rick Hansen Foundation, 2019).

In recent years, the Canadian Mortgage and Housing Corporation (CMHC) has worked closely with Statistics Canada to integrate much of its data. This collaboration has enabled CMHC to connect statistical surveys such as the Canadian Survey on Disability with its own Core Housing Needs (CHN) data to provide a better picture of the housing conditions of individuals with physical and intellectual disabilities (CMHC, 2018). Living in core housing need is related to the vulnerability dimensions socio-economic status, as affordability is one element of CHN, and shocks and fragility because precarious housing can be exacerbated in the event of an economic, climate, or other momentous occurrences.

The CLSA discussed above is a 20-year long study following approximately 50,000 men and women between the ages of 45 and 85 years (CLSA, n.d.). While this data is available only at the provincial level, it does provide an in-depth understanding of the types of physical, psychological, and other supports needed for seniors to lead healthy and productive lives. The study examines the types of barriers seniors face to societal participation, physical, and mental soundness as well as the formal and informal support networks they use daily. This study focuses primarily on health (SDG 3) and speaks to vulnerabilities such as discrimination (ageism), socio-economic status, and shocks and fragility. The CLSA also targets senior veterans, Métis, and immigrants as subgroups—vulnerable populations with limited data sources. While this data is not open to the public, it can be requested directly from the CLSA via their website and provided for a fee.

> **Conclusion:** Canada is a data-rich country, and data regarding vulnerable groups is no exception. Many complementary data sources exist outside of official government statistics. These data sources can be divided into data repositories, longitudinal studies, custodian organizations, for-profit organizations, and community-driven data. Numerous organizations across the country act as data custodians or work closely with vulnerable groups including Indigenous People, immigrants, and persons with disabilities. Their data offers opportunities to develop complementary indicators for the well-being of vulnerable populations. While these organizations have some capacities to gather and use data for their own purposes, their data sets exist in isolation from each other. Many organizations would be well positioned to gather and share complementary data, but they currently lack the resources to do so. Involving these organizations in the development of a Canadian SDG indicator framework would reveal the relevance and value of the data available. It would also provide an opportunity to learn what data capacities exist within these organizations, and what kind of support could unlock the value of their data.

---

[10] See the National SCI Registry (RHSCIR) at https://praxisinstitute.org/research-care/key-initiatives/national-sci-registry/

5.0 Data Interoperability

This chapter draws on the findings from a project funded by Employment and Social Development Canada titled "Pathways Towards Data Interoperability for the Sustainable Development Goals in Canada" (MaRS, 2019) and discusses its main findings in the context of data for vulnerable populations.

The previous chapters have shown that leaving no one behind in Canada under the SDG framework requires developing new indicators and data sources. Not only are new indicators and data required at the national level, but more disaggregated data and data collected at the community level is also required. Also valuable would be data collected by organizations interacting with vulnerable populations to fill gaps in official statistics. Having these in place would provide a more complete picture of vulnerable populations at the community level.

Our research also identified many potential sources of data that can be used to fill specific data gaps. Data repositories, longitudinal studies, custodian organizations, for-profit organizations, and community-generated data provide opportunities to access and gather relevant data to complement official statistics. As shown in the previous chapter, many SDG indicators relevant for vulnerable populations could be developed using data from these alternative data sources; however, doing so requires investment in the capacities of the data providers. Many organizations are well positioned to provide complementary data, but they currently lack the means to do so. Our research supports the finding of the MaRS (2019) report on data interoperability for the SDGs in Canada that data is becoming increasingly abundant. Data on vulnerable populations in Canada is no exception to this trend, but many data sets have been developed independently. Most organizations have developed their own approaches, methods, and standards for data collection and analysis. This means data sets cannot readily be integrated for more holistic analysis. Data exists in silos, limited in geographic coverage and sample size, and often refers only to specific sub-populations. Many alternative data sources can be described as "stranded data assets" that are undervalued because they are difficult to combine with other data to create useful information (MaRS, 2019).

Mobilizing this data to monitor the situation of vulnerable groups requires investments in data interoperability. Data interoperability is the ability to join up data from different sources without losing meaning. In the context of the SDGs, it has been referred to as the ability to "join data for joint problem solving" (Development Initiatives, 2017). Data interoperability enables integrating data for mapping, visualization, and other forms of representation and analysis. It empowers people to "find, explore, and understand the structure and content of data sets. [And] it is the ability to 'join up' data sets for simpler, and sometimes automated analysis, better decision making, and accountability purposes" (Data4SDGs 2018, cited in MaRS, 2019, p. 5).

Interoperability can deliver substantial benefits for high-level policy planning as well as front-line decision makers. Higher levels of data interoperability improve data usability and support the understanding of how data can be used collectively. It also reduces frustrations about data inconsistencies and incompleteness and makes available sustainable, disaggregated data for decision making. When data interoperability is translated into practice, these benefits improve relationships between the entities producing, controlling, and using data. It also supports data-management strategies that are more aligned with open-data principles. Furthermore, efforts to increase data interoperability also lead to more consistent provision of metadata while providing incentives to modernize existing data inventories (González Moralez & Orrell, 2017).
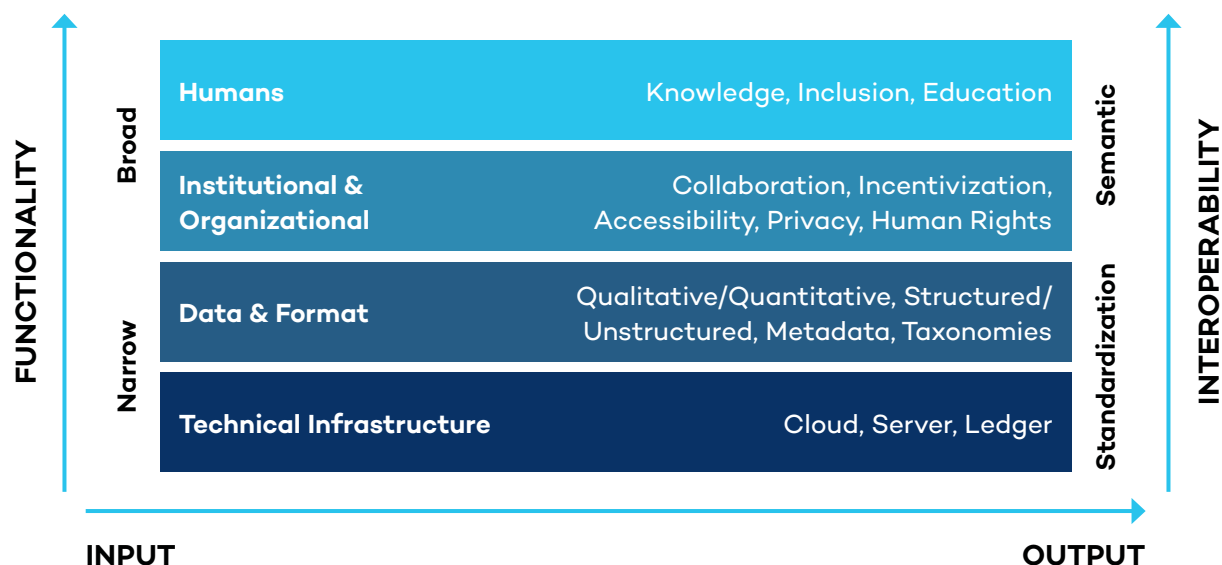
Data interoperability is a multidimensional problem that includes both technical aspects of creating the right infrastructure (servers, cloud storage, standards, taxonomies, metadata) and developing integrated knowledge and meaning among institutions and individuals (collaboration, data sharing, inclusion, education). These challenges can be divided into four layers of data interoperability based on the Data Commons Framework (Goldstein et al., 2018) as follows:

- "The technology layer addresses the standards needed to make data accessible on the Internet.
- The data and format layer focuses on data structures, metadata standards, and vocabularies.
- The institutional and organizational layer covers process standards needed to keep data accurate and consistent, as well as high-level policies such as data sharing agreements.
- The human layer emphasizes the need for common understandings among those who produce and use the data" (see also Figure 2).

The technology and data and format layers are also referred to as **syntactic interoperability** (enabling the exchange of data), whereas the institutional and human layers are necessary to create **semantic interoperability** (enabling the generation of common meanings) (Goldstein et al., 2018).

Figure 2. The four layers of data interoperability

FUNCTIONALITY			INTEROPERABILITY
Broad	**Humans**	Knowledge, Inclusion, Education	Semantic
	Institutional & Organizational	Collaboration, Incentivization, Accessibility, Privacy, Human Rights	
Narrow	**Data & Format**	Qualitative/Quantitative, Structured/ Unstructured, Metadata, Taxonomies	Standardization
	Technical Infrastructure	Cloud, Server, Ledger	

INPUT   OUTPUT

Source: MaRS, 2019.

Inclusive and comprehensive monitoring of vulnerable populations requires joining data from multiple sources by increasing both syntactic and semantic interoperability. Syntactic interoperability is necessary to ensure that data can be physically combined, viewed, analyzed, visualized, and downloaded by various entities. It is also essential to ensure data quality and data integrity, including version control and sustained links between original data sources and combined data sets. Semantic interoperability is essential to create shared understandings of concepts with diverse and contested meanings. Key concepts such as "poverty," "education," "hunger," or "health" are often defined in different ways across cultural groups and languages. Poverty, for example, can be defined in relation to a fixed or flexible income threshold or relative to the cost of acquiring a set of essential goods and services, such as the market-based measure (MaRS, 2019). These concepts represent different but generally accepted strategies to measure poverty; however, specific vulnerable groups may have perspectives on poverty that are not captured by any of these concepts. For many First Nations communities, for example, poverty is also a matter of having access to land, hunting grounds, and other natural resources (Box 8).

Box 8. Different views on poverty

"Take the classic example of poverty. For Statistics Canada, poverty is a matter of disposable income, which is primarily related to access to jobs with good salaries. For First Nations communities, poverty is also a question of having access to land for hunting and other activities, so they can provide for their families. A community member may feel poor because she does not have the means to provide enough food for her family. If we only measure income, then it is natural to think that creating more jobs should help reduce poverty. But even with a job and better income, the First Nations person may still feel poor. The policy measure was ineffective because we did not include access to land in the definition of poverty and thus it wasn't part of the measurement."

Jonathan Dewar, FNIGC (personal communication, March 5, 2019)

Establishing semantic interoperability between the different definitions of poverty can provide decision makers with a more complete measurement of poverty in a First Nations community. Instead of pointing toward interventions focused on providing jobs and income—which would risk leaving First Nations communities behind—an integrated approach based on semantic interoperability would capture more dimensions of poverty and allow the development of targeted solutions. A similar example is the divergence in perceptions of good education. From a First Nations perspective, good education includes knowledge and skills related to traditional lifestyles which are not captured by commonly used indicators of quality education. The FNIGC collects data both on poverty and education as part of its regular community health surveys. Joining these data sets through improved semantic interoperability provides meaningful opportunities to improve measurement of the progress of First Nations communities in the context of SDG implementation.

Several strategies exist to create data interoperability for measuring progress toward the SDGs. The MaRS report outlines three ways to create data interoperability for SDG measurement (MaRS, 2019):

- A **distributed data approach** would allow for the emergence of various data platforms that create and use data in various ways and formats. Interoperability is created through applications that can translate between data systems and by developing semantic vocabularies. Distributed systems allow for a dynamic and fluid data ecosystem; however, the absence of a central authority for data governance makes it difficult to enforce a common set of indicators.

- A **centralized data approach** would envision a single national SDG data repository acting as a national data steward for SDG monitoring. The central repository would collect data from many sources and enforce standards for data interoperability, privacy, and security. A centralized approach would facilitate finding and using data included in the data repository; however, the diversity and distributed nature of existing relevant data sets make it unlikely that such a data repository could include all existing relevant data for vulnerable populations.

- **Mission-oriented data ecosystems** provide a middle ground in which communities, stakeholders, and data users work together to create data interoperability around a shared

set of standards, a common governance model, and one or several linked data repositories. Focused on a single issue or a limited set of linked topics, mission-driven data ecosystems can mobilize data from a range of sources while maintaining the flexibility of a distributed data system. The MaRS report cites Canada's Homeless Individuals and Families Information System (HIFIS) as an example of a mission-oriented data ecosystem based on indicators that are semantically interoperable (Box 9).

Box 9. Canada's Homeless Individuals and Families Information System

Canada's Homeless Individuals and Families Information System (HIFIS) coordinates multiple homelessness-related services by providing real-time integrated community data (Government of Canada, 2020a, 2020b). HIFIS provides a community-wide system for data services based on a data repository and platform built around a common set of semantically interoperable indicators. HIFIS provides access to homelessness statistics combined with community data to assist communities with long-term planning and capacity building to address local challenges related to homelessness. The application enables clients to assess their situation and prioritize services, allows service providers to increase their understanding of local homelessness trends and needs, and provides improved data on homelessness in Canada to inform decisions and policy-making.

Investments in mission-oriented data ecosystems provide an opportunity to mobilize data on vulnerable populations in Canada to complement official statistics and fill important data gaps. As shown in the previous chapter, several custodian organizations—such as FNIGC and MMF—already collect and make available data on specific vulnerable groups. These groups maintain strong relationships with their clients and would be well positioned to lead a coordinated effort to create semantic interoperability between their own data, official statistics, and other relevant data sources. Involving such groups in consultations on a Canadian indicator framework and a related data mobilization strategy could promote the identification of high-potential investment opportunities to improve measurement regarding vulnerable populations while building capacity for creating data interoperability within mission-oriented data ecosystems.

Conclusion: Tracking the progress of vulnerable populations toward the SDGs creates new data needs, including the need to join up data from different sources that have been developed independently of each other. However, creating a common understanding of diverse—and sometimes contested—concepts underlying measurement approaches is challenging, and the emergence of a fully interoperable data ecosystem for all SDGs is unlikely. Mission-oriented ecosystems focusing on creating interoperability for specific issues or groups are a promising approach to address the data needs associated with measuring the progress of vulnerable groups in Canada.

6.0 Conclusion

By signing on to the 2030 Agenda and the SDGs, Canada committed to leaving no Canadians
behind and prioritizing the needs of those most behind. Doing so requires clearly identifying
which groups of Canadians are currently being left behind in SDG implementation (and why)
and which groups risk being left behind. In this report, we explored some of the data and
measurement challenges emerging from the need to measure the well-being of vulnerable groups
to inform decision making on SDG implementation and track the progress that these groups are
making toward achieving the SDGs.

Our review of recent literature on measurement challenges relating to the commitment to leave
no one behind underlines the need for more inclusive approaches to data collection and the
importance of data aggregated at the right level to identify the multiple factors that push people
behind (Chapter 1).

A review of international practices shows most of Canada's peer countries use the principle of
leaving no one behind to guide their international assistance policies. Those countries that report
on efforts to support domestic vulnerable populations highlight human rights-based approaches
that are often guided by existing international obligations. None of the countries reviewed
reported on dedicated efforts in improving measurement of the well-being of vulnerable groups
(Chapter 2). This suggests that Canada could take a leadership role in this area.

Our analysis of vulnerable groups in Canada shows that Indigenous Peoples, immigrants, people
with disabilities, members of the LGBTQ+ community, lone parents, and children are left
behind in Canada. They also face multiple pressures that could push them even further behind.
Indigenous People, recent immigrants, and people with disabilities are far more likely to suffer
from low income, poor education, and food insecurity than other Canadians. People facing
multiple exclusion factors are at higher risk of falling behind. Recent immigrants aged over 65, for
example, are more likely to suffer from low income than other immigrants. Similarly, Indigenous
members of the LGBTQ+ community or people with disabilities who are also lone parents are
among those furthest behind (Chapter 3).

Our scan of non-governmental data sources identified a range of organizations and data
sources that can complement official statistics. Mobilizing this data will require involving these
organizations in discussions on the measurement of SDG progress as well as providing resources
to complete additional tasks necessary to generate and share data (Chapter 4).

The need to integrate data from multiple sources creates new challenges for data interoperability.
We applied the findings of a related project on pathways toward data interoperability in the
context of vulnerable populations. We found that investing in mission-oriented data ecosystems
for vulnerable populations in Canada is a promising approach to improve the measurement of
the well-being of Canadians at risk of being left behind—and ultimately accelerate their progress
toward the SDGs (Chapter 5).

Recommendation: Our research establishes a rationale for Canada to take a multi-tiered measurement approach where local communities and organizations working with vulnerable communities participate in gathering, governing, and using data to measure the state of their well-being in the context of the SDGs.

References

Angus Reid Institute & Rick Hansen Foundation. (2019). *Accessibility: A source of future anxiety and a significant consideration for Canadian consumers today.* https://www.rickhansen.com/sites/default/files/downloads/ari-research-jan-2019eng-final-accessible_1.pdf

Australian Government. (2018). *Report on the implementation of the sustainable development goals.* https://dfat.gov.au/aid/topics/development-issues/2030-agenda/Documents/sdg-voluntary-national-review.pdf

BC Refugee Hub. (n.d.). *GAR bulletin home page.* http://bcrefugeehub.ca/issofbc-gar-bulletins/

Canada Mortgage and Housing Corporation. (2018). *Housing conditions of persons with disabilities.* https://eppdscrmssa01.blob.core.windows.net/cmhcprodcontainer/sf/project/cmhc/pubsandreports/research-insights/research-insight-housing-conditions-persons-disabilities-69354-en.pdf?sv=2018-03-28&ss=b&srt=sco&sp=r&se=2021-05-07T03:55:04Z&st=2019-05-06T19:55:04Z&spr=https,http&sig=bFocHM6noLjK8rlhy11dy%2BkQJUBX%2BCDKzkjLHfhUIU0%3D

Canadian Community Economic Development Network (CCEDNet, n.d.). *Community data program.* https://communitydata.ca/

Canadian Index for Measuring Integration. (n.d.). *Profiles.* https://www.integrationindex.ca/

Canadian Longitudinal Study on Aging. (n.d.). *Home page.* https://datapreview.clsa-elcv.ca/mica/repository#/search?type=variable&query=dataset(in(Mica_dataset.id,(cmcq,com,tmcq,trm)))&display=list

Canadian Research Data Centre Network. (n.d.). *IMDB (longitudinal immigration database).* https://crdcn.org/datasets/imdb-longitudinal-immigration-database

Carrière C., Bougie, E. & Kohen, D. (2018). *Acute care hospitalizations for mental and behavioural disorders among First Nations people. Health Reports.* https://www150.statcan.gc.ca/n1/pub/82-003-x/2018006/article/54971-eng.pdf

Commonwealth of Australia. (2011). *2010-2020 National disability strategy.* https://www.dss.gov.au/our-responsibilities/disability-and-carers/publications-articles/policy-research/national-disability-strategy-2010-2020

Danish Government. (2017). *Report for the voluntary national review.* https://sustainabledevelopment.un.org/content/documents/16013Denmark.pdf

Development Initiatives. (2017). *The frontiers of data interoperability for sustainable development.* https://www.publishwhatyoufund.org/wp-content/uploads/2017/11/JUDS_Report_Web_061117.pdf

Elson, D. (2018). *Push no one behind* (CDP background paper No. 43). UN Department of Economic and Social Affairs. https://www.un.org/development/desa/dpad/publication/push-no-one-behind/

Feiring, B., Nolle, L., Carling, J. & Wattimena, P. (2017). *Leaving no one behind: Practical guide for Indigenous Peoples.* Asia Indigenous Peoples Pact (AIPP). https://aippnet.org/leaving-no-one-behind-practical-guide-for-indigenous-peoples/ .

First 1000 Days Australia. (n.d.). *About us.* http://www.first1000daysaustralia.org.au/first-1000-days-australia

First Nations Indigenous Governance Centre (FNIGC). (n.d.). *Home page.* https://fnigc.ca/dataonline/

Fleurbaey, M. (2018). *Priority to the furthest behind* (CDP background paper No. 42). UN Department of Economic and Social Affairs. https://www.un.org/development/desa/dpad/publication/priority-to-the-furthest-behind/

Fukuda-Parr, S. & D. McNeill (2019). Knowledge and politics in setting and measuring the SDGs: Introduction to a special issue. *Global Policy 10*(1), 5–15. https://onlinelibrary.wiley.com/doi/epdf/10.1111/1758-5899.12604

Global Partnership for Sustainable Development Data (Data4SDGs). (2018). *Interoperability data collaborative.* http://www.data4sdgs.org/initiatives/interoperability-data-collaborative

Goldstein E., Gasser, U., & Budish, R. (2018). *Data commons version 1.0: A framework to build toward AI for good.* Berkman Klein Center. https://medium.com/berkman-klein-center/data-commons-version-1-0-a-framework-to-build-toward-ai-for-good-73414d7e72be

González Moralez, L., & Orrell, T. (2017). *Data interoperability: A practitioner's guide to joining up data in the development sector.* http://www.data4sdgs.org/resources/interoperability-practitioners-guide-joining-data-development-sector

Government of Canada. (2018). *Canada's first poverty reduction strategy: Opportunity for all.* https://www.canada.ca/en/employment-social-development/programs/poverty-reduction/reports/strategy.html

Government of Canada. (2020a). *Homeless individuals and families information system.* https://www.canada.ca/en/employment-social-development/programs/homelessness/hifis.html

Government of Canada. (2020b). *Homeless individuals and families information system* (HIFIS) brochure. http://support.hifis.ca/workshop2015/HIFIS%203.8%20Brochure.pdf

Government of Canada. (2020). Sustainable Development Goals Data Hub. https://www144.statcan.gc.ca/sdg-odd/index-eng.htm

Government of Ireland. (2018). *The Sustainable Development Goals national implementation plan 2018-2020.* Department of Communications, Climate Action & Environment. https://www. dccae.gov.ie/en-ie/environment/topics/sustainable-development/sustainable-development-goals/Pages/National-Implementation-Plan-2018---2020.aspx

Government of Japan. (2017). *Japan's voluntary national review.* https://sustainabledevelopment. un.org/content/documents/16445Japan.pdf

Government of Norway. (2016). *Initial steps towards the implementation of the 2030 agenda.* https://sustainabledevelopment.un.org/content/documents/10692NORWAY%20HLPF%20 REPORT%20-%20full%20version.pdf

International Institute for Sustainable Development (IISD). (2021). *Data visualization for community indicators and the Sustainable Development Goals.* https://www.tracking-progress.org/

Inuit Tapiriit Kanatami. (n.d.). *Home page.* https://www.itk.ca/

Inuit Tapiriit Kanatami. (2021). *Canadian Inuit food security map.* https://www.itk.ca/nuluaq-mapping-project/itk-food-security-map-canada/

Ireland Department of Justice and Equality. (2017). *The migrant integration strategy.* http://www. justice.ie/en/JELR/Pages/PB19000173

Klasen, S. & Fleurbaey, M. (2018). *Leaving no one behind: Some conceptual and empirical issues* (CDP background paper No. 44). UN Department of Economic and Social Affairs. https:// www.un.org/development/desa/dpad/publication/leaving-no-one-behind-some-conceptual-and-empirical-issues/

Manitoba Métis Federation. (2010). *Métis health atlas.* http://www.mmf.mb.ca/docs/metis_health_status_report.pdf

MaRS. (2019). *Pathways towards data interoperability for SDG implementation in Canada.* https:// www.marsdd.com/research-and-insights/pathways-towards-data-interoperability-for-the-sustainable-development-goals-in-canada/

Ministry of Foreign Affairs of Denmark. (2017). *The world 2030.* http://fnnewyork.um.dk/en/denmark/sustainable-development/new-strategy---the-world-2030/

Morris S., Fawcett, Brisebois, L., & J. Hughes, J. (2018). *A demographic, employment and income profile of Canadians with disabilities aged 15 years and over.* Statistics Canada.

Ontario Council of University Libraries. (n.d.). *Scholars portal.* https://dataverse.scholarsportal. info/

Organisation for Economic Co-operation and Development (OECD). (n.d.). *What is PISA?* http://www.oecd.org/pisa/

Peg. (n.d.). *Home page.* https://www.mypeg.ca/about/

Picot G. & Lu, Y. (2017). *Chronic low income among immigrants in Canada and its communities* (Catalogue no. 11F0019M — No. 397). Statistics Canada.

Prime Minister's Office Finland. (2016). *National report on the implementation of the 2030 agenda for sustainable development.* https://sustainabledevelopment.un.org/content/documents/10611Finland_VNR.pdf

Republique Francaise. (2016). *Report on the implementation by France of the Sustainable Development Goals.* https://sustainabledevelopment.un.org/content/documents/10726Report%20SDGs%20France.pdf

Rick Hansen Foundation. (n.d.). *Disability research and reports.* https://www.rickhansen.com/news-stories/disability-information

Statistics Canada. (2015). *Regional differences in the educational outcomes of young immigrants.* (Insights on Canadian Society, 75-006-X). https://www150.statcan.gc.ca/n1/en/daily-quotidien/151118/dq151118a-eng.pdf?st=NUHcG9OU

Statistics Canada. (2016). *Aboriginal population profile, 2016 census.* https://www12.statcan.gc.ca/census-recensement/2016/dp-pd/abpopprof/details/page.cfm?Lang=E&Geo1=PR&Code1=01&Data=Count&SearchText=Canada&SearchType=Begins&B1=All&C1=All&SEX_ID=1&AGE_ID=1&RESGEO_ID=1

Statistics Canada. (2017a). *Core housing need, 2016 census.* https://www12.statcan.gc.ca/census-recensement/2016/dp-pd/chn-biml/index-eng.cfm

Statistics Canada. (2017b). *Household income in Canada: Key results from the 2016 Census.* https://www150.statcan.gc.ca/n1/en/daily-quotidien/170913/dq170913a-eng.pdf?st=Kq8QQdPy

Statistics Canada. (2017c). *Labour market experiences of Métis: Key findings from the 2017 Aboriginal Peoples Survey.* https://www150.statcan.gc.ca/n1/pub/89-653-x/89-653-x2018002-eng.htm

Statistics Canada. (2018a). *Labour market experiences of First Nations people living off reserve.* https://www150.statcan.gc.ca/n1/en/pub/89-653-x/89-653-x2018003-eng.pdf?st=sRKgyqRj

Statistics Canada. (2018b). *Labour market experiences of Inuit.* https://www150.statcan.gc.ca/n1/en/pub/89-653-x/89-653-x2018004-eng.pdf?st=4aBYK0e1

Statistics Canada. (2018c). *Key health inequalities in Canada, national portrait.* https://www.canada.ca/content/dam/phac-aspc/documents/services/publications/science-research/hir-full-report-eng_Original_version.pdf

Tarasuk, V., Mitchell, A., & Dachner, N. (2016). *Household food insecurity in Canada, 2014.* Research to Identify Policy Options To Reduce Food Insecurity (PROOF). https://proof.utoronto.ca/resources/proof-annual-reports/annual-report-2014/

Thinyane, M. (2018). *Engaging citizens for sustainable development: A data perspective.* UNU-CS. http://collections.unu.edu/eserv/UNU:6646/UNU-CS-Data_SD-Report-Engaging_Citizens-20181004-compressed.pdf

United Nations Department of Economic and Social Affairs. (2019). *Introduction to voluntary national reviews: Major groups and other stakeholders.* https://sustainabledevelopment.un.org/content/documents/21480Presentation_English.pdf

United Nations Development Programme (UNDP). (2018). *What does it mean to leave no one behind? A UNDP discussion paper and framework for implementation.* https://www.undp.org/content/undp/en/home/librarypage/poverty-reduction/what-does-it-mean-to-leave-no-one-behind-.html

United Nations Human Rights Office of the High Commissioner. (n.d.). *About migration and human rights.* https://www.ohchr.org/en/issues/migration/pages/migrationandhumanrightsindex.aspx

United Nations Sustainable Development Goals Knowledge Platform. (2021). *Norway: Voluntary national review 2021.* https://sustainabledevelopment.un.org/memberstates/norway

VanTil L. D., MacLean, M., Sweet, J., & McKinnon, K. (2018). *Understanding future needs of Canadian veterans.* Statistics Canada. https://www150.statcan.gc.ca/n1/pub/82-003-x/2018011/article/00003-eng.pdf

Wall, K. (2017). *Low income among persons with a disability in Canada.* Statistics Canada. https://www150.statcan.gc.ca/n1/pub/75-006-x/2017001/article/54854-eng.htm

IISD

iisd.org