
**Self-assessment questionnaire on the implementation of the OECD
Council Recommendation on Good Statistical Practice**

Statistics Canada

May 2018

General background

First, we would appreciate receiving brief descriptions of the National Statistical System including the following information whenever possible:

- Is the National Statistical System geographically, administratively, or institutionally centralised or decentralised?
- How many statistical operations are conducted for the production of official statistics?
- How many entities does the National Statistical System comprise?
- What are the main responsibilities of the various entities of the National Statistical System?

Response from adherent:

In Canada, providing statistics is a federal responsibility. As Canada's central statistical office, Statistics Canada is legislated to serve this function for the whole of Canada and each of the provinces and territories. The Chief Statistician of Canada is appointed by the Governor in Council to be the deputy of the Minister for the purposes of the Statistics Act. The role of the Chief Statistician is to advise on matters pertaining to statistical programs of the departments and agencies of the Government of Canada, and confer with those departments and agencies to that end; and to supervise generally the administration of the Statistics Act and control the operations and staff of Statistics Canada.

Under the *Statistics Act*, Statistics Canada is required to collect, compile, analyse, abstract and publish statistical information relating to the commercial, industrial, financial, social, economic and general activities and condition of the people of Canada.

Statistics Canada has two main objectives:

1. To provide statistical information and analysis about Canada's economic and social structure to:
 - develop and evaluate public policies and programs
 - improve public and private decision-making for the benefit of all Canadians.
2. To promote sound statistical standards and practices by:
 - using common concepts and classifications to provide better quality data.
 - working with the provinces and territories to achieve greater efficiency in data collection and less duplication.
 - reducing the burden on respondents through greater use of data sharing agreements (sources used include annual tax records, monthly employee payroll records and customs records)
 - improving statistical methods and systems through joint research studies and projects.

Although Statistics Canada is the main producer of official statistics, some provinces and territories produce statistics for their jurisdictions, and well as a small number of federal government departments (Bank of Canada, National Resources Canada). Statistics Canada conducts statistical operations in all phases of the Generic Statistical Business Process Model.

The organization is responsible for producing official statistics and reporting to Parliament in the following areas:

Program 1: Economic and Environmental Statistics

- 1.1: Macroeconomic Accounts
- 1.2: Industry Statistics
- 1.3: Economy-wide Business Statistics
- 1.4: Environmental Statistics
- 1.5: Analysis of Economic and Environmental Statistics

Program 2: Socio-economic Statistics

- 2.1: Labour, Education, Income and Tourism Statistics
- 2.2: Health and Justice Statistics
- 2.3: Demographic, Aboriginal and other Social Statistics
- 2.4: Analysis of Socio-economic Statistics

Program 3: Censuses

- 3.1: Census of Population Program
- 3.2: Census of Agriculture

Program 4: Statistical Infrastructure

- 4.1: Professional Statistical Services
- 4.2: Operational Statistical Services
- 4.3: Continuity and Quality Maintenance Program

Program 5: Cost-recovered Statistical Services

- 5.1: Cost-recovered Services related to Economic and Environmental Statistics
- 5.2: Cost-recovered Services related to Socio-economic Statistics
- 5.3: Cost-recovered Services related to the Censuses
- 5.4: Cost-recovered Services related to Statistical Infrastructure

For additional background on Statistics Canada's current context and modernization initiative, please see this supplementary document:

Recommendation 1. Adherents put in place a clear **legal and institutional framework** for official statistics which should in particular provide:

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| i) | details as to the organisation of the NSS, the legal status and role of the NSO, as well as the legal status, functions, relationship, rights and responsibilities of other institutions within the NSS; |
| ii) | a clear mandate for institutions of the NSS to collect data for statistical purposes. |

Good practice 1.1: Existence of a comprehensive and coherent statistical legislation periodically revised and amended. The statistical legislation defines the nature of official statistics; the legal framework for the compilation, production and dissemination of official statistics; the legal status, role in the system, functions, relationship, rights and responsibilities of institutions within the NSS; the mandate for data collection; the coverage of statistical activities; and the role, functions and composition of the Statistical Council. The statistical legislation also regulates the organisation of the NSS; the independence of the NSO and its head; the relationship between the producers of statistics and respondents; the access to administrative records and their use for statistical purposes; the dissemination policy; the legal infrastructure for ensuring the confidentiality and the penalties in case of breach of confidentiality; budget issues; the availability of sufficient resources for financing statistical programmes, the international statistical co-operation, and the co-ordination of statistical activities within the country's statistical system.

Good practice 1.2: Laws and regulations governing the collection, compilation and production of official statistics are consistent with the Fundamental Principles of Official Statistics of the United Nations.

Good practice 1.3: Statistical authorities have a clear mandate for data collection and the authority to compel respondents to comply with data requests (e.g. the Population and Housing Census, Agricultural Census, surveys, administrative sources, etc.). In the case of Population and Housing Census, the obligation for citizens to participate and to respond to the questionnaires is legally binding and established by law.

Good practice 1.4: Statistical authorities are required by law to conduct a Census of Population and Housing and a Census of Agriculture at least every ten years.

Good practice 1.5: Statistical laws and regulations are publicly available.

Response from adherent on Recommendation 1:

The current Statistics Act addresses many, but not all elements found in good practice 1.1. The legislation has a clear mandate (section 3) for data collection and collaboration with departments of governments. It also provides authorities to collect survey or acquire and administrative data (section 7 and 13) and contains penalties for not providing the information where required by law (Good practice 1.3 and 1.4). There are clear obligations to undertake a Census of Population or Agriculture on a mandatory basis every 5 years. The Act assigns responsibilities to the Chief Statistician (section 4) to provide advice to producers of statistics and to oversee the Act. The Act also provides for a confidentiality provision to protect the

information and ensure that any dissemination of information would not identify an individual, business or organization (section 17). The Statistics Act's strength is found in its clear confidentiality provision and mandate to collect data.

Statistics Canada makes available to the public, its legislation and supporting governance documents (Good practice 1.5).

There are however legislative gaps that are currently being addressed with the review of the Act. The amendments to the Act, if assent is provided, would provide for the Chief Statistician independence from political interference and create in law a Canadian Statistics Advisory Council. The elements left to be addressed to align with good practice 1.1 relate to international statistical cooperation and budget considerations. Although Statistics Canada addresses these elements in other governance instruments, they are not provisions found in the law. Other areas under review with the amendments to the Act relate to clarifying Statistics Canada's role in the National Statistical System and the production of official statistics.

In addition, although the Statistics Act does not specifically refer to the Fundamental Principles of Official Statistic of the United Nations, Statistics Canada incorporates these principles in its statistical activities.

In regards to Good practice 1.2, as a member of the UN statistical community and as an active participant in the activities of the United Nations Statistical Commission, Statistics Canada fully supports the Fundamental Principles of Official Statistics. This is described in the video available on Statistics Canada's website, and is described in the following document:

<http://www.statcan.gc.ca/eng/sc/video/fpos>

[Compendium of Management Practices for Statistical Organizations from Statistics Canada's International Statistical Fellowship Program \(11-634-X\)](#)

Recommendation 2. Adherents ensure professional independence of National Statistical Authorities. To this end, Adherents should ensure that the National Statistical Authorities:

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| <ul style="list-style-type: none">i) are professionally independent from other policy, regulatory or administrative departments and bodies, as well as from private sector operators, considering that professional independence of the producers of official statistics is essential for the production and the dissemination of objective statistics;ii) have the exclusive authority, as part of their professional independence, to decide on statistical methods and dissemination;iii) are protected, through the inclusion of explicit provisions in statistics legislation, from political and other interference in developing, compiling and disseminating official statistics. |
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Good practice 2.1: The professional independence of the Statistical Authorities from other policy, regulatory or administrative departments and bodies, as well as from private sector

operators in compiling and disseminating official statistics is explicitly guaranteed by law, and ensured in practice by all entities of the NSS.

Good practice 2.2 (adopted from the European Statistics Code of Practice): The Head of the NSO, and where appropriate, the heads of other National Statistical Authorities, have responsibility for ensuring that statistics are developed, produced and disseminated in an independent manner.

Good practice 2.3 (adopted from the European Statistics Code of Practice): The Head of the NSO, and where appropriate, the heads of other National Statistical Authorities, have the sole responsibility for deciding on statistical methods, standards and procedures, and on content and timing of statistical releases.

Good practice 2.4 (adopted from the European Statistics Code of Practice): The Head of the NSO, and where appropriate, the heads of other National Statistical Authorities, have sufficiently high hierarchical standing to ensure senior level access to policy authorities and administrative public bodies. They are of the highest professional calibre.

Good practice 2.5 (adopted from the European Statistics Code of Practice): The appointment of the Head of the NSO and, where appropriate, the heads of other National Statistical Authorities, is based on professional competences only. The reasons on the basis of which the incumbency can be terminated are specified in the legal framework. These cannot include reasons compromising professional or scientific independence.

Good practice 2.6: National legislation provides a clear and detailed description of the procedure for appointment and dismissal of the Head of NSO. A list of conditions under which the Head of NSO can be dismissed is provided for by law.

Good practice 2.7: A clear reporting system for the Head of NSO is provided by law in order to ensure and reinforce its technical independence.

Good practice 2.8 (adopted from the European Statistics Code of Practice): The statistical work programmes are published and periodic reports describe progress made.

Good practice 2.9 (adopted from the European Statistics Code of Practice): Statistical releases are clearly distinguished and issued separately from political/policy statements.

Good practice 2.10 (adopted from the European Statistics Code of Practice): The NSO, and where appropriate, other Statistical Authorities, comment publicly on statistical issues, including criticisms and misuses of statistics as far as considered suitable.

Good practice 2.11: Data collection, data production, and release of information are ensured without formal approval from third parties.

Good practice 2.12: A Statistical Council including external experts advises the Heads of National Statistical Authorities on strategic statistical issues. The nature of the Statistical Council and the reporting arrangements to government are provided for by law.

Response from adherent on Recommendation 2:

As mentioned by the OECD in its 2016 recommendation document following its analysis of the *Statistics Act*, there is no reference in the current legislation regarding the independence of the statistical agency from other bodies, although the practice has always been for Statistics Canada to operate at arm’s length from other bodies. Indeed, although the current Act allocates a number of operational tasks to the Minister, most of these are in reality accomplished by the Chief Statistician and his staff.

In December 2016, the *Act to modify the Statistics Act* was introduced in Parliament (Bill C-36). The primary aim of that Bill is to codify in legislation the independence of Statistics Canada (GP 2.1 and 2.2). Under Bill C-36, a number of duties that are assigned to the Minister in the current Act are being transferred to the Chief Statistician (see new S. 4(5)), primarily the power regarding:

- “-the collection, compilation, analysis, abstraction and publication of statistical information that is produced or is to be produced by Statistics Canada,
- the content of statistical releases and publications issued by Statistics Canada, and
- the timing and methods of dissemination of statistics compiled by Statistics Canada.”

Under Bill C-36, only the Governor in Council can issue a directive to the Chief Statistician on methods, procedures and operations (see new proposed S.4.1 in Bill C-36).

In both the current Act and Bill C-36, the Chief Statistician reports to a minister. The table below summarizes the allocation of powers between the Chief Statistician and the Minister in accordance with the dispositions of Bill C-36 (GP 2.2, 2.3, 2.7 and 2.11).

| <u>Chief Statistician</u> | <u>Minister</u> |
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| 4(5): statistical methods and operation, staff | 5(2): use of employees from federal departments to provide a service to Statistics Canada |
| 4(6): annual report to Minister | 10: use of employees from the provincial/territorial governments to provide a service to Statistics Canada |
| 5(1): hiring interviewers | 11: data-sharing agreements with provincial/territorial statistical agencies (with Governor in Council approval) |
| 5(3): contracting with incorporated contractors | 12: data-sharing agreements with departments and corporations (delegated to the Chief Statistician) |
| 6: oaths | 16: remuneration of interviewers (with Governor in Council’s approval) |
| 7: requests for information (data collection) | 19 to 21: Census content (with the Governor in Council) |
| 8: mandatory or voluntary nature of the data collection | |
| 13: administrative data requests | |
| 17(2): discretionary disclosure orders | |
| 22: collect, compile, analyse, abstract and publish statistics in relation to the topics listed in the Act or as required by the Minister or the Governor in Council | |

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| <p>23 and 26 to 29: determining the method and timing of data collection</p> | <p>22: topics on which statistics are to be produced</p> <p>24: agreement with Canada Revenue Agency</p> <p>25: agreement to obtain import/export data</p> <p>26 to 29: requesting justice/criminal data</p> |
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With regards to the hierarchical standing of the Chief Statistician, he has the rank of a deputy minister, which ensures access to administrative public bodies (GP 2.4).

Neither the current Act nor the Bill spell out the appointment process to the Chief Statistician (GP 2.5, 2.6). However, since appointment is done by the Governor in Council, the criteria applicable to such appointments would be used to appoint the Chief Statistician. The Government of Canada provides information on Governor in Council appointments at the following addresses:

<https://www.appointments-nominations.gc.ca/prsnt.asp?page=approt>

<http://bcp.gc.ca/index.asp?lang=eng&page=secretariats&sub=oic-ddc&doc=procedure-processus-eng.htm>.

In the current Act, the Chief Statistician holds office during pleasure, thus allowing the government to terminate the appointment without justification. Bill C-36 creates new section 4(2) that states that the Chief Statistician holds office for a renewable term (once) of five (5) years during good behaviour.

Statistics Canada publishes the list of all of its statistical programs and periodic reports on progress (GP 2.8). The following page provides links to all the statistical program <http://www23.statcan.gc.ca/imdb-bmdi/pub/indexth-eng.htm>. In addition, Statistics Canada produces the following periodic reports on progress, which can also be found on the Internet: Corporate Business plan:

<http://www.statcan.gc.ca/eng/about/bp> and the Departmental Performance report:

<http://www.statcan.gc.ca/eng/about/dpr/2015-2016/index>.

The Daily is Statistics Canada's official release vehicle. It supports the agency's mandate to publish statistical information on Canada's economy and society. Releases are announced ahead of time, and the dissemination of main indicators follow a regular publication/revision schedule that is known to the public and closely observed (GP 2.9).

Statistics Canada communicates with media news when they introduce errors while referring to information produced by the Agency, and asks that they be corrected. In addition, the following licences used in the dissemination of non-confidential information contain terms that clearly spell out the user's obligations, and Statistics Canada's right to address any breach of the licence terms.

1) Statistics Canada's Open Licence Agreement, which applies to any third party using and publishing majority of Statistics Canada data, states that the user shall:

- reproduce the Information accurately;

- not use the Information in a way that suggests that Statistics Canada endorses you or your use of the Information;
- not misrepresent the Information or its source;
- use the Information in a manner that does not breach or infringe any applicable laws;
- not merge or link the Information with any other databases for the purpose of attempting to identify an individual person, business or organization; and
- not present the Information in such a manner that gives the appearance that you may have received, or had access to, information held by Statistics Canada about any identifiable individual person, business or organization.

2) The Public Use Microdata File Licence also includes specific requirements related to the use of the data. These licence agreements provide Statistics Canada with the required authority to comment publicly if required.

The current Act makes no mention of the requirement to have a statistics council, however the National Statistics Council had that role for approximately 30 years, in addition to 13 separate advisory committees that specialize on various topics (GP 2.12). Bill C-36 creates the Canadian Statistics Advisory Council (see proposed S.8.1 of the Bill). The Council’s roles are “to advise the Minister and Chief Statistician in a transparent manner on any question that either of them has referred to the Council on the overall quality of the national statistical system, including the relevance, accuracy, accessibility and timeliness of its data; and to make public an annual report on the state of the national statistical system.”

Recommendation 3. Adherents ensure adequacy of human, financial and technical resources available for the production and dissemination of official statistics. To this end, Adherents should ensure that resources are:

- i) sufficient to allow National Statistical Authorities to meet their commitment to quality, and to meet professional standards thereby fulfilling their role as providers of reliable, relevant and accessible data for national and international use;
- ii) adequate to produce a minimum core set of data, to be defined nationally or internationally, to monitor the economy, society and the environment.

Response from adherent on Recommendation 3:

Good practice 3.1: National Statistical Authorities have sufficient funding for statistical production and dissemination, to support staff training, to develop computing resources, and to implement innovation. Resources are adequate in magnitude and in quality to meet statistical needs.

Response: Statistics Canada has two main sources of funding: annual parliamentary appropriations (historical annual average between \$500 million and \$800 million) and funding from external partners (historical annual average of \$100 million). The Census Program is funded through special Treasury Board Submissions on a five year cycle.

In Canada, the [Financial Administration Act](#) (FAA) provides the cornerstone of the legal framework for financial management within the federal government. The FAA gives the Treasury Board Secretariat (central agency of the Government of Canada) the authority over financial management matters and other matters relating to the prudent and effective use of public resources. It provides advice and makes recommendations to the Treasury Board committee of ministers on how the government spends money on programs and services, how it regulates and how it is managed. This is done by approving financial management policies, allocating financial resources, and overseeing departmental performance.

Statistics Canada has effective IT management practices in place to manage risks associated with aging applications and technologies. These practices are built on three pillars: 1. a long-term investment plan, as part of its integrated strategic plan to support the changes required to maintain the continuity and quality of statistical programs, including refreshing IT technologies (software, hardware) before they become aging IT risks; an ongoing process for application portfolio management that evaluates each application's use, function, age, and technology risk. Inventorying and assessing the organization's application portfolio provide an effective means of evaluating the business and technical value of applications and of making informed decisions about investments in the areas of risk and of greatest opportunity for both IT and business.; and an application retirement plan (known as System Roadmap) with target decommissioning dates for obsolete IT technologies that vendors no longer support or expect to no longer support in the future and for applications that become redundant once all surveys have migrated to the common solutions.

Statistics Canada has a long history of innovation and experimentation. Funding for implementation of innovative initiatives is allocated as part of the Integrated Strategic Planning Process. For example, the agency has a number of initiatives underway, including using satellite imagery to gather data on crop yields, web scraping to collect price information and crowdsourcing to map buildings. Statistics Canada is also expanding its environment statistics program to cover the production and use of clean technologies. This will help track progress toward the government's clean technology objectives and support the Innovation Agenda.

Statistics Canada has a strong presence in the international statistical community. The agency works with international organizations and expert groups to gain and share knowledge and insight. The 2030 Agenda for Sustainable Development requires strong statistical underpinnings to ensure good governance and accountable institutions. As a member of the Inter-agency Expert Group on Sustainable Development Goal Indicators, Statistics Canada will contribute to developing a robust global indicator framework. This work directly supports the Government of Canada's Innovation Agenda and its objectives to have an inclusive and fair Canada, a clean economy, and an open and transparent government.

Good practice 3.2: The adequacy of resources is regularly monitored.

Response: Statistics Canada is organized by subject matter and service areas and by centralized centres of expertise in order to optimize resource utilization. Centres of expertise include IT systems development, data collection and processing, and methodology. The various areas work

together on specific deliverables within the agency's matrix-management framework. Under this approach, resources and related budgets are allocated and controlled on two axes: a functional axis and a program axis. Matrix management requires that a strong analytical accounting capability be in place to support budgeting decisions and monitoring of outcomes.

The Integrated Strategic Planning Process (ISPP) focuses our planning around the development of a 10 Year Investment Outlook which includes all projects of at least \$150,000. A key component of the 10 Year Investment Outlook is the Continuity and Quality Maintenance Investment Plan.

As part of the Integrated Strategic Planning Process, managers must develop a 10-year financial plan to ensure that the statistical agency continues to fulfill its mission and mandate into the future. This process includes reviewing the base budget from government appropriations, proposing strategic investments, and confirming external funding for work carried out on a cost-recovery basis. This plan specifically refers to those investments necessary to maintain the continuity and quality of our existing programs, so that the Agency remains current with evolving methods, standards and informatics systems and infrastructure. For some strategic or cyclical investments (e.g., Census of Population and Census of Agriculture), it may also be necessary to develop a business case to request additional funding from the federal government (through a Treasury Board Submission, that is an official Cabinet document seeking specific authorities or approvals from the Treasury Board, usually to authorize the implementation of a program or project or to execute a major procurement in support of government operations).

An integrated analysis of financial, human-resource and IT availabilities over a 10-year horizon provides a key tool for managers to ensure that all project approvals, many of which constitute multi-year investments, are made in the context of future operational requirements. This analysis also helps managers to project the availability of and demand for funding.

Regular financial reviews are carried out on a functional basis (monthly) and on a program basis (quarterly) to provide robust oversight and control of funds, from both cash- and cost-accounting perspectives. The financially delegated managers, who sponsor and supply resources, sign off on these reviews because they are ultimately accountable for the financial management of these delegated resources and the related program outcomes.

[The Policy on Results](#) sets out the fundamental requirements for Canadian federal departmental accountability for performance information and evaluation, while highlighting the importance of results in management and expenditure decision making, as well as public reporting. The objectives of this policy are to: improve the achievement of results across government; and enhance the understanding of the results government seeks to achieve, does achieve, and the resources used to achieve them.

Good practice 3.3 (adopted from the European Statistics Code of Practice): The scope, detail and costs of statistics are commensurate with needs.

Response: To adequately inform decisions and public debate, National Statistical Offices (NSOs) need to provide credible statistical information to the public. Credibility can be achieved only if users have faith in the quality of the data produced and in the integrity of the statistical system. Statistics Canada's reputation as an independent source of trustworthy information could be undermined if the quality of its statistical products is suspect; effective quality management is, therefore, imperative.

[Statistics Canada's Quality Assurance Framework](#) (QAF) serves as the highest-level governance tool for quality management at Statistics Canada. The QAF provides an overview of the approach used to support statistical program areas as they strive to achieve an appropriate balance between the various dimensions of quality and related factors, including the evolving needs of users, costs and respondent burden.

While there are several general definitions of "quality" in the statistical context, one of the most succinct and commonly used definitions is **fitness for use** or **fitness for purpose**. In other words, the concept of data quality refers to **the degree to which a set of inherent characteristics fulfils requirements**. It is generally recognized that the quality of statistical information is multi-dimensional and cannot be measured through a single dimension.

The six generally accepted dimensions, or components, of data quality are the following:

- **Relevance:** the degree to which information meets the needs or requirements of clients, users, stakeholders or the audience.
- **Accuracy and reliability:** the degree of closeness of estimates to true values.
- **Timeliness and punctuality:** Timeliness refers to how fast the data are released or made available, while punctuality refers to whether data are delivered on the dates promised, advertised or announced.
- **Accessibility and clarity:** the degree to which statistics can be found or obtained without difficulty. Data are presented clearly and in such a way that they can be accessed and understood, by all types of users, on an impartial and equal basis. The data are available in various convenient formats, as well as affordable, if not offered free of charge.
- **Coherence and comparability:** statistics should be consistent internally and comparable over time, and should be produced using common standards with respect to scope, definitions, classifications and units.
- **Interpretability and metadata:** information about the underlying concepts, variables and classifications used, the methodology of data collection and processing, and indications of quality of the statistical information are available for users.

Other dimensions of quality, such as integrity, topicality, serviceability and methodological soundness, can also be considered or included as a subset of the above dimensions. It is important to note that these dimensions are complementary and balanced with one another. Finally, it can be argued that **the relevance dimension is paramount**. If the information that is produced responds to the needs of users, the other dimensions become very important. If it does not, the other dimensions are irrelevant.

Good practice 3.4 (adopted from the European Statistics Code of Practice): Procedures exist to assess and justify demands for new statistics against their cost.

Response: One important mechanism used by Statistics Canada for assessing and justifying demand for new statistics is through the provision of professional services on a cost-recovery basis. The willingness of a client to pay for new data collection is an indicator of relevance. The rationale behind these cost-recovery services is that they contribute to enhancing the overall quality of the agency's statistical programs. In fact, without the ability to respond quickly to other organizations' needs, Statistics Canada could be at risk of missing opportunities to increase the relevance of its activities. In other words, cost recovery of statistical services provides an opportunity to fill data gaps that could remain unfilled if the agency does not receive directly the budgets necessary to address them, or if existing surveys cannot respond to information needs. Cost-recovery projects are a way to increase relevance and answer data users' needs by providing them with high-quality information.

Cost-recovery projects allow Statistics Canada to support a more integrated statistical system by avoiding duplication and offering the opportunity to occupy a space that would, otherwise, be spread across the National Statistical System (NSS) or outside of it, thereby allowing the agency to have an implicit, enhanced way to coordinate the NSS. It is important, however, that cost-recovery projects be congruent with the mandate and ongoing activities of the agency. They should be seen as activities that the agency might carry out of its own volition if it had the financial resources to do so.

For efficiency purposes, Statistics Canada is also considering, more and more strategically, the use of administrative data and other alternative data sources (big data). It should be systematic to, first, see whether any administrative or alternative data exist, or can be combined with existing data collection. If this is not the case, then one can consider a new survey project.

Finally, the Agency can also seek additional funding for new statistical from the federal government through a Treasury Board Submission, that is, an official Cabinet document seeking specific authorities or approvals from the Treasury Board (TB). The objective of the TB submission process is to ensure that initiatives are aligned with Government of Canada priorities and that they are designed, implemented and delivered to realize their intended results, while achieving value for money. This contributes to a government that is well-managed, efficient and accountable, and whose resources are allocated to achieve desired results. Submissions also provide valuable insight into an organization's activities, help to ensure that both existing and new resources are aligned to current priorities, and contribute to the assessment of its management performance by the Treasury Board and the Secretariat.

Good practice 3.5 (adopted from the European Statistics Code of Practice): Procedures exist to assess the continuing need for all statistics, to see if any can be discontinued or curtailed to free up resources.

Response: Information produced by National Statistical Offices (NSOs) must be relevant and must inform programs and policies, the socio-economic environment, and the public economic and social debate. Information needs are constantly changing and are becoming more and more sophisticated. As a result, Statistics Canada is constantly adapting to changes to ensure

relevance. To reach that goal, the agency has to understand its stakeholders and its users' needs. It is important to consult stakeholders and users for the following reasons:

- They contribute to identifying data gaps in statistical programs;
- They participate in consultations as new surveys are developed or existing surveys are improved;
- They provide data;
- They provide administrative data files that can be used to complement survey programs;
- They use data to inform programs and policies.

Statistics Canada understands the importance of meeting users' needs. This is a requirement under the [Statistics Act](#). As the core of a centralized statistical system, Statistics Canada has the obligation to serve all statistical needs, to the greatest extent possible, among levels of government, research communities, businesses and the general public. Statistics Canada also benefits from a dozen formally constituted professional advisory committees covering such fields as demography, labour and income statistics, international trade, science and technology, etc. At the apex of the consultative arrangements sits the National Statistics Council, whose members are appointed by the Minister Responsible for Statistics Canada and whose mandate is to advise the Chief Statistician in setting priorities and rationalizing Statistics Canada programs.

Statistics Canada always endeavors to find out what information users need. While the statistical organization will inevitably have to make difficult choices among competing demands for information in a context of limited resources, these choices must be backed by solid knowledge, based on high-level consultations with users and experts, of the policy implications of each competing demand. Such knowledge is an essential input to successful strategic planning. Here are the principles that should guide statistical organizations' relationships with their users:

The quality of the information produced must also be properly defined to users. That is essential for users to be able to assess fitness for purpose and to uphold the credibility of the organization. Regular exchanges with users, particularly on issues of relevance and quality, establish and maintain trust and legitimacy in the eyes of users and respondents. This trust often leads to additional requests for statistical data produced for users on a cost-recovery basis; that is, for a fee. To maintain the reputation of a neutral, professional organization, Statistics Canada can take on this work only if it has the required capacity and the work is congruent to the national statistical agency's mandate and adds value to the national statistical system.

Quality is assessed through multiple means: self-assessments, audits, peer reviews or certification processes. There has been a long tradition of assessing statistical quality at Statistics Canada. Through the 1990s and early 2000s, this was done by means of the Quality Assurance Framework. User feedback has also been an important feature in quality assessment at Statistics Canada, directly reflecting the relevance, coherence, accessibility, interpretability and timeliness of statistical products. In 2006, the agency started conducting quality assurance reviews, which were aimed at identifying risks to data quality, and sharing good practices to mitigate those risks.

Independent program evaluations conducted by a specialized internal organizational unit that follows a formal protocol to evaluate relevance, quality and efficiency were reinitiated in 2011, following a period during which this function was carried out by program managers as part of their ongoing responsibilities. Recently, beginning in 2015, the focus has been on strengthening the quality assessment aspect of Program Evaluation, particularly with regard to how the implementation and execution of statistical programs is assessed.

Good practice 3.6 (adopted from the European Statistics Code of Practice): National Statistical Authorities implement a policy of continuous vocational training for their staff.

Response: For national statistical agencies to fulfill their mandate, they must recognize, first and foremost, that their staff are their most important asset. Within the Canadian legislative context, Statistics Canada employees are hired under two important legislative frameworks: 1) the [Public Service Employment Act](#) (PSEA), which targets public servants; and 2) the [Statistics Act](#), which covers employees of Statistical Survey Operations and those working on census activities. The PSEA provides a more integrated approach to HR planning and aligning staffing with business needs and budgets. It also calls for managers to be responsible and accountable for their staffing.

For Statistics Canada to fulfill its mission and meet its strategic objectives, its human resources (HR) strategy strives to have the right people in the right positions; employees with the necessary competencies and skills to do their job; and a competent workforce at all times. Statistics Canada has a governance structure that ensures an integrated approach to strategic priority setting, decision-making and accountability. HR management is driven by committees of line managers representing each major field of operation, supported by HR professionals. This structure promotes consistent HR management practices.

Over time, the HR management strategy has fostered a sense of community that helps motivate employees, promotes productivity and innovation, supports bilingualism and encourages career advancement. This strategy has led to some key HR initiatives, including centralized recruitment of university and college graduates, mentoring programs, career counsellors, workplace wellness initiatives, and an on-site training institute that provides in-house training, including language training. This strategy has inspired great trust and a sense of belonging, encouraging employees to stay with the agency throughout their career.

The objective of learning and development management is to establish a culture of continuous learning and to provide training so that there are cohorts of flexible, versatile and mobile employees at every level of the agency. Furthermore, learning and development planning is an integral part of the annual evaluation process aimed at improving the employees' competencies. This planning is done when the annual learning plan is prepared, along with the objectives and performance agreement.

Employees have learning and development choices, depending on their field of work (occupational group) and the level of their position. They are encouraged to take a specific training path, but there is some latitude that allows them to determine their personal learning objectives.

Employees have access to formal and informal learning activities. Formal activities refer to classroom or online training and special assignments. There are different types of training: statistical training, subject-matter training, language training (to improve skills in either official language), IT training, basic training (orientation, general and sometimes functional competencies), management or leadership training. There is also mandatory training for new recruits, in particular on complying with the agency's security and confidentiality regulations.

Specialized training related to the agency's mandate is also offered within Statistics Canada. However, training on general competencies, government practices, management or leadership, for example, is offered by the [Canada School of Public Service](#), since these courses meet needs that are common to all federal public servants who would like to develop in these areas.

Informal training includes networking opportunities, national and international conferences, being a member of a working group or committee, and mentoring.

Recommendation 4. Adherents protect the privacy of data providers (including individuals, households, enterprises, administrations and all levels of government) and guarantee by law the confidentiality of the individual information provided and its use for statistical purposes.

Good practice 4.1 (adopted from the European Statistics Code of Practice): Statistical confidentiality is guaranteed by law.

Good practice 4.2: Specific measures are in place to ensure the full protection of individual data from any potential disclosure without consent, with the aim to ensure the confidence of data providers in participating in statistical surveys: written instructions and internal guidelines are provided to statistical authority staff on the full protection of statistical confidentiality in the production and dissemination processes; appropriate penalties are prescribed for wilful breach of confidentiality and for any disclosure of individual data of a private nature that could infringe upon private life. These penalties are well-known to statistical staff and new employees sign legal confidentiality commitment upon appointment.

Good practice 4.3 (adopted from the European Statistics Code of Practice): The confidentiality policy is made known to the public.

Good practice 4.4 (adopted from the European Statistics Code of Practice): Physical, technological administrative and organisational provisions are in place to protect the security and integrity of statistical databases.

Good practice 4.5: Provisions are in place and internal guidelines are available to allow external users access to micro-data for statistical research purposes under strict protocols and only after anonymization of the data.

Good practice 4.6: Privacy issues as regards the use of new data sources (e.g. social network data) are identified and procedures are implemented to guarantee statistical confidentiality.

Response from adherent on Recommendation 4:

Good practice 4.1 - Subsection 17(1) of the current *Statistics Act* obligates Statistics Canada to protect confidentiality of information collected. The Act establishes the rigorous legal obligation for the Agency to keep the respondent's information in trust. The legislation makes a formal commitment to respondents that the information they provide will never be released to anyone in a form that will identify them without their authorization.

There are two other provisions in the Act that underline the core character of the confidentiality commitment the Agency makes to its respondents and reinforce its application in actual practice. One provides that each employee swears an oath (section 6) not to divulge confidential information and the other provides penalties (Sections 30 and 34) for breaches of confidentiality. The oath must be administered, in person, by a person with sub-delegated authority on an employee's first day as a public servant.

Good practice 4.2 – Statistics Canada has strict measures and safeguards in place which ensures complete protection of all confidential microdata. Confidential information is housed in high security zones areas and access to these zones are limited to authorized and appropriately screened personnel and on a need-to-know basis. Access to computer systems and equipment is controlled by using IT accounts and passwords and is managed via access control processes. Basic-level access controls are mandatory and apply to all computing platforms. The following policies and directives outline roles and responsibilities of all senior managers with respect to accessing, control, management and use of sensitive information that must be protected as required by the *Statistics Act*, *Privacy Act* and Government of Canada wide Policy on Government Security

- Directive on the Security of Sensitive Statistical Information
- Directive on the Transmission of Protected Information
- Policy on Microdata Access
- Directive on the Management of Statistical Microdata Files
- Security Practices Manual
- Directive on Discretionary Disclosure

In line with **good practice 4.3**, Statistics Canada's website contains an information portal for our survey respondents. This portal lists all our surveys, how their survey information will be used and the strict confidentiality provisions that protect the collected information from unauthorized access. The public is also made aware that all Statistics Canada employees are responsible for ensuring the security of confidential information. The portal also informs the public that only employees who need to view confidential files as part of their duties are authorized to access them. Additionally, a network of physical security systems and procedures protects confidential information from unauthorized access.

The Agency's website also includes a [Privacy Notice](#) page which informs the public on the privacy legislation requirement; including that all personal information created, held or collected by Statistics Canada is protected by the [Privacy Act](#) and by the [Statistics Act](#) in the case of respondents to our surveys. It also describes [Microdata linkage at Statistics Canada](#), what microdata linkage is, and how it is used as well as a description of approved microdata linkages.

Regarding **good practice 4.4**, Statistics Canada is required to protect the confidential information in accordance with the Federal Policy on Government Security. As such the Agency ensures that physical measures in accordance with the Royal Mounted Police specifications, and IT measures are in accordance with the Communications Security Establishment Canada specifications are respected by all employees.

In addressing **good practice 4.5**, sub-sections 5(2) and 5(3) of the current *Statistics Act* makes provision for the Minister to use the services of persons or contractors, as well as public servants, to carry out any function or perform work pursuant to the *Statistics Act*. These persons - contractors, federal public servants or provincial or territorial officers - are deemed to be employed under the *Statistics Act* and must take the oath of secrecy prior to accessing de-identified micro-data. Deemed employees of Statistics Canada are subject to the same penalties as employees under the *Statistics Act*.

In addition to the use of deemed employees, section 12 of the current *Statistics Act* provides for the sharing of survey information collected from respondents with any department, municipal office or corporation provided that respondents agree to the sharing of the information which will be used for subsequent tabulation. Statistics Canada is required to enter into an agreement with the data sharing partner outlining the confidentiality provisions and use of information disclosed for statistical and research purposes only. Information from our household surveys and provided under these conditions does not usually include direct identifiers.

Statistics Canada regularly reviews new issues related to privacy especially as it pertains to the use of administrative as well as 'Big Data'. There are directives and policies in place pertaining to how we acquire, protect and use administrative data. This addresses the elements identified in **4.6**. In summary, Statistics Canada is prohibited by law from releasing any information it collects which could identify any person, business, or organization, unless consent has been given by the respondent or as permitted elsewhere by the *Statistics Act*, such as with the permission of the data provider.

Recommendation 5. Adherents ensure the right to access administrative sources to produce official statistics. To this end, Adherents should ensure that:

- i) National Statistical Authorities have the right to access administrative data for the regular production of official statistics and to use them in the interest of ensuring quality of official statistics, raising the analytical value of official statistics, reducing burden on survey respondents and reducing cost of statistical programmes;
- ii) National Statistical Authorities co-operate with owners of administrative records as regards their statistical quality and have authority to influence their design to ensure they are fit for statistical purposes.

Good practice 5.1: The Statistical Authorities are authorised by law to use administrative records for the regular production of official statistics.

Good practice 5.2: Administrative sources are used whenever possible and cost-effective to avoid duplicating request for information and reduce reliance on direct surveys.

Good practice 5.3 (adopted from the European Statistics Code of Practice): National Statistical Authorities are involved in the design of administrative data in order to make administrative data more suitable for statistical purposes.

Good practice 5.4 (adopted from the European Statistics Code of Practice): National Statistical Authorities co-operate with owners of administrative data in assuring data quality.

Good practice 5.5 (adopted from the European Statistics Code of Practice): Agreements are made with owners of administrative records which set out their shared commitment to the use of these data for statistical purposes.

Good practice 5.6: Recommended practices are available for the reporting and presentation of administrative data.

Good practice 5.7: Linking administrative data with survey data is encouraged by National Statistical Authorities with the aim of reducing the burden on respondents, reducing the costs in producing official statistics, and increasing the analytical value of official statistics.

Response from adherent on Recommendation 5:

Good practice 5.1: The Statistical Authorities are authorised by law to use administrative records for the regular production of official statistics.

Response: The *Statistics Act*, specifically Section 13, authorizes Statistics Canada to obtain any documents or records maintained by other organisations.

Section 13 of the Act in its entirety:

A person having the custody or charge of any documents or records that are maintained in any department or in any municipal office, corporation, business or organization, from which information sought in respect of the objects of this Act can be obtained or that would aid in the completion or correction of that information, shall grant access thereto for those purposes to a person authorized by the Chief Statistician to obtain that information or aid in the completion or correction of that information.

- 1970-71-72, c. 15, s. 12.

Further, Section 3 of the Act states that Statistics Canada will collaborate with other government departments and promote the avoidance of duplication in information collected.

Section 3 of the Act in its entirety:

There shall continue to be a statistics bureau under the Minister, to be known as Statistics Canada, the duties of which are

- (a) to collect, compile, analyse, abstract and publish statistical information relating to the commercial, industrial, financial, social, economic and general activities and condition of the people;

- **(b) to collaborate with departments of government in the collection, compilation and publication of statistical information, including statistics derived from the activities of those departments;**
- (c) to take the census of population of Canada and the census of agriculture of Canada as provided in this Act;
- **(d) to promote the avoidance of duplication in the information collected by departments of government; and**
- (e) generally, to promote and develop integrated social and economic statistics pertaining to the whole of Canada and to each of the provinces thereof and to coordinate plans for the integration of those statistics.

1970-71-72, c. 15, s. 3.

Statistics Canada Policy on the Use of Administrative Data Obtained under the Statistics Act published December 2, 2015 contains detailed information on the use of “administrative data” for statistical purposes.

The Statistics Canada definition of administrative data is as follows:

“Information that is collected by other organizations and departments for their own purposes, and is sought, at the micro or aggregate level, by Statistics Canada in respect to the objects of the *Statistics Act*. It excludes data that do not pertain to Canadian society, economy or environment. By definition, Statistics Canada’s use of this information for statistical purposes is secondary to the objective of the original collector of the information. Administrative data include the traditional sources, for example, various data sets received from the Canada Revenue Agency, and also alternative sources, such as data obtained from surveys conducted by others without Statistics Canada’s involvement and data generated by electronic devices (e.g., satellites, sensors, scanners, mobile phones) that are gathered by other organizations.

Exclusions: Administrative data should not be confused with products that may be obtained from other organizations such as publications, reports, guides, metadata and computer programs. They also exclude data or information that is available to the public, including on the Internet, or data that can be obtained, under licence or not, by anyone, with or without a fee”.

As it relates to the Administrative Data exclusions from the above definition, Statistics Canada recently published an internal working document on guidelines for “obtaining data available to the public”.

The objective of this policy is to maximize the efficiency and effectiveness of the use of administrative data in Statistics Canada's statistical programs. Statistics Canada achieves this objective through a corporate strategy intended to influence, access, use, and manage the administrative data supplied to Statistics Canada, and to maintain public trust while doing so.

Expected results under application of the policy:

- Statistics Canada identifies, influences, and increasingly gains access to administrative data sources for statistical purposes.

- Statistics Canada undertakes new or revised data collection activity only when it is satisfied that the statistical needs cannot be met effectively using administrative data.
- Statistics Canada uses corporately-recognized quality assurance processes to assess the fitness for use of administrative data in its statistical programs.
- The statistical use of administrative data results in an overall better balance among response burden, costs, data quality, and the relevance of statistical outputs for users.
- Statistics Canada takes a collaborative approach to data providers and treats them consistently across statistical programs in regard to the application of the *Statistics Act*.
- Statistics Canada does not enter into agreements that place undue restrictions on its statistical use of the data, unless an exemption has been granted by the Chief Statistician; in principle administrative data obtained under the *Statistics Act* is a corporate resource available to all statistical programs with a demonstrated need.
- Statistics Canada appropriately documents the agreements with data providers.
- Statistics Canada identifies an administrative data custodian for each administrative data source, to obtain and manage access to the data on behalf of Statistics Canada.
- Statistics Canada documents all administrative data obtained for use in the statistical programs of Statistics Canada in a corporate inventory.
- Statistics Canada provides researchers with equitable, timely and secure access to identifiable administrative data.
- Statistics Canada communicates its statistical use of administrative data to stakeholders and the public in a proactive, coherent and transparent manner.
- Statistics Canada assesses and reports on the data quality and methodology of statistical outputs that use administrative data.
- Statistics Canada's use of administrative data complies with all relevant legislation and government policy, including but not limited to the *Statistics Act*, the *Privacy Act*, the *Access to Information Act*, the *Income Tax Act*, the *Government of Canada Policy on Privacy Protection* and the *Government of Canada Contracting Policy*.

Link to Statistics Canada Policy on the Use of Administrative Data Obtained under the Statistics Act in its entirety:

http://www.statcan.gc.ca/eng/about/policy/admin_data

Good practice 5.2: Administrative sources are used whenever possible and cost-effective to avoid duplicating request for information and reduce reliance on direct surveys.

Response: Statistics Canada created the Administrative Data Secretariat (ADS) in September 2012 in response to the requirement to exploit administrative data sources to reduce program costs and response burden, while improving quality and providing additional statistical and analytical outputs relevant to information needs. The ADS had a mandate to develop and

implement a corporate approach for increasing the use of administrative data at Statistics Canada under three initial objectives:

- Develop and implement a governance framework that supports the efficient acquisition, management and use of secondary data sources and favours innovation;
- Launch initiatives that seek optimization of statistical methods and processes; and
- Collaborate with statistical programs in the exploration of new sources and methods.

The Agency also created a new Administrative Data Management Committee to coordinate and oversee work on administrative data. The Tax Data Division (TDD) and the Administrative Data Secretariat (ADS) were merged on April 1, 2014 to form the Administrative Data Division (ADD). The mandate of the new division expanded upon the mandate of the former TDD, which was to act as Statistics Canada's single point of contact with Canada Revenue Agency to negotiate, contract for, and acquire all tax data in support of Statistics Canada's statistical programs, to include the responsibilities of the ADS.

The Administrative Data Program has a mandate to develop and implement a governance framework and develop associated statistical operational services that supports the efficient acquisition, processing, use, assessment, and management of administrative data for statistical purposes.

The program fulfils this mandate under the following activities:

- Promoting the efficient statistical use of administrative data within the corporations through communication activities in various fora.
- Ensuring that a corporate inventory of all administrative data obtained by Statistics Canada for its statistical programs is maintained and made available (the Administrative Data Inventory or ADI);
- Acquiring and acting as custodian for administrative data that typically have a broad corporate use or that involve a complex acquisition process, by entering into agreements with data providers on behalf of Statistics Canada, including but not limited to the administrative data obtained from the Canada Revenue Agency;
- Supporting statistical programs at Statistics Canada in their acquisition and use of administrative data through the development of tools and processes and by providing expert advice;
- Ensuring that the core processing of administrative data that are of use to multiple statistical programs is carried out in a coordinated, central manner, and that these data are made available for further local processing and use in statistical programs through the development and application of governance framework;
- Processing tax data products and ensuring secure and centralised access to the data and metadata as well as monitoring of primary and secondary users of tax data.
- Seeking opportunities to improve methods or processes for the statistical use of administrative data, including those related to the protection of confidentiality, and to promote them across Statistics Canada;

- Supporting the Administrative Data Management Committee (ADMC) in the fulfillment of its responsibilities; and
- Coordinating Statistics Canada’s participation in interdepartmental, intergovernmental and international administrative data initiatives, in collaboration with other divisions of Statistics Canada.

Statistics Canada Quality Assurance Framework (QAF), specifically section on Use of administrative data:

Statistics Canada Quality Assurance Framework, released April 21, 2017 contains a section specific to management of input data and relations with data providers.

The following statement contained with the QAF describes the relationship between the use of administrative data and quality of statistical output:

“Statistics Canada’s objective in using administrative data or data available to the public for statistical purposes is to improve the balance between relevance, data quality, response burden and cost. An important responsibility of the Agency is to justify the necessity of any new data collection activity, given its cost and the burden it imposes. In particular, when administrative data or data available to the public are of sufficient quality and adequately match the concepts being measured, they should be considered over direct collection. A further responsibility of the Agency, to both input data providers and the general public, is protecting the privacy, confidentiality and security of all data provided to it, with the provisions applying equally to survey data and administrative data”.

This section of the QAF further details how the framework is implemented by various Agency programs in the assessment of data input and to build and maintain relations with data providers.

Link to section of QAF related to the management of input data and relations with data providers in its entirety:

<http://www.statcan.gc.ca/pub/12-586-x/2017001/article/s4-eng.htm#D>

The *Statistics Act* grants Statistics Canada the authority to request administrative records held by other organizations. However, Statistics Canada does not pay organizations for the data or information itself but may compensate organizations for the effort involved in delivering the data or information to Statistics Canada in the required format.

Statistics Canada is currently developing guidelines on negotiating for access to administrative data, including defining best practices for compensation – in an effort to provide a “win-win” approach -- which may include offer of technical expertise and /or development of customized data extractions required by the data custodian.

Good practice 5.3 (adopted from the European Statistics Code of Practice): National Statistical Authorities are involved in the design of administrative data in order to make administrative data more suitable for statistical purposes;

and

Good practice 5.4 (adopted from the European Statistics Code of Practice): National Statistical Authorities co-operate with owners of administrative data in assuring data quality.

Response: currently, Statistics Canada works with some Federal Government Institutions to ensure the quality of administrative data required by Statistics Canada programs. Examples include conceptual workshops coordinated yearly between the Canadian Centre for Justice Statistics (CCJS) and municipal and provincial police services. The goal of these workshops is to ensure that the administrative records held by police services are collected and maintained in such a way as to provide the information requirements of Statistics Canada justice statistics program.

However, Statistics Canada needs to make progress in this area, working more closely with other Government institutions to ensure that they are involved in the design of administrative data in order to make more suitable use for statistical purposes. Further, other Government Institutions should be required to inform Statistics Canada of any policy or program changes which may affect the administrative data and information available currently provided to Statistics Canada. This requirement should be included in the *Statistics Act*.

Good practice 5.5 (adopted from the European Statistics Code of Practice): Agreements are made with owners of administrative records which set out their shared commitment to the use of these data for statistical purposes.

Response: The *Policy on Obtaining Administrative Data under the Statistics Act* is the main policy governance document relevant to the process of obtaining administrative data from a data provider under the *Statistics Act*.

One of the main requirements of the Policy is that all agreements with administrative data or alternative data providers must be documented in writing. There are three acceptable forms of agreement: a data acquisition agreement, an exchange of written communications that contains certain required elements, or a contract.

The application of this policy is governed by the Administrative Data Program which has a mandate to develop and implement a governance framework and develop associated statistical operational services that supports the efficient acquisition, processing, use, assessment, and management of administrative data for statistical purposes.

The Administrative Data Division (ADD) under the Statistical Infrastructure Branch includes a section specifically devoted to the acquisition of administrative and alternative data sources.

The mandate of the Acquisitions Section is to function as the entry point for tax data and broad scope administrative data and alternative datasets within Statistics Canada. The section recently published an internal working document: the *Administrative Data Handbook*. The Handbook was developed as a tool to guide Statistics Canada programs through the data acquisition process and describes the processes and policies for using administrative data; and provides guidance supporting the acquisition, management, use and security of such data at Statistics Canada.

Good practice 5.6: Recommended practices are available for the reporting and presentation of administrative data.

Response: Statistics Canada's *Policy on Informing Users of Data Quality and Methodology* (approved March 31, 2000) includes the following statement:

Statistics Canada, as a professional agency in charge of producing official statistics, has the responsibility to inform users of the concepts and methodology used in collecting, processing and analysing its data, of the accuracy of these data, and of any other features that affect their quality or "fitness for use".

The use of administrative or alternative data as input to statistical output is included in the policy under data source(s).

Link to the policy in its entirety:

<http://www.statcan.gc.ca/eng/about/policy/info-user>

Good practice 5.7: Linking administrative data with survey data is encouraged by National Statistical Authorities with the aim of reducing the burden on respondents, reducing the costs in producing official statistics

Response: the *Statistics Canada Policy on the Use of Administrative Data Obtained under the Statistics Act* published December 2, 2015 contains detailed information on the use of "administrative data" for statistical purposes.

The objective of this policy is to maximize the efficiency and effectiveness of the use of administrative data in Statistics Canada's statistical programs. Statistics Canada achieves this objective through a corporate strategy intended to influence, access, use, and manage the administrative data supplied to Statistics Canada, and to maintain public trust while doing so.

This is an area where we can improve, and is one of the pillars of our modernization exercise currently underway. We will develop and integrate leading edge methods to expand our use and integration of administrative data. We have been acquiring and using administrative data for decades under the authority of the *Statistics Act*. We do however plan to expand the search, acquisition and use of administrative data to help reduce response burden and provide more timely and detailed data. The shift to more administrative data is designed to keep pace with the increasing demands for more timely information, while limiting how much time Canadians and businesses spend filling out surveys.

Please also refer to information covered in Good Practice 5.1.

Recommendation 6. Adherents ensure the impartiality, objectivity and transparency of official statistics, through the development, production and dissemination by the National Statistical Authorities of statistics respecting scientific independence put in place in an objective, professional and transparent manner in which all users are treated equitably. Equitable treatment implies in particular equal access to data by all users.

Good practice 6.1: Official statistics are collected, compiled and disseminated on an impartial and objective basis and determined by statistical considerations only.

Good practice 6.2: Equal access to official statistics for all users at the same time is guaranteed by law. If a public or private body has access to official statistics prior to their public release, this fact and subsequent arrangements are publicised and controlled. In the event that a leak occurs, pre-release arrangements are revised to as to ensure impartiality.

Good practice 6.3 (adopted from the European Statistics Code of Practice): Choices of data sources and statistical methods as well as decisions about the dissemination of statistics are informed by statistical considerations.

Good practice 6.4 (adopted from the European Statistics Code of Practice): Errors discovered in published statistics are corrected at the earliest possible date and publicised.

Good practice 6.5 (adopted from the European Statistics Code of Practice): Information on the methods and procedures used is publicly available.

Good practice 6.6 (adopted from the European Statistics Code of Practice): Statistical release and statements made in press conference are objective and non-partisan.

Good practice 6.7: Statistical release dates and times are announced in advance. A twelve-month-ahead advance release calendar is provided. Official statistics are released according to a standard daily time. Any divergence from the dissemination time schedule is publicised in advance, explained, and a new date is set.

Good practice 6.8: Any major revision or changes in methodologies are announced in advance.

Good practice 6.9: Internal guidelines are made available by statistical authorities to respond to erroneous interpretation and misuse of statistics. They are well-known by staff.

Good practice 6.10: Statistical plans and programmes, methodologies, processes and procedures quality assessments are made publicly available by the statistical authorities.

Good practice 6.11: Guidelines exist for the presentation of data, including the treatment of time series breaks, and seasonally adjusted data, with the aim to ensure that official statistical data and metadata are presented in a way that facilitates proper interpretation and meaningful comparisons.

Response from adherent on Recommendation 6:

Good practice 6.1: Official statistics are collected, compiled and disseminated on an impartial and objective basis and determined by statistical considerations only.

Response: The *Statistics Act* formalizes the independence of Statistics Canada, and gives the Chief Statistician of Canada authority for decisions on statistical matters and increases transparency around government decisions with regard to the national statistics system. This legislation ensures that Canadians have access to reliable and trusted statistical information that supports evidence-based decision-making in the public and private sectors, and it informs debate on public policy issues. The *Act* is the foundation for a number of Agency policies, including its [Quality Assurance Framework](#) and its [Policy on Official Release](#).

Statistics Canada applies rigorous collection, compilation, dissemination, and quality assurance mechanisms, and strives to continuously find innovative methods and data sources that can lead to achieving higher levels of quality without adversely impacting others. To do this, Statistics Canada undertakes a broad range of initiatives to stand behind, and follow through on, in its commitment to quality in all of its statistical programs.

[Quality Assurance Framework](#) initiatives:

- Statistics Canada ensures its employees function to the highest professional standards of both competencies and ethics
- Statistics Canada promotes transparency, impartiality, objectivity and professional independence through its business practices and organizational structure
- Statistics Canada bases its programs on sound methods and scientific principles, and ensures they are consistent with recognized standards and best practices and are supported by a statistical methods group
- Statistics Canada follows through on its quality commitment operationally, and throughout the statistical process
- Statistics Canada ensures that exogenous factors and other unanticipated changes do not hinder its capacity to meet its quality commitment
- Statistics Canada utilizes objective and transparent criteria to evaluate and monitor the degree to which it fulfills its quality-related commitments in its programs and outputs

The Communications and Dissemination Branch is responsible for the management of the majority of the Agency's official release activities. In its work, the Branch strictly abides by the Government of Canada's [Policy on Communications and Federal Identity](#). One of the four objectives of this policy is to ensure that all Government of Canada communications are non-partisan, effectively managed, well-coordinated, clear and responsive to the diverse needs of the public.

The objectives of this policy are as follows:

- Government of Canada communications are non-partisan, effectively managed, well-coordinated, clear and responsive to the diverse information needs of the public.
- The Government of Canada considers the views and interests of the public when developing policies, programs, services and initiatives.
- The Government of Canada is visible and recognizable to the public in Canada and abroad, and is projected equally in both official languages.
- Government of Canada communications and the administration of its corporate identity are cost-effective and achieve savings through standardization.

Many factors that influence data availability and access, such as dissemination policies and data access systems, are determined by Agency-wide initiatives. Dissemination policies ensure that communications are effectively managed and are responsive to the needs of the public.

Good practice 6.2: Equal access to official statistics for all users at the same time is guaranteed by law. If a public or private body has access to official statistics prior to their public release, this fact and subsequent arrangements are publicised and controlled. In the event that a leak occurs, pre-release arrangements are revised to ensure impartiality.

Response: At Statistics Canada, the principle of equity of access to our data and new releases is paramount. As set out in the [Policy on Official Release](#), the official release mechanism is [The Daily](#) on Statistics Canada's website. New information is made available to all from Monday to Friday, except during holidays, at 8:30 a.m., Eastern Time.

Through this policy, Statistics Canada ensures equitable access at the same time as it provides other mechanisms, such as media lockups, to ensure wide distribution of new statistical information. Penalties apply to any who fail to comply with the official release policy.

Statistics Canada holds media lockups for key economic indicators. In the lockups, journalists have access to new statistical information in advance of official release, under controlled conditions. Journalists can file stories only once the data have been published in *The Daily*.

Any journalist who violates the conditions of a lockup would face a severe penalty. At each lockup, journalists must sign a form agreeing to follow the conditions of the lockup. If they breach these conditions, such as by sending a story or information before release time, they and their news agency would be barred from lockups.

There are cases where information may be disseminated to stakeholders (e.g., government organizations) prior to official release, for data validation or information purposes. Where an authorization to this effect is granted, the access to the pre-release information is governed by precise procedures. The organization receiving the information must agree that the access will be limited to people who have a work-related need for the information prior to its release.

Employees of Statistics Canada who fail to comply with Statistics Canada's [Policy on Official Release](#) face penalties.

[The Policy on Official Release](#) lists the following Consequences:

8.1 Consequences of non-compliance with this Policy for Statistics Canada's employees may include disciplinary measures up to and including dismissal or may include prosecution as described in the *Statistics Act*.

8.2 Consequences of non-compliance with this Policy for individuals and organizations receiving protected information prior to official release may include the termination of the work-in-progress advance release or advance release agreements.

Good practice 6.3 (adopted from the European Statistics Code of Practice): Choices of data sources and statistical methods as well as decisions about the dissemination of statistics are informed by statistical considerations.

Response: Statistics Canada’s [Quality Assurance Framework](#) (QAF) serves as the highest-level governance tool for quality management at Statistics Canada. The QAF describes measures the Agency has put in place to manage quality, and it provides guidance to statistical program areas as they develop and implement management strategies to meet their users’ needs. The Agency recognizes that trust in the integrity of a national statistics office (NSO) is essential. A crucial element of this trust is belief that Statistics Canada’s choices are based on sound criteria and are motivated by statistical considerations, and that choices are insulated from undue influence of data users, funding partners and other stakeholders.

Using this Framework, Statistics Canada develops mandatory rules and guidelines that govern the acquisition, production and dissemination of statistical information. These rules and guidelines are referred to as “statistical standards,” and their purpose is to ensure uniformity across programs. The Agency also encourages the use of common tools, approved methods and other current best methods in order to improve coherence and comparability, reduce the cost of design and production, and increase robustness and simplicity.

Many factors that influence data availability and access, such as dissemination policies and data access systems, are determined by agency-wide initiatives. These policies also ensure that communications are effectively managed and are responsive to the information needs of the public.

Good practice 6.4 (adopted from the European Statistics Code of Practice): Errors discovered in published statistics are corrected at the earliest possible date and publicised.

Response: Statistics Canada’s [Directive on Corrections to Daily releases and Statistical Products](#) is a component of Statistics Canada’s [Policy on Official Release](#). Statistics Canada established this formal corrections process to meet the requirements of its Policy on Informing Users of Data Quality and Methodology. The corrections process tracks and measures pre-release and post-release corrections to releases in *The Daily*. It also creates a formal approval process to apply corrections after release. Errors are corrected in a structured, timely and transparent fashion.

This directive widens the scope of the corrections process by expanding beyond *Daily* releases to include post-release corrections and unplanned revisions to statistical products. It makes the necessary provisions to ensure that a standard and consistent approach is applied for the identification, reporting, documentation, approval and posting of post-release corrections and unplanned revisions. High-level corrections and unplanned revisions are communicated to senior management responsible for the subject matter and, ultimately, to the Chief Statistician. Users

are then informed of these corrections on the Statistics Canada website in a variety of ways, including: Using the corporate “Correction” symbol, correction notes, through the Online Catalogue of Products and Services, and using “updates” on the web module in question.

Good practice 6.5 (adopted from the European Statistics Code of Practice): Information on the methods and procedures used is publicly available.

Statistics Canada has a [Policy on Informing Users of Data Quality and Methodology](#) that is strictly applied by all of its programs. This information is publicly available on the Statistics Canada website in the [Definitions, data sources and methods](#) section. This information is also made available to data users at the time of the data release. All statistical products are accompanied with detailed information on its statistical methods and procedures.

Policy:

1. Statistics Canada makes available to users indicators of the quality of data it disseminates and descriptions of the underlying concepts and methodology.
2. Statistical products are accompanied by or make explicit reference to documentation on quality and methodology.
3. Documentation on quality and methodology conform to such standard and guidelines as shall from time to time be issued under this Policy.
4. Exemption from the requirements of this Policy may be sought in special circumstances using the procedure described under "Responsibilities."

Good practice 6.6 (adopted from the European Statistics Code of Practice): Statistical release and statements made in press conferences are objective and non-partisan.

Response: The non-partisan requirement for Statistics Canada is set forth in the [Policy on Communications and Federal Identity](#), which applies to all employees of the Government of Canada. The Policy, in part, states that all Government of Canada communications must be objective, factual, non-partisan, clear, and written in plain language. The communications function entails more than simply providing or receiving information. The way in which the government delivers its communications affects the value of the information, how it is received by the public, and the credibility of its source. Tailoring messages to specific audiences increases the impact of how information is received.

[Policy on Communications and Federal Identity](#) objectives:

- Government of Canada communications are non-partisan, effectively managed, well-coordinated, clear and responsive to the diverse information needs of the public.
- The Government of Canada considers the views and interests of the public when developing policies, programs, services and initiatives.
- The Government of Canada is visible and recognizable to the public in Canada and abroad, and is projected equally in both official languages.
- Government of Canada communications and the administration of its corporate identity are cost-effective and achieve savings through standardization.

At Statistics Canada, the **Directive on Media Relations** sets forth the conditions under which media contacts within the Agency speak with news media. It is expected that media contacts provide factual information on statistical data. In media training, which must be taken in order to speak to the news media, Media Relations stress that Statistics Canada must not address matters of policy, but rather focus on new statistical findings.

Good practice 6.7: Statistical release dates and times are announced in advance. A twelve-month-ahead advance release calendar is provided. Official statistics are released according to a standard daily time. Any divergence from the dissemination time schedule is publicised in advance, explained, and a new date is set.

Response: Statistics Canada aims to provide its data users and stakeholders with information on subjects that are important to them, and in a format and within a time frame that facilitates their research, analysis, decision-making and communications. The Agency communicates release dates well in advance and transparently to ensure equitable and timely access to data.

Using this framework, the [Statistical Outputs](#) section within Statistics Canada's [Quality Assurance Framework](#) outlines the Agency's release schedule. A single release calendar on the Statistics Canada website includes all key economic indicators and major releases planned in the next 12 months. The [release calendar](#) is easily accessible on the main page of *The Daily*, giving users sufficient advance notice of upcoming releases.

New information published in [The Daily](#)—Statistics Canada's official release bulletin— is made available to all from Monday to Friday at 8:30 a.m., Eastern Time in Canada, except during holidays. *The Daily* [Holidays Schedule](#) is published every year, the first working day of January. In the unlikely event there is a divergence from the regular dissemination schedule, the change must be approved by the Chief Statistician of Canada. Statistics Canada continuously strives to respect its publication calendar.

Good practice 6.8: Any major revision or changes in methodologies are announced in advance.

Response: [The Policy on Informing Users of Data Quality and Methodology](#) requires that all statistical products include or refer to documentation on data quality and methodology. The Policy indicates that data are submitted electronically by producers, in a common format and consistent with industry accounting practices, within 30 days of the close of quarter. Received data are subject to editing for errors and inconsistency, and in turn follow-up with respondents. Follow-up is also carried out for missing data.

Data are subject to revision in the event of late receipt of initial or revised information from respondent organizations, and if new producers are identified. Revisions occur only rarely and are disseminated in the subsequent quarter.

Good practice 6.9: Internal guidelines are made available by statistical authorities to respond to erroneous interpretation and misuse of statistics. They are well-known by staff.

Response: Statistics Canada's [Policy on Standards](#) aims to ensure that the information it produces provides a consistent and coherent picture of the Canadian economy, society and environment by using consistent names and definitions for populations, statistical units, concepts, variables, and classifications used in its programs. To this end:

1. Statistical products will be accompanied by, or make explicit reference to, readily accessible documentation on the definitions of populations, statistical units, concepts, variables and classifications used.
2. Wherever inconsistencies or ambiguities in name or definition are recognized between related statistical units, concepts, variables or classifications, within or across programs, the Agency will work towards the development of a standard for the statistical units, concepts, variables and classifications that harmonize such differences.
3. Standards and guidelines covering particular subject-matter areas will be issued from time to time and their use will be governed by the provisions of this Policy.
4. Where departmental standards have been issued, program areas must follow them unless a specific exemption has been obtained under the provisions of this Policy.
5. Programs should, to the extent possible, collect and retain information at the fundamental or most detailed level of each standard classification to provide maximum flexibility in aggregation and facilitate retrospective reclassification as needs change.
6. When a program uses a population, statistical unit, concept, variable or classification not covered by a departmental standard, or uses a variation of a standard approved as an exemption, it shall use a unique name for the entity to distinguish it from any previously defined standard.
7. Clients of Statistics Canada's consultative services should be made aware of and encouraged to conform to the standards and guidelines issued under this Policy.
8. The Agency will build up a database of names and definitions used in its programs and make this database accessible to users and other players in the statistical system.

Good practice 6.10: Statistical plans and programmes, methodologies, processes and procedures quality assessments are made publicly available by the statistical authorities.

Response: Statistics Canada, as a professional agency in charge of producing official statistics, has the responsibility to inform users of the concepts and methodology used in collecting, processing and analyzing its data, of the accuracy of these data, and of any other features that affect their quality or "fitness for use." The [Policy on Informing Users of Data Quality and Methodology](#) and its [Quality Assurance Framework](#) applies to all data, processes, procedures and analytical results disseminated by Statistics Canada.

[Policy on Informing Users of Data Quality and Methodology:](#)

1. Statistics Canada will make available to users indicators of the quality of data it disseminates and descriptions of the underlying concepts and methodology.
2. Statistical products will be accompanied by or make explicit reference to documentation on quality and methodology.
3. Documentation on quality and methodology will conform to such standards and guidelines shall, from time to time, be issued under this Policy.

4. Exemption from the requirements of this Policy may be sought in special circumstances.
5. Sponsors of cost recovery surveys and statistical consultation work, for which no data will be disseminated by Statistics Canada, are to be made aware of and encouraged to conform to the applicable elements of the standards and guidelines issued under this policy.

Good practice 6.11: Guidelines exist for the presentation of data, including the treatment of time series breaks, and seasonally adjusted data, with the aim to ensure that official statistical data and metadata are presented in a way that facilitates proper interpretation and meaningful comparisons.

Response: Statistics Canada's Quality Guidelines includes a section on [Data analysis and presentation](#), which outlines the appropriate methods and tools for data analysis, and how they should be presented by analysts. Its "Presentation of results" section lists the following steps:

- Focus the article on the important variables and topics. Trying to be too comprehensive will often interfere with a strong story line.
- Arrange ideas in a logical order and in order of relevance or importance. Use headings, subheadings and sidebars to strengthen the organization of the article.
- Keep the language as simple as the subject permits. Depending on the targeted audience for the article, some loss of precision may sometimes be an acceptable trade-off for more readable text.
- Use graphs in addition to text and tables to communicate the message. Use headings that capture the meaning (e.g. "Women's earnings still trail men's") in preference to traditional chart titles (e.g. "Income by age and sex"). Always help readers understand the information in the tables and charts by discussing it in the text.
- When tables are used, take care that the overall format contributes to the clarity of the data in the tables and prevents misinterpretation. This includes spacing; the wording, placement and appearance of titles; row and column headings and other labeling.
- Explain rounding practices or procedures. In the presentation of rounded data, do not use more significant digits than are consistent with the accuracy of the data.
- Satisfy any confidentiality requirements (e.g. minimum cell sizes) imposed by the surveys or administrative sources whose data are being analysed.
- Include information about the data sources used and any shortcomings in the data that may have affected the analysis. Either have a section in the paper about the data or a reference to where the reader can get the details.
- Include information about the analytical methods and tools used. Either have a section on methods or a reference to where the reader can get the details.
- Include information regarding the quality of the results. Standard errors, confidence intervals and/or coefficients of variation provide the reader with important information about data quality. The choice of indicator may vary on where the article is published.
- Ensure that all references are accurate, consistent and are referenced in the text.
- Check for errors in the article. Check details such as the consistency of figures used in the text, tables and charts, the accuracy of external data, and simple arithmetic.

- Ensure that the intentions stated in the introduction are fulfilled by the rest of the article. Make sure that the conclusions are consistent with the evidence.
- Have the article reviewed by others for relevance, accuracy and comprehensibility, regardless of where it is to be disseminated. As a good practice, ask someone from the data providing division to review how the data were used. If the article is to be disseminated outside of Statistics Canada, it must undergo institutional and peer review as specified in the [Policy on the Review of Information Products](#).
- If the article is to be disseminated in a Statistics Canada publication make sure that it complies with the current [Statistics Canada Publishing Standards](#). These standards affect graphs, tables and style, among other things.
- As a good practice, consider presenting the results to peers prior to finalizing the text. This is another kind of peer review that can help improve the article. Always do a dry run of presentations involving external audiences.
- Refer to available documents that could provide further guidance for improvement of your article, such as Guidelines on Writing Analytical Articles (Statistics Canada 2008) and the Style Guide (Statistics Canada 2004).

Additionally, Statistics Canada's [Policy on Informing Users of Data Quality and Methodology](#) includes a section on the standards and guidelines of the agency, and mandatory documentation. A specific set of summary information on data quality and methodology must be presented or made available to users for each statistical product. The information should reflect the individual product, but it is anticipated that much of this summary documentation will be common to many products from the same statistical program.

Revisions and adjustments (if applicable):

- A statement advising what data are subject to revision and why, and an indication of what the size of the revision might be – for example, a measure based on past revisions

A description of benchmarking, calendarization or seasonal adjustments made to the data and their impact.

Recommendation 7. Adherents employ sound methodology and commit to professional standards used in the production of official statistics. To this end, Adherents should:

- i) apply appropriate statistical procedures and methods, including a stated revisions policy;
- ii) strive to adhere to international norms and standards, such as methodological manuals developed by the United Nations Statistical Commission or by the OECD, and international classifications in the statistics collected by the OECD.

Good practice 7.1: Official statistics are produced according to strictly professional considerations, including scientific principles and professional ethics with regard to methods and procedures used for the collection, processing, storage and dissemination of statistical data.

Good practice 7.2 (adopted from the European Statistics Code of Practice): Sound statistical methodology requiring adequate tools and procedures and expertise is implemented and guaranteed by the national statistics law.

Good practice 7.3: International statistical standards, guidelines and good practices are applied in the National Statistical System as appropriate.

Good practice 7.4: National statistical classifications developed by statistical authorities are consistent with international classifications. Detailed concordance exists between national classifications and the corresponding international classification.

Good practice 7.5 (adopted from the European Statistics Code of Practice): Procedures are in place to ensure that standard concepts, definitions and classifications are consistently applied throughout the National Statistical Authorities

Good practice 7.6: Subject matter advisory committees made up of external experts advise on relevant statistical matters.

Good practice 7.7 (adopted from the European Statistics Code of Practice): Graduates in the relevant academic disciplines are recruited.

Good practice 7.8: Co-operation with the scientific community, academic institutions and international organisations is organised to improve methodology and the effectiveness of the methods implemented, and to improve methodological and technical skills of staff.

Good practice 7.9: Strategies for recruitment, as well as processes for technical and managerial development and training of existing staff, are established, implemented, and revised as required.

Good practice 7.10: In the case of statistical surveys, questionnaires and systems for production are systematically tested prior to the data collection.

Good practice 7.11: Parallel runs are undertaken when systems or questionnaires are redesigned in any significant way.

Good practice 7.12 (adopted from the European Statistics Code of Practice): Survey designs, sample selections and estimation methods are well based on regularly reviewed and revised as required.

Good practice 7.13 (adopted from the European Statistics Code of Practice): The business register and the frame for population surveys are regularly evaluated and adjusted if necessary in order to ensure high quality.

Good practice 7.14 (adopted from the European Statistics Code of Practice): Data collection, data entry, and coding are routinely monitored and revised as required.

Good practice 7.15 (adopted from the European Statistics Code of Practice): Appropriate editing and imputation methods are used and regularly reviewed, revised or updated as required.

Good practice 7.16 (adopted from the European Statistics Code of Practice): Revisions follow standard, well-established and transparent procedures.

Good practice 7.17: A revision schedule is published by the producers of official statistics.

Good practice 7.18: The design of statistical questionnaires used in survey-based data collection processes is regularly reviewed.

Response from adherent on Recommendation 7:

Recommendation 7 includes concepts and guidelines that are included in the United Nations Statistics Division's generic National Quality Assurance Framework (NQAF) section 8 (Quality commitment), section 9 (Assuring adequacy of resources), section 10 (Assuring methodological soundness), section 15 (Assuring accuracy and reliability), and section 16 (Assuring timeliness and punctuality). The good practices in recommendation 7 are similarly found in Statistics Canada's [Quality Assurance Framework](#) (QAF) version 3 (2017). The QAF, which is aligned with the NQAF, is Statistics Canada's highest-level governance tool for quality management. QAF Chapters particularly relevant to recommendation 7 include: Quality commitment; Sound implementation of statistical methods; Assurance of confidentiality, privacy and security; Allocation and management of resources; Accuracy and reliability; and Timeliness and punctuality. The QAF is supported by Statistics Canada's [Quality Guidelines](#) version 5 (2009) and other governance tools, including the [Policy on Informing Users of Data Quality and Methodology](#). The Quality Guidelines, which are aligned with the Generic Statistical Business Process Model (GSBPM), support program areas in the implementation of the good practices of recommendation 7. A strength of recommendation 7 is that all of its good practices are supported by Statistics Canada, and which the agency has been able to implement through regular program refreshment, effective resource allocation and development of standardized methods including common tools and centres of expertise. A challenge in adhering to part ii of recommendation 7, adhering to international norms and standards, is that while the good practices of recommendation 7 are also found in other international frameworks (the NQAF for example), the grouping of good practices is quite different and it is difficult to map one to another or to know if adherence is complete or not.

Guidelines in the Statistics Canada QAF that are relevant to recommendation 7 include:

- Ensure statistical programs are based on sound methods and scientific principles
- Establish a consistent process for submission, evaluation and funding allocation of proposals
- Forecast regular and strategic investments necessary to preserve the quality and continuity of statistical programs over time
- Ensure all Canadians have equitable and timely access to its data products and information releases
- Create corporate initiatives to assure quality in light of changing environments
- Implement effective project management
- Evaluate statistical program areas regularly through internal audits, quality reviews and other techniques.

In Canada we strive to successfully employ sound statistical methods and commit to professional standards. Important mechanisms we have put in place to assure this include:

- The federal outlines the roles and responsibilities of Statistics Canada. It is supported by a wide array of policies, directives and guidelines that form Statistics Canada's policy suite of governance instruments.
- Coordinated recruitment campaigns identify and attract professionally competent and motivated employees from the relevant academic disciplines. Professional development of employees is fostered through access to training, participation in research and professional exchange and career assignments that broaden exposure.
- Current and future human resources needs are identified through forecasting. Needs are met through regular employee performance feedback and effective selection processes (staffing boards) to fill vacancies.
- We have a culture of sharing methods and research, seeking advice from experts both internally, in academia and from colleagues at other national statistical offices. A dedicated "block fund" allocates resources to research initiatives. Statistics Canada collaborates effectively both internationally, through participation in working groups, and domestically, with provinces and other partners in the national statistical system.
- A senior management committee oversees the adoption of new methods and standard classifications. It is supported by advisory committees in statistical methods and in subject matter areas, which provide their recommendations to the Chief Statistician.
- We have a strong governance structure that favours corporately supported processes with oversight to ensure that standards are followed and all methods and tools are fully tested and approved. Statistics Canada's Departmental Project Management Framework ensures important initiatives remain on-track, and other practices address specific aspects of the statistical process. Examples include mandated use of the Questionnaire Design Resource Centre, a centralized "front door" for all data collection requests, a corporate approach for acquisition and processing of administrative data and the use of centralized frames and generalized systems.
- Regular program refreshment is undertaken through the Corporate Business Architecture. Efficiencies are identified and implemented, and resources liberated are used to fund new initiatives. Key statistical programs are redesigned at regular intervals, for example to align with the Census of Population.
- Equitable and timely access is ensured by publication of a release calendar, a common portal for all information releases and oversight of corrections to releases through a directive and monitoring.
- Statistical program areas are evaluated regularly through internal audits, quality reviews, feedback from data users and stakeholders and other techniques. External audits of statistical programs and benchmarking to external indicators are conducted as required. Reports are made available on the Statistics Canada website.

Recommendation 8. Adherents commit to quality of statistical products and processes, in particular to key quality dimensions as defined in national and international quality assessment frameworks, for instance in the *Quality Framework and Guidelines for OECD Statistical Activities*: timeliness and punctuality (statistics are released in a timely and punctual manner); relevance (statistics meet the needs of users); accuracy (statistics accurately and reliably portray reality); credibility (confidence is placed by users in statistics products); coherence and comparability (statistics are consistent internally, over time and in space and it is possible to combine and make joint use of related data from different sources); and interpretability and accessibility (see Recommendation 9).

Quality management, monitoring, evaluation plans and reports

Good practice 8.1: A quality policy ensures that the producers of official statistics systematically assess the quality of official statistics. Quality policy is publicly available through guidelines, frameworks, reports, etc. and staff members receive appropriate training for their application.

Good practice 8.2: An efficient, and possibly independent, quality management system exists. It includes an appropriate organisational structure; quality indicators and other tools and processes for the planning, implementation, and monitoring of the quality of source data; and the collection, processing, and dissemination of official statistics.

Good practice 8.3: The national quality management systems are based on recognised models for quality frameworks, such as the IMF Data Quality Assessment Framework (DQAF), the European Foundation for Quality Management, European Code of Practice, the European Statistical System Quality Assurance Framework, Total Quality Management and ISO EN 9001, etc.

Good practice 8.4 (adopted from the European Statistics Code of Practice): There are regular and thorough reviews of key statistical outputs involving external experts where appropriate (ECoP).

Good practice 8.5: Quality assessment and certification processes guarantee the official nature of statistics produced in various parts of the NSS.

Good practice 8.6: The organisational structure of the entities belonging to the NSS and governance arrangements are appropriate and regularly reviewed to assess and justify new statistical demands and related costs.

Good practice 8.7: Information and communication technologies are regularly monitored and assessed for use in data collection, data processing and data dissemination.

Accuracy

Good practice 8.8 (adopted from the European Statistics Code of Practice): Source data, intermediate results and statistical outputs are regularly assessed and validated (ECoP).

Good practice 8.9: National Statistical Authorities put in place processes to ensure that sampling and non-sampling errors are measured, systematically documented, and that information is made available to users.

Good practice 8.10: Studies and analysis of revisions are regularly conducted according to transparent procedures and the results are made available to users.

Timeliness and punctuality

Good practice 8.11: Timeliness meets international statistical release standards.

Good practice 8.12 (adopted from the European Statistics Code of Practice): The periodicity of statistics takes into account user requirements as much as possible (ECoP).

Good practice 8.13 (adopted from the European Statistics Code of Practice): A standard day time for the release of statistics is made public. (ECoP)

Good practice 8.14 (adopted from the European Statistics Code of Practice): Preliminary results of acceptable aggregate accuracy are released when considered useful. (ECoP)

Coherence and comparability

Good practice 8.15: Official statistics are consistent within datasets (i.e. elementary data are based on comparable concepts, definitions and classifications and can be meaningfully combined), across datasets (i.e. data are based on common concepts, units, definitions and classifications, or that any differences are explained and can be allowed for) and over time (i.e. data are based on common concepts, definitions, units, classifications, and methodology over time, or that any differences are explained and can be allowed for).

Good practice 8.16 (adopted from the European Statistics Code of Practice): Statistics from the different sources and of different periodicity are compared and reconciled (ECoP).

Good practice 8.17 (adopted from the European Statistics Code of Practice): Statistics are compiled according to common standards with respect to scope, definitions, classifications, and units in the different surveys and sources. (ECoP)

Relevance

Good practice 8.18 (adopted from the European Statistics Code of Practice): Processes are in place to consult users, monitor the relevance and utility of existing statistics in meeting their needs, and consider their emerging needs and priorities. (ECoP)

Good practice 8.19: User satisfaction surveys are undertaken on a regular basis. The results are publicly released and considered as an input for decisions about plans and priorities and they are reflected in the statistical work programmes.

Response from adherent on Recommendation 8:

Recommendation 8 includes concepts and guidelines that are included in the United Nations Statistics Division's generic National Quality Assurance Framework (NQAF) section 2 (Managing relationships with data users and data providers), section 8 (Quality commitment), section 9 (Assuring adequacy of resources), section 14 (Assuring relevance), section 15 (Assuring accuracy and reliability), section 16 (Assuring timeliness and punctuality) and section 18 (Assuring coherence and comparability). The good practices in recommendation 8 are similarly found in Statistics Canada's [Quality Assurance Framework](#) (QAF) version 3 (2017). The QAF, which is

aligned with the NQAF, is Statistics Canada's highest-level governance tool for quality management. The Statistical Outputs section of the QAF is particularly relevant to recommendation 8. This section contains chapters corresponding to quality assurance in each of the six dimensions of quality: Relevance; Accuracy and reliability; Timeliness and punctuality; Accessibility and clarity; Coherence and comparability; and Interpretability and management of metadata. Other chapters of the QAF pertinent to recommendation 8 include: Quality commitment; Allocation and management of resources; Management of input data and relations with data providers; and Management of relations with data users and stakeholders. A strength of recommendation 8 is that its good practices are supported by Statistics Canada, and which the agency has been able to implement through promotion of standards and best practices, fostering of good quality management through training and allocation of resources to ensure the quality of statistical outputs. A challenge with implementing recommendation 8 or assessing the level of adherence to it is that it covers a vast array of topics.

Guidelines in the Statistics Canada QAF that are relevant to recommendation 8 include:

Quality management, monitoring, evaluation plans and reports

- Ensure data quality commitments are followed through operationally, and evaluate through objective and transparent criteria
- Provide program areas with tools and guidance to incorporate quality assurance measures into design, implementation and execution
- Provide training and other opportunities to ensure staff are aware of their responsibilities and obligations

Accuracy

- Assess, manage and monitor accuracy during design and implementation
- Include assessment of accuracy in data quality information provided to users

Relevance

- Communicate information about Statistics Canada's mandate, values, priorities and management practices to data users and stakeholders
- Ensure continued production of relevant, high-quality and timely information through long-term planning and priority-setting
- Support refreshment of current statistical programs and promotion of new initiatives

Timeliness and punctuality

- Ensure that all data users have equitable access to data products and information releases
- Implement methods to evaluate timeliness and punctuality and to improve outcomes

Coherence and comparability

- Provide structures and tools that support administration and governance of statistical standards
- Provide documentation and other supplementary information to help users make meaningful comparisons over time and with other sources.

In Canada we endeavour to successfully commit to the assurance of the widely recognized quality dimensions described in recommendation 8. Important mechanisms we have put in place to ensure this include:

Quality management, monitoring, evaluation plans and reports

- At Statistics Canada, responsibility and accountability for quality management lie with statistical program areas, with the role of the agency to provide structure, support and oversight. Examples include: the Quality Secretariat, a work unit that provides tools, support and training to statistical program areas; the Departmental Project Management Office; and the Microdata Release Committee, that vets all data products.
- Statistics Canada provides governance tools and other resources that help program areas develop and implement quality assurance measures to meet their specific needs. Examples include Statistics Canada's [Quality Guidelines](#) version 5 (2009) and a directive and guidelines on validation of statistical outputs.
- Training seminars detailing the role of every employee in assuring the dimensions of quality are given to all new staff. Quality assurance training that targets the quality dimensions is also featured in other training courses, for example for methodologists and for middle managers.

Relevance

- Information about Statistics Canada is readily available in a series of reports on its website, including a corporate business plan, reports on plans and priorities and performance reports. An annual report is submitted to the Canadian Parliament.
- Statistics Canada engages in regular consultation with provinces and other partners in Canada's national statistical system.
- Financial, human resources and informatics needs are considered together in an annual planning exercise.
- The Corporate Business Architecture is an on-going review that identifies efficiencies in existing programs and redirects the savings harvested to strategic investments that target future needs.

Relevance is another area we aim to improve upon through our modernization efforts. Statistics Canada has a plan to provide Canadians with high-quality statistics in keeping pace with the changing times. We plan to pursue a more user-centric service delivery and focus our resources on what clients want and need. To do this, we will consult extensively with a wide range of stakeholders and users. This will help us follow social and economic shifts and trends to anticipate information demands. We will be more agile in responding to client needs.

Accuracy

- Statistics Canada's [Policy on Informing Users of Data Quality and Methodology](#) ensures data users have information on accuracy and other aspects of data quality.
- Surveys are required to submit response rate and coefficient of variation data for key survey variables as part metadata reporting requirements. These results also contribute to Statistics Canada's performance reports.

Timeliness and punctuality

- Publication of a release calendar and use of a common portal (*The Daily*) for all information releases ensures equitable and timely access for all Canadians.
- Performance indicators reflecting adherence to timeliness targets contribute to Statistics Canada's performance reports.

Coherence and comparability

- A corporate committee advises on the development and application of statistical standards and a specific division is responsible for all classification and standards. This work is guided by the [Policy on Standards](#).
- Statistics Canada's Directive on Documenting Statistical Metadata outlines the responsibilities of program areas. The Integrated Metadatabase is the common repository.

Recommendation 9. Adherents ensure user-friendly data access and dissemination, so that statistics are presented in a clear and understandable form, released in a suitable and convenient manner, including in machine-readable form ('open data'), can be found easily and are available and accessible on an impartial basis with supporting metadata and guidance. This also entails a commitment to respond to major misinterpretations of data by users.

Good practice 9.1: Statistical information is available through different dissemination tools, including media channels, Internet, online database and paper publications and easily downloadable in different formats.

Good practice 9.2: A dissemination policy ensures the free dissemination of official statistics.

Good practice 9.3: In order to ensure equal access to national statistics for international users, English-language statistical information (data and metadata) is available on websites of National Statistical Authorities.

Good practice 9.4: A corporate strategy and appropriate guidelines are in place for the preparation of statistical publications (paper and electronic).

Good practice 9.5: A corporate database and glossaries promote the use of standard statistical concepts and definitions.

Good practice 9.6 (adopted from the European Statistics Code of Practice): Users are kept informed about the methodology of statistical processes including the use of administrative data.

Good practice 9.7 (adopted from the European Statistics Code of Practice): Metadata are documented according to standardised metadata systems.

Good practice 9.8: A corporate strategy and appropriate guidelines are in place for the preparation and dissemination of metadata on concepts, scope, classifications, basis of recording, data sources, statistical techniques, differences from internationally accepted standards, annotation of good practices, geographical coverage, etc.

Good practice 9.9: Processes ensure that sampling and non-sampling errors are measured and systematically documented and that information is made available to users for all key statistical outputs.

Good practice 9.10: Internal guidelines are available in statistical agencies on responding to erroneous comments. These guidelines are well known by staff.

Good practice 9.11 (adopted from the European Statistics Code of Practice): Access to micro-data is allowed for research purposes and is subject to specific rules or protocols.

Good practice 9.12: Where a pricing policy exists for specific services or custom-designed products, conditions of sale are clearly communicated.

Good practice 9.13: Educational material is developed with the aim to enhance the use of official statistics and to avoid their misuse and misinterpretation.

Good practice 9.14: Official statistics are released in machine-readable form ('open data') that encourage reuse and analyses.

Response from adherent on Recommendation 9:

Good practice 9.1: Statistical information is available through different dissemination tools, including media channels, Internet, online database and paper publications and easily downloadable in different formats.

Response: Statistics Canada does make its information available through various dissemination tools. [The Statistics Canada website](#) is the primary dissemination vehicle. Each business day at 8:30 am [The Daily](#), the official release bulletin, is released. Highlights of each data release are found in The Daily and links are provided to detailed data tables and analytical publications. [CANSIM](#), the agency's main socio-economic output database, provides access to dynamic multidimensional data tables. CANSIM data is fully downloadable and output formats include CSV and SDMX-ML. Some [APIs for developers](#) are currently offered and plans are in place to begin offering full API access to the output database starting in April, 2018.

The Statistics Canada Directive on Media Relations (embedded) sets out an extensive service to media which include a media hot-line, a program of trained spokespersons and media lock-ups which provide accredited journalists with access to new data and analysis in advance of official release.



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Statistics Canada's dissemination approach also includes a [comprehensive social media strategy](#) that makes use of Twitter, Facebook, YouTube, blogs and chat sessions.

Data users are also invited to use a [Contact us](#) service. Services are offered by telephone and e-mail.

With the exception of a brochure entitled Canada at a Glance, Statistics Canada no longer offers its publications in print format.

Good practice 9.2: A dissemination policy ensures the free dissemination of official statistics.

Response: As of February, 2012, all standard data on the web became free of charge. Licensing or royalty fees are not applied and the information is provided under [Statistics Canada Open Licence Agreement](#).

Good practice 9.3: In order to ensure equal access to national statistics for international users, English-language statistical information (data and metadata) is available on websites of National Statistical Authorities.

Response: All data, information and services from Statistics Canada are provided in English and French – Canada’s two official languages.

Good practice 9.4: A corporate strategy and appropriate guidelines are in place for the preparation of statistical publications (paper and electronic).

Response: Statistics Canada publishing guidelines are in place and available to all staff.



Statistics Canada
publishing g...

Good practice 9.5: A corporate database and glossaries promote the use of standard statistical concepts and definitions.

Response: Information regarding standard statistical concepts and definitions are found on the following web module: [Definitions, data sources and methods](#).

Good practice 9.6 (adopted from the European Statistics Code of Practice): Users are kept informed about the methodology of statistical processes including the use of administrative data.

Response: a section of the [Definitions, data sources and methods](#) web module is dedicated to informing data users about methodology products and services.

Good practice 9.7 (adopted from the European Statistics Code of Practice): Metadata are documented according to standardised metadata systems **AND Good practice 9.8:** A corporate strategy and appropriate guidelines are in place for the preparation and dissemination of

metadata on concepts, scope, classifications, basis of recording, data sources, statistical techniques, differences from internationally accepted standards, annotation of good practices, geographical coverage, etc.

The internal policy on metadata sets out a standardized approach for the creation and dissemination of statistical metadata which conform to international standards.



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A project is currently underway to build a new corporate data and statistical metadata management platform. The current Integrated Meta Database (IMDB) which houses primarily outward facing disseminated information will be replaced by the new solution which will be a repository for statistical metadata related to surveys, administrative data and record linkage projects of value to both external and internal users. Statistics Canada users be able to access this information via an icon on their desktop. A typical use will be to search Statistics Canada's data assets to promote reuse and an administrative data first approach to meeting user needs. The complete lifecycle of a data asset will be tracked, including when contact with an external provider has been initiated to acquire a new data source, when the Agency actually receives a data asset and the transformation of that file through the business process. Users will have a customizable personal dashboard and can set notifications to track changes in the lifecycle of specific datasets. This tool will also be available to external users once the New Dissemination Model (NDM) has been launched in 2018.

Good practice 9.9: Processes ensure that sampling and non-sampling errors are measured and systematically documented and that information is made available to users for all key statistical outputs.

Response: in addition to the directive on metadata referred to in the previous paragraph, there is a Policy on Informing Users of Data Quality and Methodology.



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Good practice 9.10: Internal guidelines are available in statistical agencies on responding to erroneous comments. These guidelines are well known by staff.

Response: Please see the Directive on Media Relations cited in section 9.1 of this report. As evidence that the guidelines are well known to staff, we can point to the fact that approximately 1,500 employees have received media relations training which has been offered for the last 20 years.

Good practice 9.11 (adopted from the European Statistics Code of Practice): Access to micro-data is allowed for research purposes and is subject to specific rules or protocols.

Response: a range of options exist to ensure that microdata access is available to researchers. Public User Microdata files are available and confidential microdata files are made available through a network of [Research Data Centres](#).

[The Canadian Centre for Data Development and Economic Research \(CDER\)](#) provides access to economic and business microdata and researchers may also submit queries remotely to [The Real Time Remote Access \(RTRA\) system](#).

The rules governing access to microdata are set out in the Policy on Microdata Access.



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Good practice 9.12: Where a pricing policy exists for specific services or custom-designed products, conditions of sale are clearly communicated.

Response: as noted earlier, all standard data are made available free of charge. Custom data tabulations are made available on a cost recovery basis. Standard [General Terms and Conditions](#) are clearly communicated to clients for these transactions and [Statistics Canada Open Licence Agreement](#) applies.

Good practice 9.13: Educational material is developed with the aim to enhance the use of official statistics and to avoid their misuse and misinterpretation.

Response: this is an area that has weakened over time and where we need to improve. Through our modernization initiative we plan to further strengthen external statistical capacity by sharing our expertise, processes and methods with Canadians to help them better understand and use data effectively. We will expand the use of data visualization tools, be more active on social media and conduct outreach events across the country. We will create tools to help users evaluate the quality of the data they use in a market where the number of data providers is growing at a rapid pace.

In order to increase the use of our official statistical information, Statistics Canada will be creating an online Training Institute directed at users and producers of statistical information. It is proposed that the Institute be located on the StatCan website and house information related to in-class training and links to webinars and online lectures.

This Institute will have a goal of teaching citizens, businesses and governments, in Canada and abroad, about the use and development of statistics. The Institute will provide information on how statistics are compiled, how they can be used for improved decision making, how to assess the quality of statistical products, and many more topics.

The Training Institute will begin publishing content in the late fall of 2017.

Good practice 9.14: Official statistics are released in machine-readable form ('open data') that encourage reuse and analyses.

Response: Statistics Canada respects the principles of open data in its dissemination strategy. As noted earlier, all standard data on the website are free of charges and licensing fees, are governed by an unrestricted license and data are downloadable in open CSV and SDMX-ML formats. Standard data from Statistics Canada are also discoverable on [Canada's Open Government Portal](#).

Independent verification of the 'openness' of Statistics Canada's data can be obtained from [Open Data Inventory Country Rankings](#) provided by Open Data Watch in which Canada is ranked in 8th place.

Other best practices

Statistics Canada understands that effective data dissemination should also include innovative visualization elements so that data can be made more understandable and that stories about the data can be conveyed. Examples of both static and interactive data visualization products include: [Immigrant languages in Canada](#), [Infographics: Visualizing domestic regional trade flows in Canada \(beta version\)](#) and [Canada and the World Statistics Hub – United States](#).

Additional plans are in place to revamp the dissemination strategy in the spring of 2018 based on significant consultation with data users. A revised and streamlined organization of content will allow for better navigability and will include a new third level subject taxonomy. A new application will be offered to allow data users to find results for particular geographic regions and a consolidated output database will provide enhance data viewing capabilities. Full API access to the aggregate output database will also be offered.

Recommendation 10. Adherents establish responsibilities for co-ordination of statistical activities within the National Statistical System. To this end, Adherents should ensure that:

- i) the co-ordination of statistical activities among statistical producers is done through the use of standard concepts and classifications and avoids the duplication of effort;
- ii) responsibilities for such co-ordination function are clearly laid out and anchored in statistical legislation.

Good practice 10.1: The role and responsibilities of all producers of statistics are clearly determined by law. A co-ordinator of the National Statistical System, such as the NSO, is also designated by law.

Good practice 10.2: The designated co-ordinator has responsibility to co-ordinate the statistical activities of official producers in the NSS and to represent the NSS as a whole. This concerns in particular the use of appropriate statistical concepts and procedures, the implementation of international standards and efforts to minimise duplications in data collection, production and dissemination of official statistics.

Good practice 10.3: Procedures, mechanisms, tools, guidelines, or agreements are in place to ensure effective co-ordination within the NSS. Procedures include: establishment of a national statistics plan; co-ordinated data dissemination, e.g. through a single data portal; assistance with implementation of international standards and classification; and common quality management processes.

Good practice 10.4: Exchange of statistical information between statistical agencies is actively undertaken.

Response from adherent on Recommendation 10:

Good practice 10.1: The role and responsibilities of all producers of statistics are clearly determined by law. A co-ordinator of the National Statistical System, such as the NSO, is also designated by law.

Response: under the Statistics Act <http://laws-lois.justice.gc.ca/eng/acts/S-19/FullText.html>, the duties of Statistics Canada include

- (a) to collect, compile, analyse, abstract and publish statistical information relating to the commercial, industrial, financial, social, economic and general activities and condition of the people;
- (b) to collaborate with departments of government in the collection, compilation and publication of statistical information, including statistics derived from the activities of those departments;
- (c) to take the census of population of Canada and the census of agriculture of Canada as provided in this Act;
- (d) to promote the avoidance of duplication in the information collected by departments of government; and
- (e) generally, to promote and develop integrated social and economic statistics pertaining to the whole of Canada and to each of the provinces thereof and to coordinate plans for the integration of those statistics.

However, the Statistics Act does not clearly describe the roles and responsibilities of all producers of statistics. Statistics Canada's roles and responsibilities are described but in wording that is not strong (ex. collaborate, promote). Canada does not have a clearly defined National Statistical System. This is one of the areas that is being addressed in the review of the Statistics Act.

Strong connections do exist between Statistics Canada and other key providers through advisory and consultative bodies. To meet the constantly evolving needs of the nation's citizens and institutions, and remain relevant to these needs, Statistics Canada has established a network of advisory and consultative committees. Membership includes key experts from business, government, non-government organizations and academia. These groups provide advice and guidance to Statistics Canada and the Chief Statistician on all aspects of the Agency's statistical

and analytic programs, including advice on program priorities, program content and design, dissemination of information, and statistical methods:



The Federal-Territorial-Provincial Committees as well as the Centre for Education Statistics and Centre for Justice Statistics are effective mechanisms to co-ordinate across the various geographies and jurisdictions. Multi- and Bi-lateral consultative committees with federal partners also serve to discuss areas of potential partnerships, sharing of sources and reduction of duplication across the Government of Canada.

Good practice 10.2: The designated co-ordinator has responsibility to co-ordinate the statistical activities of official producers in the NSS and to represent the NSS as a whole. This concerns in particular the use of appropriate statistical concepts and procedures, the implementation of international standards and efforts to minimise duplications in data collection, production and dissemination of official statistics.

Response: As noted in 10.1, under the Statistics Act, Statistics Canada is mandated

- (b) to collaborate with departments of government in the collection, compilation and publication of statistical information, including statistics derived from the activities of those departments;
- (d) to promote the avoidance of duplication in the information collected by departments of government

Through the Statistics Canada website www.statcan.gc.ca/eng/concepts/index information that will assist in the interpretation of Statistics Canada's published data is provided. This metadata is provided to ensure an understanding of the basic concepts that define the data including variables and classifications; of the underlying methodology of our surveys; and of key aspects of the data quality. The list of classifications that are used are also available [Classifications - A to Z](#).

As part of the Policy on Standards (<http://www.statcan.gc.ca/eng/about/policy/standards>) Statistics Canada aims to ensure that the information it produces provides a consistent and coherent picture of the Canadian economy, society and environment, and that its various datasets can be analyzed together and in combination with information from other sources.

To this end, the Agency pursues three strategic goals:

1. The use of conceptual frameworks, such as the System of National Accounts, that provide a basis for consolidating statistical information about certain sectors or dimensions of the Canadian scene;
2. The use of standard names and definitions for populations, statistical units, concepts, variables and classifications in statistical programs;
3. The use of consistent collection and processing methods for the production of statistical data across surveys.

The Policy provides a framework for reviewing, documenting, authorizing, and monitoring the use of standard names and definitions for populations, statistical units, concepts, variables and classifications used in Statistics Canada's programs. Standards for specific subject-matter areas are issued from time to time under this Policy as required.

Statistics Canada aims to use consistent names and definitions for populations, statistical units, concepts, variables, and classifications used in its statistical programs. To this end:

1. Statistical products are to be accompanied by, or make explicit reference to, readily accessible documentation on the definitions of populations, statistical units, concepts, variables and classifications used.
2. Wherever inconsistencies or ambiguities in name or definition are recognized between related statistical units, concepts, variables or classifications, within or across programs, the Agency will work towards the development of a standard for the statistical units, concepts, variables and classifications that harmonize such differences.
3. Standards and guidelines covering particular subject-matter areas will be issued from time to time and their use will be governed by the provisions of the Policy.
4. Where departmental standards have been issued, program areas must follow them unless a specific exemption has been obtained under the provisions of the Policy.
5. Programs should, to the extent possible, collect and retain information at the fundamental or most detailed level of each standard classification in order to provide maximum flexibility in aggregation and facilitate retrospective reclassification as needs change.

6. When a program uses a population, statistical unit, concept, variable or classification not covered by a departmental standard, or uses a variation of a standard approved as an exemption, it shall use a unique name for the entity to distinguish it from any previously defined standard.
7. Clients of Statistics Canada's consultative services are to be made aware of and encouraged to conform to the standards and guidelines issued under this Policy.
8. The Agency has built up a database of names and definitions used in its programs and makes this database accessible to users and other players in the statistical system.

Statistics Canada has played a leadership role in the development of many of the HLG-MOS standards (GSBPM, GSIM, etc.) as well as North American standards and classifications such as the North American Industry Classification System (NAICS) and National Occupation System (NOCS).

Statistics Canada has an internal senior management Methods and Standards Committee. The role of this committee is:

- to assist and advise on the development and application of statistical standards and metadata within the Agency's programs;
- to approve the adoption of statistical concepts, variables and classifications as departmental standards;
- to approve exemptions to the departmental standards where appropriate;
- to advise on the development and use of sound statistical methods;
- to provide guidance on priorities for statistical research and innovation; and,
- to act as the focal point for the review and monitoring of corporate data quality practices and issues.

The response to Recommendation 12 describes Statistics Canada's efforts to minimise duplications in data collection, production and dissemination of official statistics through the acquisition and use of administrative data. As noted previously, roles and responsibilities in Canada's National Statistical System could be better defined. Statistics Canada is consulted and provides guidance to other organizations on the production of outputs, but this is not a requirement by law.

Good practice 10.3: Procedures, mechanisms, tools, guidelines, or agreements are in place to ensure effective co-ordination within the NSS. Procedures include: establishment of a national statistics plan; co-ordinated data dissemination, e.g. through a single data portal; assistance with implementation of international standards and classification; and common quality management processes.

Response: some useful tools are provided by the Statistics Act to assist in the coordination of the NSS. Section 13 of the *Statistics Act* details the authority under which the Chief Statistician, or a person authorized by the Chief Statistician, can obtain access to any documents or records maintained in any federal, provincial or territorial department or in any municipal office,

corporation, business or organization, when the documents or records are required for the purposes of the *Statistics Act*.

The Chief Statistician may enter into joint collection or data sharing agreements provincial statistical agencies, provincial or federal government departments, subject to confidentiality guarantees for identifiable statistical information. In the case of provincial statistical agencies, it permits the sharing of such information with those among them who operate under an act comparable to the national Statistics Act in terms of compulsory collection and confidentiality protection.

An important dimension of coordination relates to the provision of access by Statistics Canada to administrative records, outside of joint collection agreements. Such records (e.g. tax data, customs declarations, birth and death records) are very important sources of statistical information, which enable Statistics Canada to reduce reporting burden on business and individual respondents.

Partnerships and cost-recovery arrangements with other federal departments, other jurisdictions and external organizations, play a big role in Statistics Canada's coordination function. Statistics Canada continues to foster these arrangements as they have proven to serve not only the needs of the stakeholders but also those of the national statistical system and the Canadian research community.

Statistics Canada is required to report annually to Parliament on Plans and Priorities before the beginning of each fiscal year, and on Performance after the end of each fiscal year. These reports, as well as financial reports and results of audits and evaluations are publicly available: <https://www.statcan.gc.ca/eng/about/reports2> A Corporate Business Plan with a 3 year forward looking strategic plan is also developed and available at the same link.

Dissemination

In Canada, there is a single electronic window for all publicly available national statistics (www.statcan.gc.ca), which gives access to the infrastructure supporting all dissemination, from publications to publicly available databases of aggregate statistics. Information for analysts and researchers is readily available in the form of studies, research papers, technical papers as well as other resources such as the Canadian Centre for Data Development and Economic research, the Data Liberation Initiative, the Research Data Centres Program as well as workshops, training and conferences. Data users can browse the website by subject or key resource (*The Daily*, publications, data tables, questionnaires, definitions and documentation). Even though the Government of Canada direction is to consolidate all departmental websites to one, as the National Statistical Office, Statistics Canada was granted an exemption and www.statcan.gc.ca will remain as the official release mechanism to ensure there is a degree of separation and reinforce the independence of the NSO.

A single point of access is also provided in the form of a widely advertised toll free telephone number, with advisory services provided for clients who have little knowledge of the statistical system or its outputs. Macroeconomic analysts and others primarily interested in time series can avail themselves of a data bank containing some hundreds of thousands of data series

distributed by Statistics Canada directly through its website and through private sector distributors. Customized tabulations and statistical analyses and services are also available on a cost-recovery basis.

The Government of Canada is promoting Open Government <http://open.canada.ca/en> through the Open Government Portal <http://open.canada.ca/data/en/dataset>. Statistics Canada has currently 6,841 records available on this site, along with associated metadata and geographic information.

Quality

The Statistics Canada Quality Guidelines (available electronically since 1998) [Quality Guidelines](#) brings together guidelines and checklists on many issues that need to be considered in the pursuit of quality objectives in the execution of statistical activities. Its focus is on how to assure quality through effective and appropriate design or redesign of a statistical project or program from inception through to data evaluation, dissemination and documentation. These guidelines draw on the collective knowledge and experience of many Statistics Canada employees. It is expected that Quality Guidelines will be useful to staff engaged in the planning and design of surveys and other statistical projects, as well as to those who evaluate and analyze the outputs of these projects. The [Quality Assurance Framework](#) (QAF), the highest-level governance tool for quality management at Statistics Canada, is also publicly available for use.

Statistics Canada is also frequently called upon to host knowledge visits with other countries to share our approach to quality and quality management. We also provide quality workshops to other countries through technical capacity building projects or on a cost-recovery basis.

Good practice 10.4: Exchange of statistical information between statistical agencies is actively undertaken.

Response: as described in more detail in response to Recommendation 5, Statistics Canada follows the [Policy on the Use of Administrative Data Obtained under the Statistics Act](#) in order to exchange statistical information between departments.

In addition, Section 11 of the *Statistics Act* states:

- (1) The Minister may, with the approval of the Governor in Council and subject to this section, enter into an agreement with the government of a province for the exchange with, or transmission to, a statistical agency of the province of
 - (a) replies to any specific statistical inquiries
 - (b) replies to any specific classes of information collected under this Act; and
 - (c) any tabulations and analyses based on replies referred to in paragraph (a) or (b).
- (2) An agreement with a province for the purposes of this section shall apply only in respect of a statistical agency of the province
 - (a) that has statutory authority to collect the information that is intended to be exchanged or transmitted pursuant to the agreement from a respondent who is subject to statutory

penalties for refusing or neglecting to furnish information to the agency or for falsifying information furnished by him to the agency;

- (b) that is prohibited by law from disclosing any information of a kind that Statistics Canada, its officers and employees would be prohibited from disclosing under section 17, if the information were furnished to Statistics Canada; and
- (c) whose officers and employees are subject to statutory penalties for the disclosing of any information of the kind described in paragraph (b), subject to exceptions authorized by law that are substantially the same as those provided under section 17.

(3) Except in respect of information described in subsection 17(2), no agreement entered into under this section applies to any reply made to or information collected by Statistics Canada or an agency of the government of a province before the date that the agreement was entered into or is to have effect, whichever is the later date.

(4) Where any information in respect of which an agreement under this section applies is collected by Statistics Canada from a respondent, Statistics Canada shall, when collecting information, advise the respondent of the names of any statistical agencies in respect of which the Minister has an agreement under this section and to which the information received from the respondent may be communicated under that agreement.

Section 12 of the *Statistics Act* states:

(1) The Minister may enter into an agreement with any department or municipal or other corporation for the sharing of information collected from a respondent by either Statistics Canada or the department or corporation on behalf of both of them and for the subsequent tabulation or publication based on that information.

(2) An agreement under subsection (1) shall provide that

- (a) the respondent be informed by notice that the information is being collected on behalf of Statistics Canada and the department or corporation, as the case may be; and
- (b) where the respondent gives notice in writing to the Chief Statistician that the respondent objects to the sharing of the information by Statistics Canada, the information not be shared with the department or corporation unless the department or corporation is authorized by law to require the respondent to provide that information.

Statistics Canada recognizes that sometimes researchers require access not only to aggregate statistics, but also to microdata at the individual business, household or person level. In order to preserve the privacy and confidentiality of respondents while at the same time encouraging the use of microdata, a range of data access options are offered by Statistics Canada.

These include access to public use microdata files (***Data Liberation Initiative*** and ***Access to Public Use Microdata Files Collection***), direct access to detailed microdata in a secure physical environment (***Research Data Centres*** and the ***Centre for Data Development and Economic Research***) and remote access solutions (***Real Time Remote Access and Remote Access Services for Health Data***)

[Accessing microdata](#)

[Real Time Remote Access](#)

[Research Data Centres](#)

[Federal Research Data Centre](#)

[Canadian Centre for Canadian Centre for Data Development and Economic Research \(CDER\)](#)

Response from adherent on Recommendation 10 – additional Best Practices:

Statistics Canada's governance and advisory system is effective in co-ordinating the National Statistical System, but adjustments could be made to strengthen the legislation in this regard. The Government introduced Bill C-36, An Act to Amend the Statistics Act in Parliament on December 7, 2016.

A good practice in support of common quality management processes was recently launched in a pilot mode. Statistics Canada's [Data Quality Toolkit](#) has the objective of raising awareness about data quality assurance practices for both data producers, and data consumers. This is a set of good practices that can be followed by any organization producing data. Data producers can adapt these practices to their own environment, and are encouraged to document the data quality assurance practices that they follow and to share that documentation with their data users. These quality assurance practices are a subset of those found in Statistics Canada's [Quality Assurance Framework](#) and [Quality Guidelines](#) and include:

- Data quality assurance practices for producing registers and databases
- Data quality assurance practices for survey data (sample or census)
- Data quality assurance practices for producing scanned data, satellite data or meter data
- Data quality assurance practices for combining data from different sources
- Data quality assurance practices for metadata (documentation)
- Data quality assurance practices for data security, accessibility and protecting against the disclosure of sensitive information;

as well as Checklists

<http://www.statcan.gc.ca/eng/data-quality-toolkit/data-producer>

<http://www.statcan.gc.ca/eng/data-quality-toolkit/data-user>

Recommendation 11. Adherents commit to international co-operation. To this end, Adherents should:

i) encourage statistical producers to achieve common goals in statistics jointly with the statistical producers in other countries and with international organisations, with a view to developing internationally comparable statistics, to designing international standards and to exchanging information on good practice;

ii) provide the necessary data for the OECD's reporting system and analytical work, in compliance with international statistical standards as recognised by the OECD and preferably using the Statistical Data and Metadata eXchange method/standard in particular for domains with internationally agreed Data Structure Definitions (DSDs).

Good practice 11.1: National statisticians participate actively and regularly in international expert groups, conferences and workshops.

Good practice 11.2: National Statistical Authorities participate in joint projects with other countries to share development burden.

Good practice 11.3: Heads of NSOs or their staff chair international statistical bodies.

Good practice 11.4: National Statistical Authorities participate in the main international statistical fora to exchange on their statistical practices, to participate in research and conceptual work and to contribute actively to the definition and design of international norms and statistical standards.

Good practice 11.5: Access to micro-data by international organisations is explored as a means to reduce the burden of countries responding to questionnaires.

Good practice 11.6: National Statistical Authorities provide complete and timely answers to the questionnaires of international organisations.

Good practice 11.7: Producers of official statistics use modern statistical and IT tools, such as SDMX for the regular transmission of data and metadata to international organisations, notably the OECD.

Response from adherent on Recommendation 11:

Good practice 11.1: National statisticians participate actively and regularly in international expert groups, conferences and workshops.

Response: Statistics Canada has a long history of international collaboration in support of Statistics Canada's mandate (since the 1930s). It is engrained in the culture of the organization that quality and relevance gained through international activities support trust in Statistics Canada's products. International engagement also supports Canada's foreign policy aims, and strengthens Statistics Canada's international image.

Expert Groups

Statistics Canada is highly involved in international expert groups and is active in more than 175 such groups.

Organisations and international bodies Statistics Canada collaborates with in working groups:

- United Nations Statistics Division (UNSD)
- United Nations Economic Commission for Europe (UNECE)
- Organisation for Economic Co-operation and Development (OECD)

- United Nations Educational, Scientific and Cultural Organisation (UNESCO)
- International Monetary Fund (IMF)
- World Bank
- Food and Agriculture Organisation (FAO)
- International Road Federation (IRF)
- Partnership in Statistics for Development in the 21st century (PARIS 21)
- International Telecommunications Union (ITU)
- International Labour Organisation (ILOSTAT)
- Economic and Social Commission for Asia and the Pacific (UNESCAP)
- Economic and Social Commission for Western Asia (UNESCWA)
- Economic Commission for Latin America and the Caribbean (UNECLAC)
- Economic Commission for Africa (UNECA)
- Eurostat
- World Health Organisation (WHO)
- International Association for Official Statistics (IAOS)
- International Statistical Institute (ISI)
- World Trade Organisation (WTO)
- International Association for the Evaluation of Education Achievement (IEA)
- European Union (EU)

We are currently engaged in the following subject areas:

Economic

- National Accounts, Supply and Use Tables, valuing unpaid household service work
- International trade and economic globalization
- International investment statistics
- Digital economy
- G20 data gaps
- Science and technology indicators
- Environment and System of Environmental-Economic Accounting
- Agriculture
- Transportation
- Industry capacity utilization

Social

- Population and housing censuses,
- Demography, population projections, ageing statistics
- Gender statistics
- Education
- Health, disability
- International mathematics and literacy surveys

Infrastructure

- Value of official statistics

- International standards and classification (SDMX, DDI, GSIM, NAICS, NAPCS, COICOP)
- Quality indicators (for GSBPM, National Quality Assurance Frameworks)
- Quality in official statistics
- Methodology (Agriculture surveys, ageing-related, confidentiality, electronic collection)
- Business register
- Big data
- Strategic partnerships
- Global data platform
- Administrative data
- Human Resources capabilities and communication

Governance and capacity building

- UN Statistical Commission, UNECE, UNSD, UNECLAC
- OECD- Committee on Statistics and Statistical Policy (CSSP)
- UNECE High level group for the modernization of statistics (HLG-MOS)
- PARIS21 (Partnership in Statistics for Development in the 21st Century)
- Inter-Agency and Expert Group on the Sustainable Development Goal indicators

Conferences and workshops attended by Statistics Canada

Statistics Canada staff regularly attend international workshops and conferences on various topics such as questionnaire and data collection, uses of administrative data, the development and maintenance of statistical infrastructure, Censuses, standards, communications, dissemination, statistical methods as well as on subject matter-specific topics such as demography, gender, indigenous peoples, National Accounts, agriculture, environment, etc.. A few specific examples are provided:

HLG-MOS Workshop and High Level Seminars

Statistics Canada attends HLG-MOS Workshops on an annual basis. The purpose of the workshop is to ensure that activities and initiatives are aligned with the implementation of a common strategy, avoiding duplication and maximising efficiency. Senior management also regularly attends High Level Seminars (most recently the High Level Seminar on the process-oriented approach to statistical production held in Seoul Korea).

Conference on providing facts where opinions are formed: The role of Official Statistics in an evolving communication society – OECD

Statistics Canada is looking forward to attending the OECD Conference on 5-6 October 2017. This will allow the agency to exchange with participants of National Statistical Offices, media, and government officials as well as develop new communication strategies.

Statistical Dissemination and Communication (DISSCOMM) - UNECE

The Director General of Communications and Dissemination Division attends this workshop annually. This year's workshop was held from 28 to 30 June 2017, in Geneva. The workshop promotes good practices in dissemination and communication of information by statistical organisations. By attending it, Statistics Canada learns how to improve communication with the

media, manage customer relationships and outreach, gather and analyse feedback, statistical literacy, as well as manage dissemination and communication of Canadian statistics.

Regional roundtable on WCA – Food and Agriculture Organisation (FAO)

This roundtable is an opportunity for Statistics Canada to meet with its counterparts from other countries and exchange on best practices. It is beneficial to build and extend Statistics Canada's network at the international level in regard to agriculture statistics and particularly with the members of the FAO Statistics Division. This year, Statistics Canada learned about the detailed framework proposed by FAO for Censuses of Agriculture, which will be helpful for the next Census of Agriculture to be conducted in Canada.

International Energy Agency (IEA) Workshops

Statistics Canada attended this course in February 2016 and March 2017. Seeing as its Energy Statistics Program is responsible for international reporting to the IEA, the course is very useful as it provides constructive insight and in-depth information on how the IEA incorporates and uses the Energy Program's data series to meet key international reporting needs. The course also provides an invaluable opportunity for analysts to meet and network with one of the energy Program's key stakeholder (IEA), and to share and learn from other international statisticians who are participating on the course.

Staff also attend conferences associated with professional associations such as the International Statistical Institute, American Statistical Association, Statistical Society of Canada, and related subject matters such as demography, geography, economists, etc.

Conferences and workshops hosted by Statistics Canada

Statistics Canada develops and delivers quality workshops, conferences and training that provide valuable information on relevant and current statistical topics and applications:

<http://www.statcan.gc.ca/eng/services/wtc>

The [Workshop Series](#) of courses on survey methodology and analysis is offered at Statistics Canada's regional offices around the country. Statistics Canada's Statistical Consultation Group offers statistical training services to government departments and agencies, public and private sector institutions, in Canada and abroad.

Statistics Canada organizes [conferences](#) to bring together analysts, researchers, planners, and policy- and decision-makers to network, share insights and discuss topics of interest. Since 1984, an International Methodology Symposium on methodological issues has been sponsored by Statistics Canada annually, or bi-annually. Proceedings have been available since 1987. In the recent past, Statistics Canada has also hosted Health Data Users conferences as well as a Socio-economic conference.

The agency is contributing to the development of the global indicators for the Sustainable Development Goals (SDGs) and recently hosted the fifth meeting of the Inter-agency and Expert Group on SDG Indicators (IAEG-SDG). This two-day event was held in Ottawa from 28 to 31 March 2017 and attracted hundreds of participants from all over the world. A members' meeting took place during the first two days, followed by a plenary session during which all countries,

international and regional agencies, and other stakeholders attended. The meeting discussed strategies to address indicators without custodian agencies, work plans, proposals for new concepts, data disaggregation, and presented the timeline for proposals on additional indicators.

Statistics Canada will be hosting a Workshop on Data Collection in Ottawa, on behalf of UNECE, from October 8-13 2017. It is organised as part of the CES work programme within the context of HLG-MOS. The workshop aims to identify innovative ways and best practices in statistical data collection, and to provide a platform for those working in data collection to exchange experiences and foster collaboration in this area.

Good practice 11.2: National Statistical Authorities participate in joint projects with other countries to share development burden.

Response: Statistics Canada periodically participates in joint project with other countries. For example in 2016, a technical assistance project with Kazakhstan was completed in collaboration with DESTATIS (Germany). Other examples include the CES steering group on the SDGs roadmap that produced guidelines for countries on data flows, and a project on trade reconciliation with China using a transferable model similar to that between the US and Canada.

Statistics Canada's participation in UNECE HLG-MOS is focused on sharing of approaches, methods and tools to reduce development burden within NSOs. Statistics Canada has played a leadership role in the development of many of the HLG-MOS standards (GSBPM, GSIM, etc.) as well as North American standards and classifications such as the North American Industry Classification System (NAICS) and National Occupation System (NOCS).

Additionally, Statistics Canada coordinates much of its Statistical capacity building through multilateral and regional organisations. For example, a large statistical capacity development project with 14 countries in the Caribbean is coordinated through CARICOM to ensure that activities are coordinated between donors. Additionally, Statistics Canada works closely with the Partnership in Statistics for Development in the 21st Century (PARIS21) to coordinate Statistical Capacity Building across countries. When a developing country requests technical assistance, PARIS21 partners are contacted to determine who else is working in the country to coordinate this. Statistics Canada also undertakes joint activities with PARIS21, such as providing Quality Assurance workshops to groups of countries. Finally, in 2016, Statistics Canada concluded the International Statistical Fellowship Program (ISFP), where the agency worked with AFRISTAT, CARICOM and UNECLAC to determine and implement technical assistance activities that allowed for attendance by multiple recipient countries. Over the five-year life of this very well-received project, ISFP seminars and joint-workshops trained 178 heads of statistical offices and senior managers from 56 African, Latin American and Caribbean countries in targeted topics, relevant to improving technical and managerial capacities in their National Statistical Offices. During the final year of the project, 439 participants from Africa, Latin America and the Caribbean benefited from nine technical assistance missions in support of ISFP country projects, two workshops and two forums. A compendium of management practices was produced as a result of this project and is available on the Statistics Canada website: <http://www5.statcan.gc.ca/olc-olc.action?objId=11-634-X&ObjType=2&lang=en&limit=0>

Statistics Canada also regularly works with the OECD, the World Bank and the IMF on statistical capacity building activities.

Good practice 11.3: Heads of NSOs or their staff chair international statistical bodies.

Response: Statistics Canada staff currently chairs or co-chairs the following international committees:

| Group | Member | Role | Objective |
|---|-----------------|------------|---|
| CES Bureau (for the term 2015-2017) | Anil Arora | Vice-Chair | This group of eight leading Chief Statisticians strives to drive innovation, set up expert networks, and advice UNECE in statistical work. |
| Steering Group on Population and Housing Censuses | Marc Hamel | Chair | Facilitate the exchange of experiences among member countries on subjects such as census methodology, technology or census content, promote the exchange of experiences in innovative methodology for census taking in collaboration with other regions. |
| Task Force on Population Projections | Patrice Dion | Chair | Promote the sharing of good practices on communicating population projections and create mechanisms for collecting and disseminating metadata on national and international population projections |
| High Level Group for the Modernisation of Statistical Production and Services | Stéphane Dufour | Co-chair | Oversee modernisation projects and manage the models and tools needed to support modernisation in statistical organisations. Improve the efficiency of statistical production, and help statistical organisations to produce outputs that better meet user needs. |
| Inter-linkages sub-group (IAEG-SDG) | Cara Williams | Co-chair | Identify possible interlinkages in the statistics underlying the global SDG indicators and research and identify ways in which these interlinkages can be harnessed to facilitate global, regional and national SDG monitoring and analysis. |

| Group | Member | Role | Objective |
|---|---------------|----------|--|
| PARIS 21 National Strategies for the Development of Statistics (NSDS) Guidelines Task Force | Cara Williams | Chair | Carry out the update of PARIS21 Guidelines for NSDS. The guidelines offer a strategic framework for medium to long term planning in statistical activities and can help countries respond to the statistical requirements of their national development plans. |
| Working Party of National Experts on Science and Technology Indicators | Louise Earl | Co-chair | Monitor, supervise, and co-ordinate statistical work on science, technology and innovation (STI). Contribute to the development of indicators and quantitative analyses needed to meet the requirements and priorities of the Committee for Scientific and Technological Policy. |

The Chief Statistician regularly attends the CES plenary and bureau meetings and the United Nations Statistical Commission (UNSC). Canada will be a member of the UNSC in 2018 as well as on the executive bodies of UNECLAC and PARIS21. Assistant Chief Statisticians and Director Generals also chair international expert groups or committees in their domains.

Good practice 11.4: National Statistical Authorities participate in the main international statistical fora to exchange on their statistical practices, to participate in research and conceptual work and to contribute actively to the definition and design of international norms and statistical standards.

Response: in addition to the examples provided in section 11.1 and 11.3, Statistics Canada regularly participates in international statistical fora such as:

United Nations Statistical Commission (UNSC)

- Canada was appointed to the UN Statistical Commission for the term 2018-2021 on April 19th of this year and will be represented by the Chief Statistician of Canada in that role. Canada will help UNSC to oversee the work of UNSD by assisting the Economic and Social Council (ECOSOC) in promoting the development and improvement of national statistics, coordinating statistical work of statistical agencies, and other development.

UNECE Bureau of the Conference of European Statisticians (CES)

- Canada is vice-chair of the CES Bureau for the term 2015-2017. This group of eight leading Chief Statisticians strives to drive innovation, set up expert networks, and advice UNECE in statistical work. The Chief Statistician of Canada will attend the CES Bureau Meeting in Armenia, on 10-11 October 2017.

International Statistical Institute (ISI)

- Statistics Canada is an active member of the ISI, whose mission is to promote the understanding, development and good practice of statistics worldwide. The agency holds institutional and corporate memberships to the ISI.

UN High Level Political Forum (HLPF)

- The HLPF replaced the Commission on Sustainable Development. Its main objective is to provide political leadership, guidance and recommendations for sustainable development.
- Statistics Canada attended this forum, held in New York from 13 to 16 July 2017. The Chief Statistician participated in the meeting as a panelist for implementation of SDGs and a speaker on developments of local data hubs.

Committee on Statistics and Statistical Policy (CSSP)

- Statistics Canada chaired the committee in the past and remains a participant of the CSSP.

SCA-ECLAC Executive Committee

- Statistics Canada periodically attends the annual meetings held by SCA-ECLAC and provided a representative to the Executive Committee from 2010 to 2015. Canada will be on the Executive of ECLAC in 2018-19.

Good practice 11.5: Access to micro-data by international organisations is explored as a means to reduce the burden of countries responding to questionnaires.

Response: Statistics Canada has many methods to provide access to micro-data for both international organizations and data users in general through Research Data Centres, Real-time remote access, the Data Liberation Initiative, and custom tabulations:

<http://www.statcan.gc.ca/eng/health/acces>

Metadata associated with all of our data is also available through the Statistics Canada website:

<http://www.statcan.gc.ca/eng/concepts/index?MM=as>

Please also see the response to 11.7.

This is an area however where we could improve. We currently have a pilot project underway to enable publishing other federal departments' data on the Statistics Canada platform – tentatively named the Government Statistics Centre. The pilot project supports the Government of Canada's objective to improve the quality of publicly available data in Canada

and to make more government data available to the public. If it moves to production, this infrastructure would be used for all federal departments to publish aggregate statistics. Through this Centre, assistance and training would be provided to ensure aggregate statistics are properly vetted for confidentiality and that data quality is assessed. This portal could also be used to support the Agenda 2030 for the United Nations Sustainable Development Goals (UN SDGs) by providing a centralized location for disseminating these data. If the project moves ahead it would make government data including microdata sets easier for anyone to find and use.

Good practice 11.6: National Statistical Authorities provide complete and timely answers to the questionnaires of international organisations.

Response: Statistics Canada is responsible for completing over fifty annual and ad hoc surveys for many different international bodies such as UNSD, OECD, UNECE, the International Labour Organisation (ILOSTAT), and the United Nations Educational, Scientific and Cultural Organisation (UNESCO). Statistics Canada ensures that questionnaires and surveys are completed as requested by these organisations within the provided timeline, wherever possible. If there is a problem with the survey or the deadline, Statistic Canada works with the originating organization to resolve the problem as quickly and fully as possible.

Good practice 11.7: Producers of official statistics use modern statistical and IT tools, such as SDMX for the regular transmission of data and metadata to international organisations, notably the OECD.

Response: through the Statistics Canada website and the Government of Canada Open Data Portal, SDMX-ML is provided as a downloadable format for CANSIM and Census data tables.

Canada's open government portal provides one-stop access to the Government of Canada's searchable open data and information as part of the federal government's commitment to enhance transparency and accountability. Statistics Canada product inventory on the open data portal is found here:

http://open.canada.ca/en/search/inventory?field_keywords_value=&field_inventory_organization_tid=1609&=search&items_per_page=10

For the last 2 years we have been producing SDMX files for the OECD and the IMF. Our international submission program has been redesigned to facilitate the creation of SDMX outputs that comply with internationally approved metadata structures. Our current SDMX solution is also being used internally within the organization to manage and automate the transfer of data that is needed for our fiscal certificate program. We currently produce:

OECD main aggregates – 19 tables

OECD sector accounts – 20 tables

OECD supply use tables – 11 tables

IMF Balance of Payments – 4 tables

IMF SDDS+ - 20 tables

We also plan to provide OECD trade in services, IMF government finance statistics, UN international merchandise trade statistics, World Bank Gross external debt in SDMX format in the near future.

Additional good practices:

In terms of additional good practices, Statistics Canada has a division (International Co-operation and Corporate Statistical Methods) with the specific mandate to manage Statistics Canada's international initiatives and activities. The structure of the division is as follows:

Development

The Development Unit supports and promotes the global development of statistical capacity. More specifically, it

- coordinates all activities related to the Agenda 2030 Development Agenda for Statistics Canada
- collaborates with the Partnership in Statistics for Development in the 21st Century—also known as 'PARIS21'
- develops and manages the implementation of international statistical assistance projects

Bilateral Relations

The Bilateral Relations Unit supports and coordinates Statistics Canada's participation in bilateral activities through

- coordinating and managing on-site technical assistance in other countries, either as single missions or as part of broader projects
- coordinating and managing in-house technical assistance, either through formal training or through brief study visits
- The Bilateral Relations Unit coordinates and answers all information, visit and technical assistance requests from international organizations or embassies.

Multilateral Relations

The Multilateral Relations Unit coordinates and supports Statistics Canada's participation in multilateral activities through

- acting as the focal point for Statistics Canada's involvement in multilateral organizations such as the United Nations Statistical Division, the United Nations Economic Commission for Europe, and the Organization for Economic Co-operation and Development
- supporting and coordinating Statistics Canada's expert communities in their involvement in multilateral statistical activities (e.g., data provision, task forces and working groups)

- providing advisory services to senior management on current issues about the coordination of statistical activities within and between multilateral organizations
- An International Co-operation Policy suite to direct and guide practices in international activities is currently under development. This suite includes an Overarching Statistics Canada Policy on International Cooperation with associated directives and guidelines (Statistics Canada Directive for International Travel, Statistics Canada Directive for the Conduct of Technical Assistance, Guidelines for hosts, visitors and presenters).

Additionally, an international engagement strategy is being developed to clearly document our strategic pillars in order to focus our international efforts where they are most valuable and can have a lasting effect.

Recommendation 12. Adherents encourage exploring innovative methods as well as new and alternative data sources as inputs for official statistics, and in particular encourage statistical agencies to actively explore possibilities to use new data sources (including large datasets owned by the private sector), or to combine existing and new data sources as input for official statistics. At the same time, these opportunities are weighted against the limits of using modern information technologies and the need to maintain the quality of official statistics.

Good practice 12.1: National Statistical Authorities actively encourage and undertake research on new sources and new methods for official statistics, including in the private sector and through combination of existing sources.

Good practice 12.2: National Statistical Authorities develop methodological work and IT structure to ensure the quality of official statistics when new and alternative data sources are used as input.

Good practice 12.3: An explicit policy is formulated towards the use of “Big Data¹” and private data that considers legal, technical and methodological implications.

Good practice 12.4: Implications for statistical infrastructure, statistical methods, and analytical tools are systematically assessed.

Good practice 12.5: There are explicit agreements between producers of official statistics and owners of private data; and legislation which regulate access to this information and deal with privacy issues.

Good practice 12.6: National Statistical Authorities participate in the development of capabilities to process geospatial data.

Response from adherent on Recommendation 12:

¹ **Big data** are data of high volume, velocity, and variety that demand cost-effective, innovative forms of processing for enhanced insight and decision making (definition based on Gartner).

Overall:

The Administrative Data Division, under the Acquisitions Section have developed guidelines, templates, and best practices as it relates to negotiations to obtain various types of data sets. In addition, frequently asked questions, and a brochure on administrative data are available publicly on our website:

http://www.statcan.gc.ca/eng/about/admin_data_faq

http://www.statcan.gc.ca/eng/about/admin_data/brochure

Statistics Canada is currently researching ways to use Big Data for frame development, survey content replacement and supporting data for quality studies. However, many challenges persist, including development of quality frameworks, development of tools for accessing and processing Big Data, staff development as it relates to building conceptual knowledge and analytical skills, and the data procurement process itself. Statistics Canada is addressing these challenges in several ways. Statistics Canada has created working groups and committees to address the challenges of procuring and using administrative data (including Big Data). The Administrative Data Division is taking the lead on procurement activities with support from Information Management Division and Corporate Support Services Division.

Statistics Canada has a preliminary cloud vision and strategy, and we are working to put it into execution. In the short term we are reviewing information security classification of various data holdings, identifying cloud candidates and “early pilots” for action as well as developing preliminary cloud management roles and training. In the medium term we plan to acquire and develop cloud architecture, design, elaborate management skills and roles, as well as have a sandbox for Big Data and other innovation activities.

Statistics Canada’s Quality Guidelines contains a section specifically on administrative data and describes how Statistics Canada collaborates effectively with administrative data providers and other partners in the information industry as well as how Statistics Canada provides for secure and efficient acquisition and management of administrative data through a corporate approach supported by common tools:

<http://www.statcan.gc.ca/pub/12-539-x/2009001/administrative-administratives-eng.htm>

Specifically:

Good practice 12.1: National Statistical Authorities actively encourage and undertake research on new sources and new methods for official statistics, including in the private sector and through combination of existing sources.

Response: *Statistics Canada Policy on the Use of Administrative Data Obtained under the Statistics Act* published December 2, 2015 contains detailed information on the use of “administrative data” for statistical purposes. Administrative data is defined as information that is collected by other organizations and departments for their own purposes and is sought at the

micro or aggregate level by Statistics Canada. *Link to Statistics Canada Policy on the Use of Administrative Data Obtained under the Statistics Act* in its entirety:

http://www.statcan.gc.ca/eng/about/policy/admin_data

The objective of this policy is to maximize the efficiency and effectiveness of the use of administrative data in Statistics Canada's statistical programs. Statistics Canada achieves this objective through a corporate strategy intended to influence, access, use, and manage the administrative data supplied to Statistics Canada, and to maintain public trust while doing so.

Under this policy the following is included in the definition of administrative data under exclusions (also referred to as “data available to the public”): “Administrative data should not be confused with products that may be obtained from other organizations such as publications, reports, guides, metadata and computer programs. They also exclude data or information that is available to the public, including on the Internet, or data that can be obtained, under licence or not, by anyone, with or without a fee”.

Statistics Canada has developed internal guidelines on obtaining “data available to the public” included in the exclusion definition. Several programs at Statistics Canada are currently performing research on the use of alternative data sources, including: open data, web scraped data, crowd-sourced data and commercial data sets.

The Administrative Data Division, under the Acquisitions Section have developed guidelines, templates, and best practices as it relates to negotiations to obtain these types of data sets.

The Statistical Methods Program at Statistics Canada has a mandate to ensure that “state-of-the-art statistical theory and survey methods are developed and used by the programs of Statistics Canada.” In support of this mandate, the Methodology Branch has several governing bodies that ensure research on new sources and new methods are actively encouraged:

1) Advice is provided by the Advisory Committee on Statistical Methods, a distinguished group of some of the world’s leading survey statisticians that provides advice to the Chief Statistician and Statistical Methods Program on matters relating to the utilization of efficient statistical methods, and on the Agency’s program of research and development in statistical methods. The Methodology Branch is accountable to the Committee at each meeting by reporting back on progress against the recommendations of the Committee from the previous year.

2) An internal senior management Methods and Standards Committee. The role of this committee is:

- to assist and advise on the development and application of statistical standards and metadata within the Agency’s programs;
- to approve the adoption of statistical concepts, variables and classifications as departmental standards;
- to approve exemptions to the departmental standards where appropriate;
- to advise on the development and use of sound statistical methods;
- to provide guidance on priorities for statistical research and innovation; and,
- to act as the focal point for the review and monitoring of corporate data quality practices and issues.

This committee reports to our highest level of governance, the Executive Management Board, and is co-chaired by the Director General of Methodology Branch, and a program area Assistant Chief Statistician. Representatives from subject matter fields, as well as methodology senior management are members of the committee.

3) The Methodology Research and Development Program develops new statistical and methodological techniques that are applicable across a wide variety of statistical programs. The program aims to provide innovative and more efficient and effective statistical methods, to ensure that the statistical methods available to the Agency's statistical programs reflect current knowledge and priorities. It is coordinated by our International Co-operation and Corporate Statistical Methods Division, but involves staff from all four methodology divisions. The role of the Methodology Research and Development Committee (MRDC) is to coordinate and stimulate Statistics Canada's program of research and development in areas related to survey methodology, to encourage the use of the research results, and to promote the interaction with related efforts within and outside Statistics Canada.

The MRDC is aligned to the following corporate priorities:

- Delivering the ongoing statistical program of economic and social indicators in conformity with Statistics Canada's Quality Assurance Framework;
- Responding to the emerging and evolving information needs of data users and stakeholders;
- Operating a responsive program that effectively addresses ad hoc statistical requests;
- Enhancing the efficiency, responsiveness and robustness of the Agency's operations.

The MRDC has the following methodology research objectives:

- Provide research and development services to look for a solution to current issues and challenges faced by Statistics Canada's programmes.
- Develop and/or identify sound theoretical frameworks for methods / processes used at Statistics Canada.
- Develop methods/theory for current and new problems face by Statistics Canada for which no solution exists.
- Explore new areas which would be beneficial to Statistics Canada in the medium to long term.
- Connect with researchers from other organizations to improve current methods and/or suggest innovative ones.
- The MRDC considers three types of research:
- Applied research: To solve current issues in programmes, which includes support centres and divisional research.
- Developmental research: To develop theories and methods.
- Prospective research: To explore uncharted territories.

In this regard, our methodology research program aligns well with our modernization effort underway as one of the pillars is *Leading-edge Methods and Data Integration*. The research and

development community is being called upon even more to assist with tapping into new or unused data sources, increasing our integration capacity and moving towards a greater reliance on modelling.

For example, at the present time, in addition to the more 'traditional' methodological services, our research and development program is doing developmental research. One such example is that Statistics Canada has recently investigated the use of Small Area Estimation (SAE) techniques to produce estimates at lower levels of aggregation than what is currently supported by standard methods. Although SAE methods exist, their application at Statistics Canada is new. A great deal of work had to be done on model validation and refinements of the theory so that these methods can produce reliable estimates in practice. SAE methods combine survey data with an external source of data. In all of our applications so far, we have used administrative data as the external source.

Other examples of developmental research include record linkage research (machine learning for pre-processing, automated coding, and decision rules; quality indicators for pre-processing; developing a prototype for record linkage errors; estimation of record linkage errors without clerical review).

We are also conducting prospective research into non-traditional methods (non-probabilistic approaches, sample matching), probabilistic projections, big data and data science (imputation with big data, outlier detection for big data, data visualization, use of artificial intelligence, use of scanner data for the Consumer Price Index). We recently acquired health data from a non-probabilistic internet survey. Two uses of these data will be investigated during the coming months. First, we will investigate if these data could be used as external information in a SAE model. Secondly, we will investigate whether these data could replace collection of some variables of a survey by combining them with survey data through statistical matching techniques.

Good practice 12.2: National Statistical Authorities develop methodological work and IT structure to ensure the quality of official statistics when new and alternative data sources are used as input.

Response: Statistics Canada has a very horizontal and integrated management committee structure that ensures collaboration from across the Agency. One of our senior management committees, the Information Technology Architecture Committee, is in place to ensure that IT systems are developed following sound architectural principles, using a standard set of tools and methods, in a way that meets the business needs of the Agency and the IT security policies of both the Agency and the Government of Canada. The mandate of this committee is to

- serve as a forum on IT enterprise architecture, ensuring strategic alignment of technologies, applications and processes to be used at Statistics Canada to support the Agency's programs and priorities
- review, promote and prescribe the framework of IT enterprise architecture using technology bricks and systems roadmaps to maximize the re-use of generalized systems, common solutions, reusable components and best practices

- review and authorize the transition plans for decommissioning of redundant or obsolete solutions and technologies, taking into account system dependencies
- ensure that new IT systems being developed are compliant with standards by conducting technical and security reviews and managing exceptions
- monitor key indicators for IT services (i.e., incidents and availability) from both Informatics Branch and Shared Services Canada
- elaborate recommendations for referral to the Executive Management Board
- This committee has membership from across the Agency, including from methodology branch, statistical infrastructure branch, analytical studies branch, Census, and subject matter areas. Recent committee discussions include
- increasing data science activities including agile, flexible and experiment-driven activities based on machine learning, natural language processing, data representation and manipulation, and high-performance analysis
- establishing a clear path from “experimentation” to new product “production” (bi-modal development)
- ensuring flexible capacity in computation, storage, software, and data analysis through cloud-based approaches (Community Cloud, Public where needed)
- knowledge capture, transfer, sharing, diffusion through collaboration, metadata environments, information management
- using the “Experiment, fail-fast, pivot, pilot” approach to identify and prove ideas
- having a partnership model with other Agencies (international), multi-lateral government, private sector, Academia where useful to accelerate work
- the career development path for inspired, innovative multi-dimensional experts from traditional mathematician/statistician, computer scientist, and economist communities

Good practice 12.3: An explicit policy is formulated towards the use of “Big Data²” and private data that considers legal, technical and methodological implications.

Response: under *Statistics Canada Policy on the Use of Administrative Data Obtained under the Statistics Act* “Big Data” is included in the definition of administrative data. There are several research projects at Statistics Canada which are currently making use of “Big Data” obtained under the *Statistics Act* from other organizations. These data sets include scanner data, remotely sensed data, cadastral data sets and web scraped data. These data sets have been obtained under contract in accordance with Treasury Board Secretariat (TBS) guidelines.

² **Big data** are data of high volume, velocity, and variety that demand cost-effective, innovative forms of processing for enhanced insight and decision making (definition based on Gartner).

The following are examples of several current projects at Statistics Canada which are researching and in the case of remotely sensed data, implementing, the use of alternative data sources, including Big Data for statistical purposes:

- The Canadian Statistical Demographic Database (CSDD) is a research project designed to evaluate the feasibility of creating a Census of Population spine (basic demographic information such as Age, gender, address) through a variety of administrative data sources (tax data, vital statistics, immigration data, etc.).
- Consumer Prices Division and Producer Prices Division are both investigating the use of online price information to supplement prices gathered through traditional survey means. Web scraping technology and the use of scanner data from large retailers is also being researched.
- As part of an innovations initiative (Big Ideas), Manufacturing and Energy Division is piloting a project to measure energy usage (as measured by electricity “smart” meters) mapped against environmental information to quantify the effects of weather on energy consumption.
- Smart meter data is also being evaluated for Census and survey frame development as well as a predictive indicator of dwelling occupancy.
- Labour Statistics Division conducted a methodological evaluation of Wanted Technologies online (Job Postings) to supplement its Help Wanted Index (traditionally constructed through Employment Insurance data and the Labour Force Survey) as well as the development of other labour market indicators using Web Scrapping technology. This research did not yield results of high enough quality to continue with the study. A new survey was launched in 2015 to collect this information – the Job Vacancy and Wage Survey.
- Cell tower data (transaction level) is being investigated by Demography Division in an effort to model movements as well as a determinant of day-time/night-time population.
- Tourism is currently evaluating transactions data to replace some survey content.
- Satellite imagery is currently being researched for use in several programs/projects including the creation of a non-residential building inventory file. A pilot project is currently underway in one municipality in Canada where crowd sourced information is being used to provide attribute information for the inventory.
- Statistics Canada published model-based principal field crop estimates for the first time in September of 2015. These estimates were calculated with a new method developed in partnership with Agriculture and Agri-Food Canada. This method used a model which incorporated coarse resolution satellite data from Statistics Canada’s Crop Condition Assessment Program, data from Statistics Canada’s Field Crop Reporting Series and agroclimatic data.

Information on the official release of this data can be found on the Statistics Canada website:

<http://www.statcan.gc.ca/daily-quotidien/160920/dq160920a-eng.htm>

An Assistant Chief Statistician of Statistics Canada is assigned as the Innovation Champion for Statistics Canada, there is an Innovation Committee, a Big Data lab is being developed and

Administrative Data Division has a Big Data Liaison position. Both the Statistical Infrastructure Branch and the Methodology Branch have Big Data Community of Practice working groups.

The [Policy on Informing Users of Data Quality and Methodology](#) and [Definitions, Data Sources and Methods](#) also ensure that data users are fully aware of methodological and other implications. According to the Directive on Obtaining Administrative Data under the *Statistics Act* (6.4.12), a quality evaluation of all administrative data being used in a Statistics Canada statistical product needs to be performed to determine their statistical usability. Different tools exist to assess administrative data quality; one such tool is an internal Administrative Data Evaluation Framework. The [Administrative Data Evaluation Guide](#) describes the steps to perform a quality assessment of administrative data. Essentially, a questionnaire and a summary spreadsheet are used to document the process. An Administrative Data Inventory is also kept up to date in our Administrative Data Division, listing selected metadata information about all administrative data files used for statistical purposes at Statistics Canada.

Its objectives are to provide a central repository of information on administrative data holdings and their current use at Statistics Canada, to provide ability to assess scope and extent of current use of administrative data files and to support efficient uses, or potential new uses, of administrative data files.

http://stdsimdb/cgi-bin/imdb_reports/p2SV.pl?Function=getSurvey&SDDS=8007&lang=en&db=imdb&adm=0&dis=1

Good practice 12.4: Implications for statistical infrastructure, statistical methods, and analytical tools are systematically assessed.

Response: Statistics Canada has established a series of management committees that deal with every important aspect of managing the statistical agency. This committee structure fosters collective and active ownership of cross-cutting management issues by the line managers, with the corresponding service areas responsible for providing guidance and support for consistent and efficient application of the relevant policies and practices. The committees are comprised of senior managers, including assistant directors and above, from across the agency and meet monthly.

Several management committees are implicated in the assessment of how infrastructure, methods and tools need to evolve to respond to the increased use of new and alternative data sources as inputs for official statistics. The Methods and Standards Committee and Information Technology Architecture Committee (described in Section 12.1 and 12.2) regularly discuss implications in terms of methods, standards, IT infrastructure, IT security, software and tools. One very important aspect of this work is to continually update Statistics Canada's Enterprise Architecture, including a description of the current and future technologies that are to be used. This follows Gartner's **Technology Brick Lifecycle Management** approach identifying the technologies that are in retirement, mainstream, containment, and emerging. The IT architecture committee also systematically reviews requirements for infrastructure, and includes these demands in a semi-annual review with Shared Services Canada, the infrastructure service provider for the Government of Canada.

The Administrative Data Management Committee also has a strong role to play. Its mandate is to encourage the effective and efficient acquisition, management and use of administrative data and to advise the Executive Management Board on the approach or measures to improve or increase use of administrative data at the agency. In partnership with the statistical programs and with the support of the Administrative Data Division, this management committee, together with other management committees, has the following responsibilities:

- Develop the agency's strategy to improve and augment the use of administrative data. Examine governance framework on the acquisition, management and use of administrative data—including statutory provisions, policies, directives and agency practices—and present any recommendations for improvement to the Executive Management Board.
- Review administrative data initiatives and make recommendations that foster coherence and efficiency across the agency.

We also have an organizational unit focused on **administrative data**. The responsibilities of the Administrative Data Division include Acquisitions of administrative data, Methods and processes related to administrative data, maintenance of administrative databases, Confidentiality and security of administrative data and external collaboration related to administrative data (Coordinating Statistics Canada's involvement in interdepartmental, intergovernmental and international administrative data initiatives).

One aspect of statistical infrastructure, we research, develop, initialize, maintain and update is an integrated, interoperable, flexible Statistical (Registers) Infrastructure that meets the register related requirements of all statistical activities in Statistics Canada. The **Statistical Registers Infrastructure** includes the Geospatial Infrastructure, the Building/Dwelling Register, the Business/Institution Register and the Population Register. The statistical activities served by the Statistical Registers Infrastructure include surveys, censuses, administrative data programs, data integration, record linkage and analytical studies. The overall governance model used to manage the Statistics Canada Statistical Registers Infrastructure takes into account the several needs identified and reported through steering committees, consultative committees, project level committees, sub project level committees, methodology committees, IT committees and subject matter committees. These registers are maintained and updated using primarily administrative data and survey feedback. Approved statistical methods are used in the development of the initialization, the maintenance and the update of the Statistical Registers Infrastructure. These statistical methods are also used to connect the registers to any statistical activity.

Standardized concepts and classifications and statistical metadata

According to Statistics Canada's "Policy on Standards", the mandate of Standards Division is to develop and maintain statistical standards, to promote and monitor their implementation and to provide guidance on their interpretation. Standards is also responsible for monitoring the extent to which standard names and definitions are used by the program areas and making periodic reports to the senior management (our Methods and Standards Committee). Statistical standards include populations, statistical units, variables and classifications. The Division has also been mandated to develop, maintain and disseminate statistical metadata for our surveys and statistical programs under the terms of the *Policy on Informing Users of Data Quality and*

Methodology. The metadata includes information on the variables, classifications, data sources, methodology, data quality, questionnaires, questions and response choices.

Standards Division uses different ways of assessing standardized concepts, classifications and statistical metadata. Here is a list of the most important.

Systematic revision of classifications:

Every (5) years: National Occupation Classification- NOC; Classification of Instructional Programs (CIP); North American Industry Classification System– NAICS, and the North American Product Classification System- NAPCS.

Periodic updates of classifications:

Based on the need to keep the classifications timely and relevant, Standards Division is now exploring ways to update the classifications more often than the “traditional” 5 years systematic approach. The scope of the periodic updates should rather be limited. It will generally excludes changes to the ‘structure’ of the classification. That is, no changes are expected in the hierarchy (relationships between the classes), the number of classes, the meaning of each class and the code associated with each class. Unless there is an absolute necessity for changes, for example in the case of the Legalization of cannabis. Periodic updates are expected to focus on addition of new industry, product, instructional program or job titles to the standard reference files associated with the classifications. Modifications and deletions of those titles should be considered where such changes improve the accuracy of the classes, without changing the meaning or the boundaries of the classes. Editorial changes can also be considered to improve clarity (e.g., additions to the definitions and descriptions of main duties, employment requirements, industries, products, instructional programs, etc.). New classification updates could be publically released once a year.

Internal and public consultations on classifications:

Statistics Canada’s consultations on program development and initiatives in applied at Standards Division. We invite data producers, data users, clients, stakeholders and members of the public to submit proposals for changes to our classifications, generally through email. The goal is to ensure they continue to meet the needs of users and to offer relevant, up-to-date descriptions and definitions that reflect the country's evolving industries, products, occupations, instructional programs, etc.

Comparison to international classifications and standards:

Other international, national, provincial/territorial and Statistics Canada concepts and classifications are studied when revising or creating new classifications; the goals being to reflect changes in socio-economic conditions/phenomenon (e.g. evolution in labour market, new products and industries, etc.) while harmonizing concepts where appropriate. Partnerships have been formed with the US and Mexico, and with international organizations (in particular the United Nations, for example, with the Statistics Division for the revision of the Central Product Classification-CPC and the Classification of Individual Consumption by Purpose -COICOP, the Voorburg Group on Service statistics, the UNECE, etc.) to align with international classifications

and standards in accordance with the Generic Information Model (GSIM), while ensuring that the Canadian socio-economic context is reflected in international classifications and standards.

Good practice 12.5: There are explicit agreements between producers of official statistics and owners of private data; and legislation which regulate access to this information and deal with privacy issues.

Response: The [Statistics Act](#) regulates Statistics Canada's collection, use, access and protection of information. Information collected from owners of private data is also governed by federal and provincial privacy laws and commercial or competitive information laws such as the *Copyright Act*, R.S.C. 1985, c. C-42.

Section 3 of the [Statistics Act](#) describes the mandate of Statistics Canada, including "to promote the avoidance of duplication in the information collected by departments of government." The *Statistics Act* defines "departments of government" as "any department, board, bureau or other division of the Government of Canada or of the government of a province or any agency of either."¹

The [Statistics Act](#) provides broad collection authority for any documents or records that are maintained in any department or in any municipal office, corporation, business or organization that may be required for Statistics Canada's operations. Section 13 of the Act makes it mandatory for a data holder to provide information that is required by the Chief Statistician for the purpose of the Act, and section 32 provides for penalties where the data provider refuses or neglects to provide the requested access to the information. Paragraph 3(e) of the *Statistics Act* further specifies that Statistics Canada's mandate includes the promotion and development of social and economic statistics pertaining to the whole of Canada and to each of the provinces. In addition, Sections 24 through 29 of the *Statistics Act* provide for access to specified types of information, namely those related to income tax, excise tax, imports and exports, and criminal statistics.

Information collected from owners of private data is obtained under acquisition agreements which outline this collection authority, the purpose of the information collection, and the data protections that Statistics Canada will employ for all the data provider's information. These agreements include restricted access clauses, disclosure conditions and physical/IT security protections as agreed to between the data provider and the Chief Statistician of Canada.

Licensed or proprietary information is generally acquired under contract, with the components of the acquisition agreement incorporated in the contract.

Statistics Canada currently acquires big data from owners of private data in the areas of grocery chain scanner data and hydro meter readings, for example. These big data sources were first acquired under a one-year, non-disclosure, type of agreement, as a demonstration project, to allow Statistics Canada to evaluate the data for inclusion in the national statistical system. Upon completion of the project and successful evaluation of the test data, the owners of the private data and Statistics Canada enter into full acquisition agreements, generally for a six-year term.

The [Policy on the Use of Administrative Data Obtained Under the Statistics Act](#) is the main policy governance document relevant to the process of obtaining administrative data from a data provider under the *Statistics Act*.

One of the main requirements of the Policy is that all agreements with administrative data or alternative data providers must be documented in writing. There are three acceptable forms of agreement: a data acquisition agreement, an exchange of written communications that contains certain required elements, or a contract.

The application of this policy is governed by the Administrative Data Program which has a mandate to develop and implement a governance framework and develop associated statistical operational services that supports the efficient acquisition, processing, use, assessment, and management of administrative data for statistical purposes.

The program fulfils this mandate under the following activities:

- Promoting the efficient statistical use of administrative data within the corporations through communication activities in various fora.
- Ensuring that a corporate inventory of all administrative data obtained by Statistics Canada for its statistical programs is maintained and made available;
- Acquiring and acting as custodian for administrative data that typically have a broad corporate use or that involve a complex acquisition process, by entering into agreements with data providers on behalf of Statistics Canada, including but not limited to the administrative data obtained from the Canada Revenue Agency;
- Supporting statistical programs at Statistics Canada in their acquisition and use of administrative data through the development of tools and processes and by providing expert advice;
- Ensuring that the core processing of administrative data that are of use to multiple statistical programs is carried out in a coordinated, central manner, and that these data are made available for further local processing and use in statistical programs through the development and application of governance framework;
- Processing tax data products and ensuring secure and centralised access to the data and metadata as well as monitoring of primary and secondary users of tax data.
- Seeking opportunities to improve methods or processes for the statistical use of administrative data, including those related to the protection of confidentiality, and to promote them across Statistics Canada;
- Supporting the Administrative Data Management Committee in the fulfillment of its responsibilities; and
- Coordinating Statistics Canada's participation in interdepartmental, intergovernmental and international administrative data initiatives, in collaboration with other divisions of Statistics Canada.

The Administrative Data Division (ADD) under the Statistical Infrastructure Branch includes a section specifically devoted to the acquisition of administrative and alternative data sources. The mandate of the Acquisitions Section is to function as the entry point for tax data and broad scope administrative data and alternative datasets within Statistics Canada. The section recently

published an internal working document: the *Administrative Data Handbook*. The Handbook was developed as a tool to guide Statistics Canada programs through the data acquisition process and describes the processes and policies for using administrative data; and provides guidance supporting the acquisition, management, use and security of such data at Statistics Canada.

Other relevant policies:

[Policy on Information Management](#)

Internal StatCan Directive on the Management of Statistical Microdata Files

Internal StatCan Directive on the Management of Aggregate Statistics

[Access to Information Act](#)

[Privacy Act](#)

[Statistics Act](#)

[Policy on Access to Information](#)

[Policy on Privacy Protection](#)

[Statistics Act \(Data Sharing under Sections 11 and 12\)](#)

Good practice 12.6: National Statistical Authorities participate in the development of capabilities to process geospatial data.

Response: related to geospatial data, Statistics Canada participates actively in the development of capabilities to develop and maintain standardized and relevant geographic areas; update a geospatial infrastructure used by surveys, censuses, administrative data programs and analytical studies; use innovative sources such as satellite and Lidar imagery to respond to program needs; develop strong geospatial capacity to link statistical data and geospatial information; develop data modeling using geospatial analysis and techniques;

The five basic principles used by the GGIM geospatial framework (a common/national geospatial infrastructure; geocoding at the unit record level; common geography for release of data; interoperable metadata; and accessibility and usability of data) are in line with Statistics Canada's approach. StatCan works closely with other provincial and federal department to share geospatial information; releases a subset of geospatial products annually and the complete suite of products every five years; use our geospatial infrastructure for collection, processing and dissemination of the census and survey programs.