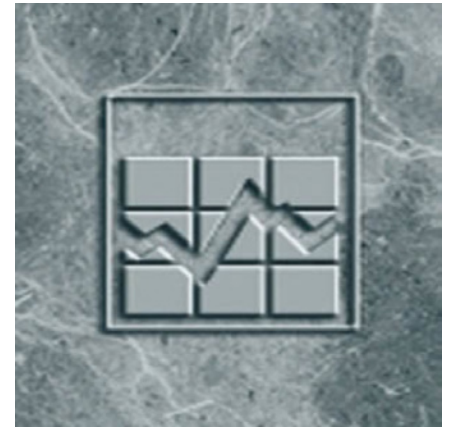


Catalogue no. 62F0026M
ISSN 1708-8879
ISBN 978-0-660-36993-8

Household Expenditures Research Paper Series

User Guide for the Survey of Household Spending, 2019



Release date: January 22, 2021



Statistics
Canada

Statistique
Canada

Canada

How to obtain more information

For information about this product or the wide range of services and data available from Statistics Canada, visit our website, www.statcan.gc.ca.

You can also contact us by

Email at STATCAN.infostats-infostats.STATCAN@canada.ca

Telephone, from Monday to Friday, 8:30 a.m. to 4:30 p.m., at the following numbers:

- Statistical Information Service 1-800-263-1136
- National telecommunications device for the hearing impaired 1-800-363-7629
- Fax line 1-514-283-9350

Depository Services Program

- Inquiries line 1-800-635-7943
- Fax line 1-800-565-7757

Standards of service to the public

Statistics Canada is committed to serving its clients in a prompt, reliable and courteous manner. To this end, Statistics Canada has developed standards of service that its employees observe. To obtain a copy of these service standards, please contact Statistics Canada toll-free at 1-800-263-1136. The service standards are also published on www.statcan.gc.ca under "Contact us" > "[Standards of service to the public](#)."

Note of appreciation

Canada owes the success of its statistical system to a long-standing partnership between Statistics Canada, the citizens of Canada, its businesses, governments and other institutions. Accurate and timely statistical information could not be produced without their continued co-operation and goodwill.

Published by authority of the Minister responsible for Statistics Canada

© Her Majesty the Queen in Right of Canada as represented by the Minister of Industry, 2021

All rights reserved. Use of this publication is governed by the Statistics Canada [Open Licence Agreement](#).

An [HTML version](#) is also available.

Cette publication est aussi disponible en français.

Table of contents

1. Introduction	5
2. Definitions	5
2.1 General concepts	5
2.2 Household characteristics.....	6
2.3 Selected household expenditures.....	6
2.4 Dwelling characteristics.....	8
2.5 Household equipment	8
2.6 Classification categories	9
3. Survey methodology	10
3.1 Target population.....	10
3.2 Survey content and reference periods	10
3.3 Sample design.....	11
3.3.1 Sample design in the provinces	11
3.3.2 Sample design in the three territorial capitals.....	11
3.4 Data collection.....	11
3.5 Data processing and quality control.....	12
3.6 Weighting and estimation	13
3.6.1 Initial weights and non-response adjustments.....	13
3.6.2 Weight calibration.....	14
3.6.2.1 Weight calibration in the provinces	14
3.6.2.2 Weight calibration in the three territorial capitals	14
3.6.3 Annualization and other adjustments.....	15
3.7 Reference period of the estimates	15
3.8 Historical revisions	16
3.9 Comparability over time	16
4. Data quality	17
4.1 Sampling errors	17
4.2 Data suppression	18
4.3 Non-sampling errors.....	18
4.3.1 Coverage errors.....	18
4.3.2 Response errors.....	18
4.3.3 Non-response errors	18
4.3.4 Processing errors	20
4.3.5 Imputation of partial non-responses	20
4.4 The effect of large values	23

5. Derivation of data tables	23
5.1 Estimates of number of households.....	23
5.2 Estimates of average expenditures per household	23
5.3 Examples of expenditure estimates	24
5.4 Calculating various estimates.....	24
5.4.1 Average expenditures per person	25
5.4.2 Percentage of average total household expenditures (budget share)	25
5.4.3 Combining expenditure categories	25
5.4.4 Aggregate expenditures	26
5.4.5 Aggregate expenditures by combining data columns	26
5.4.6 Average expenditures per household by combining data columns.....	27
6. Related products and services	28
6.1 Data tables (formerly CANSIM)	28
6.2 Microdata products	28
6.3 Custom tabulations	28
7. References	28
Appendix A Diary response rates among interview respondents, Canada¹ and provinces	29
Appendix B Response rates by collection month, Canada¹	29
Appendix C Response rates by size of area of residence and by dwelling type, Canada¹	30
Appendix D Diary response rates among interview respondents, by various household characteristics, Canada¹	32
Appendix E Impact of expenditure imputation on communication, television, satellite radio and home security services, Canada¹	33
Appendix F Imputation rates by type of imputation and recording method for diary expenses, Canada¹	33
Appendix G Estimated number of households and average household size by domain, Canada¹	34
Appendix H Response rates, imputation rates, estimated number of households and average household size by domain, three territorial capitals	36

User Guide for the Survey of Household Spending, 2019

1. Introduction

This guide is a source of information for users of data from the 2019 Survey of Household Spending (SHS). It includes survey term and variable definitions as well as details on the survey methodology and data quality. The guide also has a section that includes various examples of estimates that can be drawn from the survey data.

The SHS is conducted in the 10 provinces and the 3 territorial capitals. It is conducted every 2 years starting with the 2017 reference year. Until 2017, it was conducted annually in the provinces. It has been carried out in the territorial capitals every 2 years since 2015.

The SHS collects household spending information using a questionnaire (administered through a personal interview) and a daily expenditure diary. The questionnaire is used to collect information on larger or less frequent expenditures using varying recall periods based on the type of expenditure (last month, last 3 months, last 12 months or last payment), while the diary is used to collect information on more detailed or frequent expenditures. After completing the questionnaire, all households are asked to complete a diary in which they record their household's expenditures over a 1-week period in the provinces or over a 2-week period in the territorial capitals.

Data collection is continuous throughout the year to account for seasonal variations in spending. The 2019 SHS, which was conducted from January 2019 to December 2019, used a sample of 17,491 households in the 10 provinces and 937 households in the 3 territorial capitals. The data collected include detailed household expenditures, as well as information on dwelling characteristics, household demographics and household equipment.

Since 2015, the SHS's coverage in the North has been limited to the 3 territorial capitals (Whitehorse, Yellowknife and Iqaluit). Also, the new design of the SHS, which was implemented for the provinces starting in 2010, has been used for the territorial capitals starting with 2015. The differences in sampling and estimation methodology between the territories and provinces require that the estimates for Whitehorse, Yellowknife and Iqaluit be interpreted with caution and not be directly compared to the provincial estimates. These differences are noted throughout this guide whenever applicable.

It is important to note that data at the national level include the 10 provinces only.

Household expenditure estimates for the 10 provinces are available at the national level, by province, as well as by household tenure, age of reference person, size of area of residence, type of household, and household income quintile. Detailed estimates of food expenditures are also produced at the national and provincial levels.

Household expenditure estimates are available for each of the three territorial capitals (Whitehorse, Yellowknife and Iqaluit). These estimates are not published by household tenure, age of the reference person, size of area of residence, household type and by household income quintile due to the small sample sizes in the territorial capitals. For custom tabulations or more information on the Survey of Household Spending, please contact us (toll-free 1-800-263-1136; 514-283-8300; STATCAN.infostats-infostats.STATCAN@canada.ca).

2. Definitions

2.1 General concepts

Expenditures: The net cost of all goods and services received for private use within a given period (e.g., 1, 3 or 12 months), whether or not the goods or services were paid for during that period, and regardless of whether these expenditures were incurred in Canada or abroad. Business expenditures are excluded.

Gifts: Expenditures may include gifts given to persons outside the household.

Household: A person or group of persons occupying one dwelling unit. The number of households, therefore, equals the number of occupied dwellings.

Household member: A person usually residing in the dwelling unit at the time of the interview.

Insurance settlements: Where an insurance settlement was used to repair or replace property, the survey includes only the deductible amount paid.

Principal residence: The main living quarters of the household at the time of the interview.

Reference person: The household member being interviewed chooses which household member should be listed as the reference person after hearing the following definition: “The household reference person is the member of the household mainly responsible for its financial maintenance (e.g., pays the rent, mortgage, property taxes, and electricity). When members of the household share the responsibility equally, choose one of these members to be shown as the reference person.” This person must be a member of the household at the time of the interview.

Reference year of the survey: Corresponds to the data collection year, from January 1 to December 31.

Secondary residence: Any dwelling used by the household as secondary living quarters (e.g., cottages, hobby farms and summer residences). Includes time-shares and properties outside Canada. Does not include moveable vacation homes (e.g., trailers and motor homes).

Taxes included: All expenditures include, where applicable: the Harmonized Sales Tax, the Goods and Services Tax, provincial retail sales taxes, tips, customs duties and any other additional charges or taxes.

Trade-ins: Where a trade-in is used to lower the price of an item, most commonly a vehicle, the expenditure amount is the total cost after the trade-in. Real estate transactions are an exception.

2.2 Household characteristics

Age of reference person: Corresponds to the age of the reference person at the time of the interview.

Estimated number of households: The estimated number of households in the survey’s target population during the reference year.

Homeowner: Household living in a dwelling owned (with or without a mortgage) by a member of the household at the time of the interview.

Household income before tax: Corresponds to the total income before tax received by the household the year prior to the reference year of the survey. It comprises income from all sources, including government transfers: wages and salaries before deductions, farm self-employment net income, non-farm self-employment net income, Old Age Security (OAS) pension, Canada Pension Plan and Quebec Pension Plan (CPP and QPP) benefits, federal child benefits, provincial or territorial child tax credits or benefits, employment insurance (EI) benefits, social assistance, workers’ compensation benefits, federal goods and services/harmonized sales tax (GST/HST) credit, provincial tax credits, other government transfers, private retirement pensions, support payments received, scholarships, bursaries, and fellowships, as well as other taxable income including income from a Registered Disability Savings Plan (RDSP) and investment income.

Household size: The number of persons in the household at the time of the interview.

Interview respondents: Corresponds to the number of eligible sampled households minus households that interviewers were unable to contact, households that refused to participate and households whose interview questionnaires were rejected due to a lack of sufficient information.

2.3 Selected household expenditures

Accommodation away from home: Includes all expenses for accommodation while travelling. It also includes accommodation expenses for household members while temporarily away at school or working away from home. Excludes expenditures for accommodation that were part of a package trip.

Alcoholic beverages: Includes alcoholic beverages purchased from stores and restaurants. Expenditures for supplies and fees for self-made beer, wine or liquor are also included.

Cannabis: “Cannabis for medical use” refers to cannabis products prescribed by a doctor. “Cannabis for non-medical use” refers to cannabis products not prescribed by a doctor.

Discounts and refunds: Presented in the data tables as “negative expenditures” since they represent a flow of money into the household instead of out of it.

Food purchased from restaurants: “Restaurants” includes full-service restaurants, fast-food outlets and cafeterias, as well as refreshments stands, snack bars, vending machines, mobile canteens, caterers and chip wagons. These expenditures include tips and do not include expenditures for alcoholic beverages.

Food purchased from stores: “Stores” include all establishments where food can be bought, such as grocery stores, specialty food stores, department stores, warehouse-type stores and convenience stores, as well as frozen food suppliers, outdoor farmers’ markets and stands and all other non-service establishments. The expenditures are net of cash premium vouchers or rebates at the cash register and include deposits paid for at the time of purchase. Reimbursements on deposits are excluded from total expenditures and are shown as negative expenditures (flow of money in) in the “Miscellaneous expenditures” category (outside of the “Food purchased from stores” category).

Games of chance: Expenditures for all types of games of chance. The expenditures are not net of the winnings from these games.

Health care: Includes direct (out-of-pocket) costs paid by the household, net of the expenditures reimbursed, as well as private health insurance premiums. Since 2019, this includes out-of-pocket spending on cannabis for medical use.

Household appliances: The net purchase price after deducting the trade-in allowance and any other discount. Excludes appliances included in the purchase of a home.

Income taxes: The sum of federal and provincial income taxes payable for the taxation year prior to the reference year of the survey. Taxes on income, capital gains and RRSP withdrawals are included, after exemptions, deductions, non-refundable tax credits and the refundable Quebec abatement are taken into account. Provincial health insurance premiums are also included.

Package trips: A package trip always includes at least two components. One of them is always transportation. The other(s) could be one or more of accommodation, meals, sightseeing, etc.

Property and school taxes, water and sewage charges for owned vacation homes and other secondary residences: The amount billed, excluding any rebates. Special service charges (e.g., garbage collection and sewers), local improvements, school taxes, and water charges are included if these are part of the property tax bill.

Purchase of automobiles, vans and trucks: The net purchase price, including extra equipment, accessories, and warranties bought when the vehicle was purchased, after deducting any trade-in allowance or the value of a separate sale. A separate sale occurs when a vehicle is sold independently by the owner (i.e., not traded in when purchasing or leasing another vehicle).

Rent: Net rent, excluding rent charged against business income or rooms rented out. Includes additional amounts paid to the landlord (e.g. security deposits).

Repairs and maintenance (owned living quarters): Covers expenditures for labour and materials for all types of repairs and maintenance, including expenditures to repair and maintain built-in equipment, appliances and fixtures. Expenditures related to alterations and improvements are excluded as they are considered an increase in assets (investment) rather than an expense.

Shelter: Principal accommodation (either owned or rented) and all other accommodation (such as vacation homes or accommodation while travelling).

Tenants’/Homeowners’ insurance premiums: Premiums paid for fire and comprehensive policies.

Tobacco products and smokers’ supplies: Includes cigarettes, tobacco, cigars, electronic cigarettes, matches, pipes, lighters, ashtrays, cigarette papers and tubes, and other smokers’ supplies.

Total current consumption: The sum of current expenditures for food, shelter, household operations, household furnishings and equipment, clothing and accessories, transportation, health care, personal care, recreation, education, reading materials and other printed matter, tobacco products, alcoholic beverages and cannabis for non-medical use, games of chance, and miscellaneous expenditures.

Total expenditures: The sum of total current consumption, income taxes, personal insurance payments, pension contributions, gifts of money, alimony and contributions to charity.

Water, fuel and electricity (for principal accommodation): Expenditures for services related to water and sewers, electricity, and natural gas and other fuel for the principal accommodation, whether rented or owned by a member of the household.

2.4 Dwelling characteristics

Repairs needed: Indicates the respondent's perception of the repairs the dwelling needed at the time of the interview to restore it to its original condition. Renovations, additions, conversions or energy-saving improvements that would upgrade the dwelling over and above its original condition are not included.

- **Major repairs** include serious deficiencies in the structural condition of the dwelling, as well as in the plumbing, electrical or heating systems. Examples of such deficiencies include corroded pipes, damaged electrical wiring, sagging floors, bulging walls, damp ceilings and crumbling foundations.
- **Minor repairs** include deficiencies in the surface or covering materials of the dwelling and less serious deficiencies in the plumbing, electrical or heating systems. Examples of such deficiencies include small cracks in interior walls and ceilings, broken light fixtures and switches, cracked or broken window panes, leaking sinks, missing shingles or siding, and peeling paint.

Tenure: The housing status of the household at the time of the interview.

- **Owned with mortgage** indicates that the dwelling was owned by a household member and that there was a mortgage at the time of the interview.
- **Owned without mortgage** indicates that the dwelling was owned by a household member and that there was no mortgage at the time of the interview.
- **Rented** indicates that the dwelling was rented by the household or occupied rent-free at the time of the interview.

Type of dwelling: Type of dwelling in which the household resided at the time of interview. A dwelling is a structurally separate set of living premises with a private entrance from outside the building or from a common hall or stairway.

- A **single detached** dwelling contains only one dwelling unit and is completely separated by open space on all sides from any other structure, with the exception of its own garage or shed.
- A **single attached** dwelling is a double or semi-detached house or a row house.
- An **apartment** includes units in duplexes (two dwellings, situated one above the other), triplexes, quadruplexes and apartment buildings.
- **Other dwellings** include mobile homes, motor homes, tents, railroad cars or boats (including floating homes and houseboats) that are used as permanent residences and are capable of being moved on short notice.

2.5 Household equipment

Cellular telephone: Includes cellular telephones and handheld text messaging devices with cell phone capability.

Computer: Excludes computers used exclusively for business purposes.

Internet use from home: Indicates whether the household has access to the Internet at home.

Landline telephone service: Includes landline telephone services used for business if the business is conducted in the dwelling.

Owned vehicles: Number of vehicles (automobiles, trucks and vans) owned by members of the household at the end of the month prior to the time of the interview.

2.6 Classification categories

Age of reference person: Households are grouped according to the age of the reference person as follows:

- Less than 30 years
- 30 to 39 years
- 40 to 54 years
- 55 to 64 years
- 65 years and over

Before-tax household income quintile (national): Income groupings are obtained by ranking the households who responded to the interview in ascending order by total household income before tax, then partitioning the households into five groups of similar size. The estimated number of households in each group should be the same in principle, but differences may occur due to the weight of the household at the boundary of two quintiles, since this household must lie in either one or the other of these quintiles. Moreover, the specific methodology of the survey (with a set of weights for the interview and another for the diary) implies that the estimated number of households will be the same for the interview as for the diary only if the quintiles are defined at the provincial level. For the national quintiles, the estimated number of households may differ depending on whether the estimate uses interview weights or diary weights (see Section 5).

Canada: Canada-level data include the 10 provinces only.

Household type: Households are divided into the following types:

- **One-person** households are the households where the dwelling is occupied by only one person at the time of the interview.
- **Couple households** are households where the married or common-law spouse of the reference person is a member of the household at the time of the interview. This household type may be further broken down into couple households without children (without additional persons), with children (without additional persons), and with additional persons. “Children” are never-married sons, daughters or foster children of the reference person and may be any age. “Additional persons” are sons, daughters and foster children whose marital status is other than “single, never-married”, other relatives by birth or marriage, and unrelated persons.
- **Lone-parent households** are households where the reference person has no spouse at the time of the interview and there is at least one never-married child (son, daughter or foster child of the reference person). The lone-parent households for which data are presented do not include any additional persons.
- **Other households** are households composed of relatives only or households with at least one household member who is unrelated to the reference person (e.g., lodger, roommate, employee). Relatives are the
 - son, daughter, or foster child of the reference person whose marital status is other than “single, never-married”
 - relatives of the reference person by birth or marriage (not the spouse, son, daughter or foster child).

Housing tenure: Indicates whether a household member owned or rented the dwelling in which the household lived at the time of the interview.

- **Owners** refers to all households living in a dwelling owned (with or without a mortgage) by a household member at the time of the interview:
 - owners with a mortgage owned the dwelling with a mortgage at the time of the interview
 - owners without a mortgage owned the dwelling without a mortgage at the time of the interview.
- **Renters** rented a dwelling at the time of the interview (as a tenant paying rent, or rent free)

Population centre: Area with a population of 1,000 or more and a density of 400 or more people per square kilometre. Population centres are classified as defined below:

- Small population centre: 1,000 to 29,999
- Medium population centre: 30,000 to 99,999
- Large urban population centre: 100,000 and over

Rural area: All areas outside population centres are considered rural areas. Together, population centres and rural areas cover all of Canada.

Size of area of residence: Sampled dwellings are assigned to the following groups depending on the area in which they are located according to the 2016 Census boundaries and population size.

- Population centres:
 - 1,000,000 and over
 - 500,000 to 999,999
 - 250,000 to 499,999
 - 100,000 to 249,999
 - 30,000 to 99,999
 - 1,000 to 29,999
- Rural area

Territorial Capitals: These are the three capitals of the northern territories: Whitehorse, Yellowknife and Iqaluit (based on the 2016 Census subdivision concept).

3. Survey methodology

3.1 Target population

The target population of the 2019 SHS is the population of Canada's 10 provinces plus the 3 territorial capitals (Whitehorse, Yellowknife and Iqaluit). Residents of institutions and members of the Canadian Forces living in military camps are excluded as well as people living on Indian reserves. These exclusions account for about 2% of the population.

For operational reasons, people living in areas where the rate of vacant dwellings is very high and where the collection costs would be exorbitant are excluded from collection. Also excluded are people living in other types of collective dwellings such as:

- people living in residences for dependent seniors
- people living permanently in school residences and work camps
- members of religious and other communal colonies.

Collection exclusions represent less than 0.5% of the target population. However, these people are included in the population estimates to which the SHS estimates are adjusted (see Section 3.6).

3.2 Survey content and reference periods

The SHS primarily collects detailed information on household expenditures. It also collects information on household demographic characteristics, certain dwelling characteristics (e.g., type, age and tenure), as well as certain information on household equipment (e.g., electronics and communications equipment). In addition, income information from personal income tax data is combined with the survey data.

For expenditure information collected through the questionnaire, the length of the reference period varies depending on the recall period specified in the question (e.g., the past month, the past 3 months or the past 12 months).

The reference period also varies in relation to the collection month. For example, for households in the January 2019 sample, “the past 12 months” corresponds to the period from January 2018 to December 2018, while for households in the December 2019 sample, it corresponds to the months from December 2018 to November 2019. Expenditures collected in the expenditure diary are reported for a period of one week in the provinces and two weeks in the territorial capitals.

In general, longer reference periods are used to collect expenditures for goods and services that are more expensive or purchased infrequently or irregularly. In contrast, shorter reference periods are used for goods and services that are of lesser value or that are purchased frequently or at regular intervals.

For demographic characteristics, dwelling characteristics and household equipment, the reference period is the interview date. The reference period for income is the calendar year preceding the survey year (i.e. 2018 income for the 2019 SHS).

3.3 Sample design

The 2019 SHS sample consists of 17,491 households throughout the 10 provinces and 937 households in the three territorial capitals (Whitehorse, Yellowknife and Iqaluit).

3.3.1 Sample design in the provinces

A stratified two-stage sampling design was used to select the sample in the 10 provinces. The first stage involves selecting a sample of geographic areas (referred to as clusters). Next, a list of all the dwellings in the selected clusters is prepared and a sample of dwellings is selected within each cluster. The selected dwellings that are inhabited by members of the target population constitute the survey’s sample of households. The SHS uses a number of components of the Labour Force Survey’s (LFS) sample design to minimize operating costs, although the dwellings selected for the SHS are different than those selected for the LFS.

The national sample is first divided among the provinces, taking the variability of total household expenditures and, to a lesser extent, the number of households in each province, into account. The goal is to obtain estimates of similar quality across all provinces. Provincial sample sizes are shown in Table 1a (Section 4). The sample is then divided into strata defined by grouping clusters with similar characteristics based on various sociodemographic variables. Some strata were defined to target specific subpopulations such as high-income households. To improve the quality of the estimates, the high-income household strata are allocated a larger share of the sample than the allocation proportional to stratum size that is used in other strata.

Since data are collected monthly, the sample is divided into 12 similar-sized subsamples. The geographic concepts used for the 2019 SHS sample are those of the 2016 Census.

3.3.2 Sample design in the three territorial capitals

A one-stage sampling design is used to select the sample in the three territorial capitals. The first step of the sample allocation is to determine the number of dwellings to be sampled in each city. The overall sample is allocated to each city by taking into account the size of the city and the quality of the estimates obtained from previous cycles of the SHS in the North. The sample sizes for the territorial capitals are shown in Table 1b (Section 4).

The sample is divided into 12 monthly subsamples of similar sizes, and the geographic concepts used for the 2019 SHS samples in the territorial capitals are those of the 2016 Census.

3.4 Data collection

The SHS is a voluntary cross-sectional survey that combines an interview and an expenditure diary. Collection is carried out on a continuous monthly basis from January to December of the survey year. The sample of households is distributed over 12 monthly samples. Each household is part of one of the monthly samples and is interviewed only once.

Households in the sample are asked to first complete an interview conducted in person using a questionnaire on a laptop. The interview mainly collects regular expenditures (such as rent and electricity) and less frequent expenditures (such as furniture and dwelling repairs) for a recall period that varies in length depending on the type of expenditure. For regular expenditures such as rent, the amount of the last payment and the period it covers are typically collected. For other types of expenditures collected in the interview, recall periods of 1 month, 3 months or 12 months are used. The recall periods are defined in terms of months preceding the month of the interview. For example, for a household in the June 2019 sample, a reference period of the last three months corresponds to the period from March 1 to May 31, 2019. Demographic characteristics, dwelling characteristics and household equipment information, which are also collected in the interview, refer to the household's situation at the time of the interview.

Since 2013, respondents are informed that the survey data will be combined with tax data to obtain selected variables related to personal income for household members aged 16 and over on December 31 of the calendar year preceding the survey year. The reference period for personal income tax data is the calendar year prior to the survey year.

Following the interview, all respondents are asked to complete a diary in which they record the expenditures of all household members for a specified reporting period starting the day after their interview. The reporting period for the diary is one week for households in the provinces and two weeks for households in the territorial capitals. Households are required to include spending on all items except for certain types of expenditures such as rent, utilities payments, and real estate and vehicle purchases. Households have the option of providing receipts for purchases made during their diary reporting period to reduce the amount of information manually recorded in the diary. However, they are asked to add information on the receipt if the description of the item appearing on it is incomplete.

A telephone follow-up is carried out a few days after the interview to address any questions the respondent may have and to reiterate how important it is to complete the diary. At the end of the diary reporting period, the interviewer returns to the respondent's residence to pick up the diary and ask a few additional questions to ensure that the respondent reports any expenditures that they may have overlooked.

The diaries and all receipts supplied by respondents are scanned and captured at Statistics Canada's head office. An expenditure classification code is assigned to each item from a list of over 650 different codes.

3.5 Data processing and quality control

The computer-assisted questionnaire contains features designed to maximize the quality of the collected data. Many controls are built into the questionnaire to identify unusual values and detect logical inconsistencies. When a response is rejected by the control, an interviewer is prompted to correct the information (with the respondent's help, if necessary). Once the data are transmitted to the head office, a detailed verification of each questionnaire is completed through a comprehensive series of processing steps. Invalid responses are corrected or flagged for imputation.

The diaries are also subject to a number of verifications when they are received at head office, as well as during data capture and coding steps. For example, checks are carried out to ensure that the start and end dates of the reference period of the diary are indicated, that the reported expenditures were incurred during the specified reference period, and that no items appear in both the data written in the diary and on the receipts provided by the respondent. After validation, capture and coding, quality control procedures are applied to the diary data. In addition, a sample of diaries is selected for a comprehensive reverification to ensure that the diaries were captured and coded as specified in the procedures.

Next, a series of detailed verifications is performed on all diaries, and invalid responses are corrected or flagged for imputation. The final step is to assess whether the information reported in the diaries is of sufficient quality using parameters that are based on household characteristics. The reported expenditures and number of items are compared with minimum thresholds estimated by geographic area (Atlantic provinces, Quebec, Ontario, Prairie provinces, British Columbia, and the three territorial capitals combined), household income class and household size. Diaries that satisfy the conditions are deemed usable. The remaining diaries are examined, and deemed usable if they include notes providing justification for their low expenditures or their small number of reported items (e.g., a person living alone who had few expenses to report while on a business trip during the

diary reporting period). Diaries that do not meet the usability criteria are treated as non-response diaries and are excluded from the estimates. It should be noted that some of the usable diaries are incomplete and may have non-responded days.

To solve problems of missing or invalid information in the interview questions, donor imputation using the nearest neighbour method is generally applied. Using this approach, data from a respondent with similar characteristics (the donor) is used to impute missing or invalid data for another respondent. Imputation is done on one group of variables at a time. These groups are formed taking into account relationships that exist among the variables to be imputed. The characteristics used to identify donors are selected such that they are correlated with the variables to be imputed. Household income, dwelling type, and the number of adults and children are commonly used characteristics.

Donor imputation is also used when information is missing from the expenditure diary. For instance, a respondent may have reported a particular expenditure item without its cost or given the total amount spent (e.g., on groceries) without listing the individual items. Imputation is also used to enhance the level of detail in the coding of the items reported. For example, the information provided by the respondent may simply indicate that a bakery product was purchased, but a more detailed code is required to meet the survey's needs. In this case, donor imputation is used to impute the type of bakery product (e.g., bread, crackers, cookies, cakes and other pastries). Diary imputation is carried out at the reported item level, and the characteristics frequently used to identify a donor are cost, available partial item code, household income and household size. Imputation is done by province and by survey year quarter to control for provincial differences and the seasonality of expenditures.

Starting in 2012, the imputation method was refined to use supplementary information on the type of store where the purchases were made in order to produce detailed expenditures when a respondent has only provided a total amount in their diary. This method takes into account the increasing amount of grocery products sold in large chain stores that do not specialize in groceries.

For income tax data, donor imputation is also used for missing or invalid data. Income and expenditure imputation is performed primarily with Statistics Canada's Canadian Census Edit and Imputation System (CANCEIS).

After imputation, taxes are added to the diary items that are reported with taxes excluded. To reduce the burden on respondents, instructions are provided to respondents indicating when to include or exclude taxes from reported expenses in the diary. The goods and services tax (GST), provincial sales tax (PST), and harmonized sales tax (HST) are added to the diary items according to the appropriate federal and provincial taxation rates.

3.6 Weighting and estimation

Estimation of population characteristics from a sample survey is based on the premise that each sampled household represents a certain number of other households in the target population in addition to itself. This number is referred to as the survey weight.

Two different sets of survey weights are necessary for the SHS: one set for the interview and another set for the diary. Although all households in the SHS 2019 sample were selected to complete the diary, it is possible that they only completed the interview. Therefore, only a portion of the respondents to the interview also completed the diary.

3.6.1 Initial weights and non-response adjustments

There are a number of steps involved in the process of computing the weight assigned to each household. First, each household in the sample is given an initial weight equal to the inverse of its probability of being selected from the target population. A few adjustments are later applied to the interview weights and the diary weights.

The interview weights are first adjusted to take into account the households that did not respond to the questionnaire. They are also adjusted so that selected survey estimates are coherent with aggregates or estimates from auxiliary sources. This process is called weight calibration. The three data sources used for weight calibration are described in the next section.

The diary weights are also adjusted to take into account households that did not complete the diary. One factor adjusts for non-response to the questionnaire, while another factor adjusts for non-response to the diary among interview respondents. The diary weights then go through the calibration process, as explained in the next section.

3.6.2 Weight calibration

3.6.2.1 Weight calibration in the provinces

First the interview weights in the provinces are adjusted or calibrated using the number of persons by age group and the number of households by household size from population estimates produced by Statistics Canada's Demography Division. These estimates are derived from 2016 Census data as well as administrative data. Annual estimates of the number of persons in nine age groups (0 to 6, 7 to 17, 18 to 24, 25 to 34, 35 to 44, 45 to 54, 55 to 64, 65 to 74, and 75 and over) are used at the provincial level, and estimates for two age groups (0 to 17 years and 18 years and over) are used at the census metropolitan area level. For the number of households, weights are adjusted so that they sum up to the annual provincial estimates for each of three household size categories (1, 2, and 3 or more persons). An adjustment is also made to ensure that each quarter of the survey year is adequately represented in terms of the total number of households.

The second source used for interview weight calibration is the Statement of Remuneration Paid (T4) from the Canada Revenue Agency (CRA). The T4 data are used to ensure that the survey's weighted distribution of income (based on wages and salaries) is consistent with the income distribution of the Canadian population. Interview weights are calibrated so that they sum up to the total T4 counts of the number of persons per province by six categories of wages and salaries. These categories are defined based on provincial percentiles (0 to 25th, 25th to 50th, 50th to 65th, 65th to 75th, 75th to 95th, and 95th to 100th).

Starting with the 2012 SHS, a third source used to adjust the interview weights is the personal income tax data (T1) from the CRA. The interview weights are adjusted to reflect the number of persons in each of the three highest personal income classes (based on the 95.5th, 97th and 98.5th percentiles) for each province except Prince Edward Island. In the latter case, only one income class is used. This adjustment compensates for the underrepresentation of the higher income groups among survey respondents.

The diary weights are adjusted so that they sum up to total demographic estimates in a manner similar to that used for the interview weights. The demographic estimates of the number of persons at the provincial level are the same for the diary as for the interview, with the exception of Prince Edward Island. In the latter case, only six age groups (0 to 17, 18 to 34, 35 to 44, 45 to 54, 55 to 64, and 65 and older) are used due to the smaller sample size for this province. For weight calibration at the census metropolitan area level, the two age groups of 0 to 17 years and 18 years and over are only used for Montréal, Toronto and Vancouver. For the remaining metropolitan areas, only the total number of persons is considered. Like the interview weights, the diary weights are adjusted to sum up to the annual provincial estimates for the three household size categories (1, 2, and 3 or more persons). For the diary, no adjustments are made to match the estimates by survey year quarter.

The diary weights are also adjusted according to income. Instead of adjusting on wages and salaries (T4), the weights are adjusted to sum up to the estimated number of households by provincial income quintile (0 to 20th, 20th to 40th, 40th to 60th, 60th to 80th, and 80th to 100th percentile) calculated using the interview data. This adjustment using the interview estimates ensures that the weighted income distribution of diary-respondent households is consistent with the weighted income distribution of interview-respondent households. The diary weights are also adjusted for the number of high-income individuals according to personal income tax data, using a single income class based on the 95.5th percentile. This last adjustment is not applied to Prince Edward Island.

3.6.2.2 Weight calibration in the three territorial capitals

In the three territorial capitals, only 5 control totals are used in the interview weight calibration process due to the small sample sizes for these cities. These weights are adjusted to control for only two age groups (the number of persons under 18 years of age and the number of persons aged 18 years and older) and to control for the number of households consisting of one, two, and three or more persons.

In the three territorial capitals, the same demographic control totals used to calibrate the interview weights are used for the diary weights.

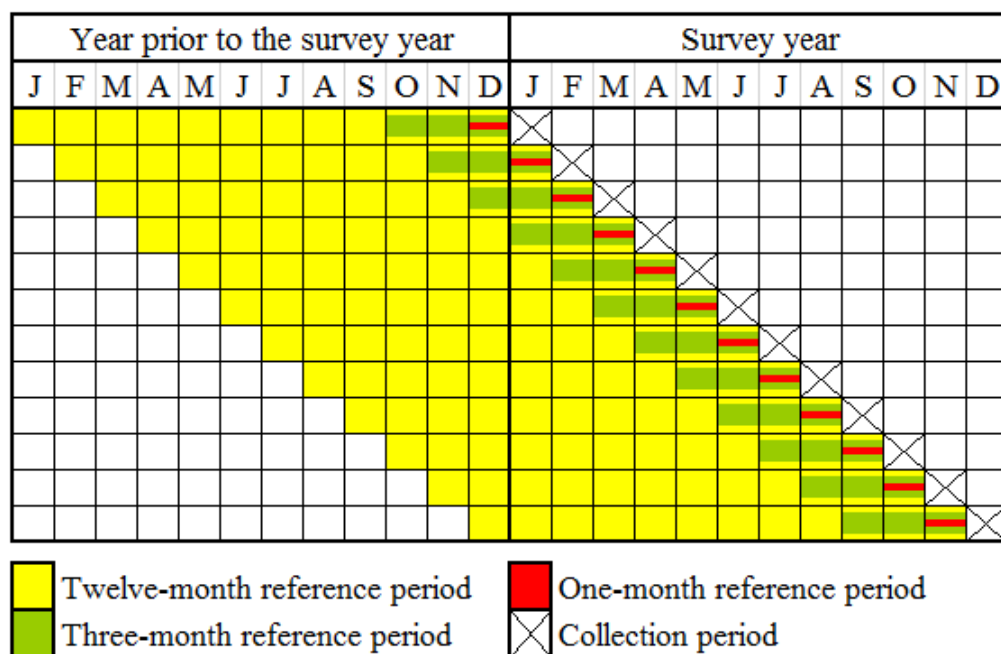
3.6.3 Annualization and other adjustments

All expenditure amounts collected with the interview using a recall period of less than 12 months, as well as those collected with the diary, are converted to annual amounts (annualized). For this purpose, the reported expenditures are multiplied by a factor based on the recall period. For example, amounts collected with a 3-month recall period are multiplied by 4 to annualize them. Some expenditure data are also corrected by an adjustment factor if they have been identified as influential or extreme values. For the diary, another adjustment factor is also applied to compensate for non-responded days. All official SHS expenditure estimates are based on the annualized and adjusted amounts.

3.7 Reference period of the estimates

With continuous monthly collection, the reference period of the collected data differs from one month to the next, as illustrated in Figure 1. For example, for an expenditure item with a three-month recall period, the data from the July sample include expenditures incurred between April 1 and June 30, whereas the data from the December sample include expenditures incurred between September 1 and November 30.

Figure 1:
Monthly sample reference periods of three different lengths



Source: Survey of Household Spending.

Collected expenditures with a reference period of less than 12 months are annualized so that all expenditure amounts cover a period of 12 months. SHS estimates are produced by combining the data from the 12 monthly samples.

Annualized data from the 12 monthly samples are combined to generate annual expenditure estimates. For expenditures with a recall period of 3 months or less, most of these expenditures were incurred during the survey reference year. This is also true for all expenditure data collected with the diary.

For expenditure items with a 12-month recall period, the collected expenses occurred between January of the year before the survey year and November of the survey year, depending on the collection month. For example, expenses collected in January cover the period from January to December of the year before the survey year,

while expenses collected in December occurred between December of the year before the survey year and November of the survey year. For the estimates produced to represent a single 12-month period when the data from 12 monthly samples are combined, it must be assumed that expenditures incurred during the survey year are similar to those incurred during the previous year. This must also be considered when making comparisons between estimates based on a 12-month recall period and those based on shorter periods.

The limits of this collection model for producing expenditure estimates covering the same period (or the same year) are known, since the majority of countries use this methodology. Despite these limitations, continuous collection with reference periods adapted to the respondent's ability to provide information is considered preferable to obtain data that reflect households' true expenditures.

3.8 Historical revisions

The 2019 SHS estimates were computed with weights calibrated to 2019 demographic population estimates. These population estimates are based on 2016 Census data, as well as more recent information from administrative sources such as birth, death and migration registers. In order to make 2019 SHS estimates comparable to those for 2017, the 2017 SHS estimates have been revised using population projections based on the 2016 Census. These estimates were previously computed with weights calibrated to population estimates projected from the 2011 Census.

This historical revision of SHS 2017 also reflects improvements that were introduced with the 2019 SHS to the method for imputing grocery items and the method for adjusting influential values. These improvements are described in Section 3.9.

The SHS 2010 to 2016 estimates are still based on weights calibrated to 2011 Census population projections. As geographic concepts may have changed between the 2011 and 2016 Censuses, users should be careful when comparing estimates from the SHS 2010 to SHS 2016 series with those from SHS 2017 and 2019.

SHS estimates for years prior to 2010 (2001 to 2009) are based on weights adjusted to population projections from the 2001 Census. No revision (based on more recent Census data) is planned for these estimates due to the break in the data series starting with SHS 2010 (see Section 3.9).

3.9 Comparability over time

The SHS has been conducted annually since 1997. This survey includes most of the content of its predecessors (the periodic Survey of Family Expenditures and the Household Facilities and Equipment Survey). Prior to 2010, the SHS was primarily based on an interview conducted during the first quarter of the year in which households reported expenditures incurred in the preceding calendar year, although some changes to the methodology and definitions were made between 1997 and 2009.

A new methodology, which combines a questionnaire and a diary to collect household expenditures, was introduced in the 10 provinces starting with the 2010 SHS. The recall periods were shortened for several expenditure items and collection became continuous throughout the year. Although the expenditure categories in the redesigned SHS are similar to those of previous years, the changes to data collection, processing and estimation methods have created a break in the data series. As a result, users are advised not to compare SHS data from 2010 onward with data prior to 2010, unless indicated otherwise.

The redesigned SHS incorporates a significant amount of content that was previously collected through the Food Expenditure Survey (FES), last conducted in 2001. Although there are some differences between the SHS and FES methodologies, food expenditure data in both surveys have been collected using an expenditure diary that households are asked to fill in for a period of one or two weeks. The content of the SHS diary is slightly less detailed than that of the FES diary (e.g., the weight and quantity of food items are not collected) in order to limit the SHS respondent's burden.

The content of the SHS was also reviewed in 2010 to reduce the time required for the interview. A number of components regarding household equipment and dwelling characteristics, as well as most of the questions regarding changes in household assets and liabilities have been dropped. Some definitions have also changed.

As well, starting with the 2010 survey, the data related to household income and income tax come mainly from personal income tax data.

The new SHS design (applied in the 10 provinces since 2010) was introduced in the territories for the first time in the 2015 reference year. In prior years, coverage in the territories was near-complete and only remote communities were excluded. Starting in 2015, coverage in the three territories is limited to the capital cities due to operational and budget constraints as a result of adopting the new SHS design. As such, users are advised not to compare data for the territories from 2015 and later with those from previous years, unless otherwise noted.

The 2019 SHS questionnaire was streamlined to reduce respondent burden. As a result, some data series are no longer available or have been combined to create new series starting with reference year 2019. As well, estimates for some expenditure categories in 2019 may no longer be directly comparable to those from previous years due to changes to the questionnaire and/or to the mode used to collect certain expenditures. Additional information on the impact of these changes is available upon request. Also starting with SHS 2019, the length of the reporting period for the diary was reduced from two weeks to one week in the provinces. To mitigate the effect of the shorter reporting period on data quality, the size of the sample of households selected for the diary in the provinces was increased from 50% to 100% of the size of the interview sample.

Over time, it has been observed that a growing number of households report grocery totals in the diary instead of detailed expenses for individual grocery items. For the 2019 SHS, a new method was implemented with the aim of improving the process of distributing these grocery totals among grocery items. The previous method used the list of daily grocery expenses made by a donor household to redistribute another household's grocery total. Analysis of the results from this method showed that an insufficient number of food items were imputed when the total to be redistributed was lower. The new method uses the detailed grocery stores receipts (with at least one food item) obtained from other respondents to distribute grocery totals reported by certain households. Totals associated to convenience stores were imputed with detailed receipts from these types of stores. In order to ensure comparability between the 2019 SHS estimates of expenditures for food purchased from stores with those of the 2017 SHS, the 2017 SHS data have been revised using the new method. This was done within the historical revision framework.

In 2019, a new method of influential value detection called the conditional bias was introduced to identify influential values in the expenditure data. These influential values are weighted expenditure amounts for a given household and a given item that are much larger or smaller than the weighted amounts of other households for that same item in a given geographic area. Adjustments are made to the most extreme influential expenditure estimates. While adjustments were made in previous years, this new method has two advantages in that it reduces mean squared error (combination of bias and variance) and removes some of the subjectivity in identifying and adjusting these extreme values. The conditional bias method corrects a larger number of influential values but applies smaller adjustments than the previous method. For this reason, microdata users may observe a greater number of higher values, especially for asymmetric distributions. In order to ensure comparability between the 2019 SHS estimates with those of the 2017 SHS, the 2017 SHS data have been revised using this new method. This was done within the historical revision framework.

4. Data quality

The SHS is subject to error despite all the precautions taken in each step of the survey process to prevent them or reduce their impact. There are two types of errors: sampling and non-sampling.

4.1 Sampling errors

Sampling errors occur because inferences about the entire population are based on information obtained from only a sample of the population. The sample design, estimation method, sample size and data variability determine the size of the sampling error. The data variability for an expenditure item refers to the differences between members of the population in spending on that item. In general, the greater the differences between households, the larger the sampling error will be.

A common measure of sampling error is the standard error. The standard error is the degree of variation in the estimates that results from selecting one particular sample over another. The standard error expressed as a percentage of the estimate is called the coefficient of variation (CV). The CV is used to indicate the degree of

uncertainty associated with an estimate. For example, if the estimated number of households with a given dwelling characteristic is 10,000 with a CV of 5%, then the actual number is between 9,500 and 10,500 households 68% of the time, and between 9,000 and 11,000 households 95% of the time.

The standard errors for the SHS are estimated using the bootstrap method (see reference [1] in Section 7). CVs are available for the national and provincial estimates, as well as for the estimates by household type, age of reference person, household income quintile, household tenure and size of area of residence. For the northern territories, CVs are available for the estimates for the three capitals.

4.2 Data suppression

To ensure accuracy, estimates with a CV greater than or equal to 35% have been suppressed in published tables. Suppressed estimates still contribute to summary-level estimates. For example, if the expenditure estimate for a particular item of clothing were suppressed, this amount would still be included in the total estimate for clothing expenditure.

4.3 Non-sampling errors

Non-sampling errors occur because certain factors make it difficult to obtain accurate responses and to ensure that these responses retain their accuracy throughout processing. Unlike sampling errors, non-sampling errors are not easily quantified. Four sources of non-sampling errors can be identified: coverage errors, response errors, non-response errors and processing errors.

4.3.1 Coverage errors

Coverage errors arise when sampling frame units do not adequately represent the target population. Such errors may occur during sample design or selection, during data collection or during data processing.

4.3.2 Response errors

Response errors occur when respondents provide inaccurate information. Such errors may be due to many factors, including flawed design of the questionnaire, misinterpretation of questions by interviewers or respondents, or faulty reporting by respondents.

Response errors are the most difficult aspect of data quality to measure. In general, the accuracy of SHS data depends largely on the respondent's ability to remember (recall) household expenditures and their willingness to consult records.

4.3.3 Non-response errors

Errors due to non-response occur when potential respondents do not provide the required information or when the information they provide is unusable. The main impact of non-response on data quality is that it can cause a bias in the estimates if the characteristics of non-respondents differ from those of respondents in a way that impacts the expenditures studied. While response rates can be calculated, they provide only an indication of data quality, since they do not measure the degree of bias present in the estimates. The magnitude of non-response can be considered a simple indicator of the risks of bias in the estimates.

At the national level (10 provinces only), the response rate for the 2019 SHS interview is 62.3%. The provincial response rates are shown in Table 1a. The table also shows the number of non-responding households grouped according to reason for non-response. Reasons include the inability to contact the household, the household's refusal to participate in the survey and the inability to conduct an interview because of special circumstances (e.g., the respondent speaks neither official language or has a physical condition that precludes an interview). Respondents in the latter category are referred to as residual non-respondents.

Table 1a
Interview response rates, Canada¹ and provinces, 2019

	Eligible sampled households	No contacts	Refusals	Residual non-respondents	Respondents	Response rate ²
						number
Canada	17,491	1,400	4,589	612	10,890	62.3
Atlantic provinces	5,689	272	1,382	208	3,827	67.3
Newfoundland and Labrador	1,522	94	320	42	1,066	70.0
Prince Edward Island	848	40	244	51	513	60.5
Nova Scotia	1,683	51	426	60	1,146	68.1
New Brunswick	1,636	87	392	55	1,102	67.4
Quebec	2,205	94	492	60	1,559	70.7
Ontario	2,411	216	758	120	1,317	54.6
Prairie provinces	5,053	584	1,367	142	2,960	58.6
Manitoba	1,609	137	427	70	975	60.6
Saskatchewan	1,564	165	437	29	933	59.7
Alberta	1,880	282	503	43	1,052	56.0
British Columbia	2,133	234	590	82	1,227	57.5

1. Only the 10 provinces are included.

2. (Respondent households/Eligible sampled households) x 100.

Source: Survey of Household Spending, 2019.

Some households do not complete the diary or provide a diary that is considered unusable under the criteria outlined in Section 3.5. For the 2019 SHS, the diary response rate among the households who responded to the interview is 69.5% (at the national level, which includes the provinces only). Provincial rates are provided in Table A1 of Appendix A. The final diary response rate (defined as the percentage of usable diaries relative to the number of households in the sample) is 43.3% at the national level, and provincial rates are shown in Table 2a.

Table 2a
Diary response rates, Canada¹ and provinces, 2019

	Eligible sampled households ²	Interview non-respondents ³	Diaries ⁴			Response rate ⁶
			Refusals ⁵	Unusable	Usable	
number						
percentage						
Canada	17,491	6,601	2,903	421	7,566	43.3
Atlantic provinces	5,689	1,862	908	180	2,739	48.1
Newfoundland and Labrador	1,522	456	211	71	784	51.5
Prince Edward Island	848	335	162	19	332	39.2
Nova Scotia	1,683	537	315	55	776	46.1
New Brunswick	1,636	534	220	35	847	51.8
Quebec	2,205	646	537	54	968	43.9
Ontario	2,411	1,094	362	37	918	38.1
Prairie provinces	5,053	2,093	727	116	2,117	41.9
Manitoba	1,609	634	190	32	753	46.8
Saskatchewan	1,564	631	257	38	638	40.8
Alberta	1,880	828	280	46	726	38.6
British Columbia	2,133	906	369	34	824	38.6

1. Only the 10 provinces are included.

2. The eligible sampled households are the same for the interview and the diary.

3. Includes interview "No contacts", "Refusals" and "Residual non-respondents".

4. The definition of usable and unusable diaries is given in the "Data processing and quality control" section.

5. Includes diary "No contacts", "Refusals" and "Residual non-respondents".

6. (Usable diaries/Eligible sampled households) x 100.

Source: Survey of Household Spending, 2019.

The response rates vary from month to month. For the 10 provinces, monthly response rates for the interview and diary can be found in tables B1 and B2 of Appendix B. Interview and diary response rates by size of area of residence and dwelling type are shown in tables C1, C2, C3 and C4 of Appendix C, respectively.

The diary response rates of interview respondents can be found in tables D1, D2, D3 and D4 of Appendix D, disaggregated by various household characteristics, including household type, household tenure, age of the reference person and before-tax income quintile for the 10 provinces.

The interview response rates in the three territorial capitals are given in Table 1b below. Altogether, the three territorial capitals have an interview response rate equal to 63.0% for SHS 2019.

Table 1b
Interview response rates, three territorial capitals, 2019

	Eligible sampled households	No contacts	Refusals	Residual non-respondents	Respondents	Response rate ¹
						number
Territorial capitals	937	105	218	24	590	63.0
Whitehorse	456	30	132	14	280	61.4
Yellowknife	296	46	45	9	196	66.2
Iqaluit	185	29	41	1	114	61.6

1. (Respondent households/Eligible sampled households) x 100.

Source: Survey of Household Spending, 2019.

In the three territorial capitals, like in the provinces, some households do not complete or provide a diary that is considered unusable under the criteria outlined in Section 3.5. For the 2019 SHS, 61.7% of the households who responded to the interview in the territorial capitals also completed the diary. The final diary response rate in the northern capitals is 38.8%, as shown in table 2b.

Table 2b
Diary response rates, three territorial capitals, 2019

	Eligible sampled households	Interview non-respondents ¹	Diaries ²			Response rate ⁴
			Refusals ³	Unusable	Usable	
number						
percentage						
Territorial capitals	937	347	222	4	364	38.8
Whitehorse	456	176	134	2	144	31.6
Yellowknife	296	100	38	1	157	53.0
Iqaluit	185	71	50	1	63	34.1

1. Includes interview "No contacts", "Refusals" and "Residual non-respondents".

2. The definition of usable and unusable diaries is given in the "Data processing and quality control" section.

3. Includes diary "No contacts", "Refusals" and "Residual non-respondents".

4. (Usable diaries/Eligible sampled households) x 100.

Source: Survey of Household Spending, 2019.

For the territorial capitals, the diary response rates among interview respondents are given in Table H1 of Appendix H. The interview and diary response rates by quarter are provided in Tables H2 and H3 of Appendix H.

For all selected households (provinces and territorial capitals), cases for which the respondent fails to answer some of the questions are referred to as partial non-response. Imputing missing values compensates for this partial non-response. Various imputation rates are shown in Section 4.3.5. There are also cases in which a household fails to enter data in the diary for each day in their diary reporting period as required. Adjustment factors are calculated to take these non-responded days into consideration and are applied to estimates derived from the diary data.

4.3.4 Processing errors

Processing errors may occur in any of the data processing stages, including data entry, coding, editing, imputation of partial non-response, weighting and tabulation. Steps taken to reduce processing errors are described in Section 3.5.

4.3.5 Imputation of partial non-responses

The residual bias remaining after the imputation of partial non-responses is difficult to measure. Its magnitude depends on the imputation method's ability to produce unbiased estimates. The imputation rates provide an indication of the magnitude of partial non-response.

Partial interview non-response may result from a lack of information or from an invalid response to a question. The national and provincial percentages of households for which certain expenditure categories required imputation due to partial interview non-response are shown in Table 3a. These percentages are shown for the three territorial capitals in Table 3b. These percentages are presented by number of imputed expenditure variables per household (out of all consumer expenditure data collected during the interview). Each of these tables contains two series of results: one series including expenditures for communication services (telephone, cell phone and Internet), television services (via cable, a satellite dish or a phone line), satellite radio services, and home security services, and the other excluding these expenses. This distinction has been made because these services are increasingly being purchased as a package. Households are often billed for bundled services, making it difficult or impossible for them to provide separate expenditure amounts for each service. Therefore, the total amount paid for the package is allocated to individual services through imputation, which significantly increases the number of households for which expenditures must be imputed.

Table 3a
Percentage of households requiring imputation for consumer expenses collected during the interview, Canada¹ and provinces, 2019

	Number of variables imputed ² (out of 160)				Number of variables imputed ³ (out of 165)			
	1	2 to 9	10 or more	Total	1	2 to 9	10 or more	Total
	percentage							
Canada	19.9	34.4	1.2	55.5	8.7	68.7	2.7	80.1
Newfoundland and Labrador	17.4	29.3	0.8	47.6	5.3	78.3	2.3	85.8
Prince Edward Island	25.3	31.0	0.4	56.7	10.5	71.0	1.4	82.8
Nova Scotia	21.2	33.2	1.5	55.8	7.6	70.3	2.8	80.7
New Brunswick	19.4	27.4	0.6	47.5	6.8	75.4	1.9	84.1
Quebec	21.1	34.6	1.3	57.0	7.3	72.5	3.5	83.3
Ontario	24.1	30.8	1.1	56.0	11.7	61.9	2.1	75.6
Manitoba	15.0	54.8	1.4	71.2	9.6	67.7	4.0	81.3
Saskatchewan	19.8	36.5	0.8	57.1	12.1	63.3	1.7	77.2
Alberta	12.4	48.3	2.7	63.3	8.1	63.6	4.9	76.6
British Columbia	23.0	21.9	0.8	45.7	9.5	63.4	1.5	74.5

1. Only the 10 provinces are included.

2. Excluding expenditures related to communication, television, satellite radio and home security services.

3. Including expenditures related to communication, television, satellite radio and home security services.

Source: Survey of Household Spending, 2019.

Table 3b
Percentage of households requiring imputation for consumer expenses collected during the interview, three territorial capitals, 2019

	Number of variables imputed ¹ (out of 160)				Number of variables imputed ² (out of 165)			
	1	2 to 9	10 or more	Total	1	2 to 9	10 or more	Total
	percentage							
Territorial capitals	20.7	43.4	2.0	66.1	13.9	56.9	2.7	73.6
Whitehorse	20.7	45.4	2.1	68.2	13.6	60.7	2.9	77.1
Yellowknife	19.4	37.2	0.0	56.6	12.8	52.0	0.5	65.3
Iqaluit	22.8	49.1	5.3	77.2	16.7	56.1	6.1	78.9

1. Excluding expenditures related to communication, television, satellite radio and home security services.

2. Including expenditures related to communication, television, satellite radio and home security services.

Source: Survey of Household Spending, 2019.

Users of expenditure estimates related to communication, television, satellite radio or home security services should take the high level of imputation for the expenditure data into account when examining these individual services. A measure of the impact of imputation on each individual service has been produced in Table E1 of Appendix E for the provinces and in Table H4 of Appendix H for the territorial capitals. This measure represents the proportion of the total value of the estimate obtained from imputed data.

For expenditure data from the diaries, imputation is used in three ways. It is used to assign a value when the amount of a reported expenditure is missing. It is also used to assign a list of expenditure items (with individual costs) when only the total cost for a bundle of items has been provided. For example, imputation can assign grocery items and their individual costs in a case where the respondent has provided only the total amount of their grocery bill. Finally, imputation is used to assign an expenditure code that is more detailed than the one that could be assigned using the information provided by a respondent (e.g., the type of bakery product). The imputation rates for each of these three types of imputation are shown in Table F1 of Appendix F for Canada and in Table H5 of Appendix H for the three territorial capitals. Each rate represents the proportion of imputed items relative to all expenditure items from the diaries.

The risks of bias associated with the imputed data depend largely on the level of detail at which the SHS data are used. For example, food expenditure data in the SHS are produced at a high level of detail to meet the needs of Food Expenditure Survey (last conducted in 2001) users. Food expenditures are categorized using a hierarchical system of more than 200 expenditure codes. For some reported expenditure items, the food product may have been known (e.g., dairy products or even milk), but the level of detail required (e.g., skim milk, 1% milk or 2% milk) had to be imputed. This type of imputation creates a risk of bias only in expenditure estimates at a very detailed level. In other cases, however, almost no information on the type of expenditure was available before imputation (e.g., it was known only that the expenditure was for a good). When so little information is available, the risks of bias in the estimates of the expenditure categories are more significant.

Restaurant expenditures are reported using a slightly different format in the second section of the diary. Imputation is used primarily to assign a value when the total amount of the restaurant expenditure or the cost of alcoholic beverages is missing, or when the type of meal (breakfast, lunch, dinner or snack and beverage) has not been specified. The imputation rate for each of these three types of imputation is shown in Table F2 of Appendix F for Canada and in Tables H6 of Appendix H for the territorial capitals.

Lastly, households have the option of either providing receipts or recording their expenditure information in the diary. Table 4a shows the percentage of expenditures reported using each method for food expenditures, restaurant expenditures, and expenditures for other goods and services for Canada and the three territorial capitals respectively.

Table 4a
Methods for recording expenses in the diary, Canada,¹ 2019

Expenditure category	Transcriptions	Receipts
	percentage	
Food	18.4	81.6
Restaurant	81.1	18.9
Other goods and services	49.2	50.8

1. Only the 10 provinces are included.

Source: Survey of Household Spending, 2019.

Table 4b
Methods for recording expenses in the diary, three territorial capitals, 2019

Expenditure category	Transcriptions	Receipts
	percentage	
Food	13.0	87.0
Restaurant	69.2	30.8
Other goods and services	48.5	51.5

Source: Survey of Household Spending, 2019.

4.4 The effect of large values

For any sample, estimates of totals, averages and standard errors can be affected by the presence or absence of large values in the sample. Large values are more likely to arise from positively skewed populations. Such values are found in the SHS and are taken into account when the final estimates are generated. Section 3.9 provides a description of the method applied for SHS 2019 in order to adjust for these influential values.

5. Derivation of data tables

This section shows how the SHS data tables, previously known as CANSIM tables (see Section 6), have been derived. It then explains the calculations used most frequently to manipulate the data. Users are advised to refer to this section before undertaking data analysis.

As mentioned in Section 3.6, two different sets of weights are necessary for the SHS: one set for the interview and another set for the diary. These two weights are used to derive different estimates using the survey data.

5.1 Estimates of number of households

Adjustments made during weighting ensure that the estimated number of households at the provincial level is the same for both sets of weights (interview and diary) for the following domains:

- Household sizes of one, two, and three or more persons.
- Household income groups defined according to provincial quintiles.

By default, the estimate of the number of households for any aggregation of these domains is the same for both sets of weights.

For any other domain, the estimated number of households may differ to a certain extent between the two sets of weights, since the calibration strategy used to adjust weights differs between the interview and the diary outside of the domains listed above. The estimated number of households in the SHS tables has been produced using interview weights, as opposed to diary weights. The average household size is also estimated using the interview weights.

The estimated number of households and the average household size for the various domains for which expenditure estimates are published online are available in tables G1 and G2 of Appendix G for Canada and the provinces and in Table H7 of Appendix H for the territorial capitals.

5.2 Estimates of average expenditures per household

Estimates of average expenditures per household based on both interview and diary expenditure data are produced in two steps. Estimates are produced separately for the interview data and the diary data and are then added together in a second step.

For estimates of average expenditures per household, the interview average expenditures per household are first calculated using the weighted sum of expenditure data obtained from the interview divided by the sum of the interview weights. Similarly, the diary average expenditures per household are estimated using the weighted sum of expenditure data obtained from the diary divided by the sum of the diary weights. The two components are then added together to obtain the average expenditures per household. For domains in which the estimated number of households differs between the two sets of weights, average expenditures per household derived using this method will not exactly match the combined interview and diary weighted sum of expenditures divided by the estimated number of households produced using the interview weights. Nevertheless, the approach ensures that the sum of the average expenditures per household for all categories equals the average total expenditure per household.

5.3 Examples of expenditure estimates

This section includes examples of expenditure estimates produced using a combination of interview and diary data. It also shows examples of the estimated number of households produced from the interview weights. These examples are provided to show how different expenditure estimates (presented in Section 5.4) can be calculated using published SHS data.

The data tables available online include estimates of average expenditures per household. The estimated number of households and the average household size are also available at the national, regional and provincial levels. The estimated number of households and the average household size for other domains are not included in these tables but are provided in tables G1 and G2 of Appendix G for Canada and the provinces and in Tables H7 of Appendix H for the three territorial capitals.

Table 5 shows the estimated number of households and average household size by household tenure as provided in the tables of Appendix G (not available in the data tables online), while Table 6 shows examples of average household expenditure estimates available to users through the online SHS data tables.

Table 5
Estimated number of households and average household size based on interview weights, by household tenure

	All households	Owner with mortgage	Owner without mortgage	Renter
	number			
Estimated number of households	14,706,626	5,506,247	4,324,977	4,875,401
Average household size	2.48	3.13	2.18	2.02

Note: Estimates in these tables are from the 2019 SHS.

Source: Survey of Household Spending, 2019.

Table 6
Average household expenditures obtained from interview and diary data, by household tenure

	All households	Owner with mortgage	Owner without mortgage	Renter
	dollars			
Total expenditures ¹	49,078	67,798	42,203	33,907
Food expenditures	10,311	12,529	10,264	7,760
Food purchased from stores	7,536	9,148	7,462	5,718
Food purchased from restaurants	2,775	3,381	2,801	2,042
Shelter	20,200	30,734	13,325	14,401
Household furnishings and equipment	2,486	3,282	2,751	1,342
Clothing and accessories	3,344	4,047	3,204	2,675
Transportation	12,737	17,206	12,659	7,729

1. Total of expenditure for the categories used in this example

Note: Estimates in these tables are from the 2019 SHS.

Source: Survey of Household Spending, 2019.

The following section provides examples demonstrating how to produce other estimates using tables such as Table 5 and Table 6 above.

5.4 Calculating various estimates

The following section explains some of the calculation methods most commonly used to manipulate SHS expenditure estimates.

5.4.1 Average expenditures per person

To calculate the average expenditures per person for a given category, divide the average expenditures per household for that category (Table 6) by the average household size (found on the second line of Table 5). For example, the average food expenditures per person for renter households are calculated as follows:

$$\begin{aligned} & \textit{Average food expenditures per person for renter households} \\ & = \frac{\textit{Average food expenditures per renter household}}{\textit{Average size of renter household}} \end{aligned}$$

Example:

$$\frac{\$7,760}{2.02} = \$3,842$$

When analyzing estimates of average expenditures per person, note that household composition (number of children and adults) is a significant factor in many expenditure patterns. As such, the method above provides only an approximation of the average per person. The SHS is not specifically designed to produce estimates of spending at the person level.

5.4.2 Percentage of average total household expenditures (budget share)

To calculate the budget share of an individual expenditure category as a percentage of average total household expenditures, divide the average expenditures per household for that category by the average total expenditures per household, and then multiply by 100. For example, using Table 6, the percentage of average total expenditures per household represented by the average expenditures on food per household, for renter households, is calculated by the following ratio:

$$\begin{aligned} & \textit{Average expenditures on food} \\ & \textit{as a percentage of average total expenditures for renter households} \\ & = \\ & \frac{\textit{Average expenditures on food per renter household}}{\textit{Average total expenditures per renter household}} \times 100 \end{aligned}$$

Example:

$$\frac{\$7,760}{\$33,907} \times 100 = 22.89\%$$

5.4.3 Combining expenditure categories

The average expenditures per household for different expenditure categories can be added together in one column to create new subtotals. For example, the average expenditures on shelter and transportation combined per renter household are calculated as follows:

*Average expenditures on shelter per renter household +
Average expenditures on transportation per renter household*

Example:

$$\$14,401 + \$7,729 = \$22,130$$

5.4.4 Aggregate expenditures

To calculate aggregate expenditures, multiply the average expenditures per household from one column for an expenditure category (Table 6) by the estimated number of households from the same column in Table 5. For example, the aggregate expenditures on food for renter households are calculated as follows:

Average expenditures on food per renter household × Estimated number of renter households

Example:

$$\$7,760 \times 4,875,401 = \$37,833,111,760$$

Note: Since the average food expenditure comes from diary data alone, and the estimated number of households in the domain used differs slightly depending on whether it is calculated using the interview weights or the diary weights, this estimate of aggregate expenditures only approximates the value that would have been obtained using the weighted sum of expenditures. Indeed, if the estimated number of households used in the calculation were based on the diary weights (not available online), the estimate of aggregate food expenditures for renter households would be slightly different at \$37,508,696,191

The estimates of aggregate expenditures are exact for all domains for which the sum of the interview weights and the sum of the diary weights are the same (see Section 5.1), as well as for all variables derived only from the interview.

5.4.5 Aggregate expenditures by combining data columns

To calculate aggregate expenditures for a given expenditure category for multiple columns, calculate the aggregate expenditures for this category for each column and then add them together.

For example, the aggregate expenditures on food by owner households (with or without a mortgage) are calculated as follows:

$$\begin{aligned}
 & \text{Aggregate expenditures on food for owner households with or without a mortgage} \\
 & = \\
 & \quad (\text{Average expenditures on food per owner household with a mortgage} \\
 & \quad \times \text{Estimated number of owner households with a mortgage}) \\
 & \quad + \\
 & \quad (\text{Average expenditures on food per owner household without a mortgage} \\
 & \quad \times \text{Estimated number of owner households without a mortgage})
 \end{aligned}$$

Example:

$$(\$12,529 \times 5,506,247) + (\$10,264 \times 4,324,977) = \$113,379,332,591$$

5.4.6 Average expenditures per household by combining data columns

To calculate the average expenditures for a given expenditure category for multiple columns, calculate the aggregate expenditures for this category for each column, add them together, and then divide the total by the sum of the estimated number of households in those columns (Table 7). For example, the average expenditures on food per owner household (with or without a mortgage) are calculated as follows:

$$\begin{aligned}
 & (\text{Average expenditures on food per owner household with a mortgage} \\
 & \quad \times \text{Estimated number of owner households with a mortgage}) \\
 & \quad + \\
 & (\text{Average expenditures on food per owner household without a mortgage} \\
 & \quad \times \text{Estimated number of owner households without mortgage}) \\
 & \hline
 & \text{Estimated number of households (with and without a mortgage)}
 \end{aligned}$$

Example:

$$\frac{(\$12,529 \times 5,506,247) + (\$10,264 \times 4,324,977)}{5,506,247 + 4,324,977} = \$11,533$$

5.4.7 Expenditure share of a subgroup among all households

Here the expenditure share is the percentage of the aggregate expenditures for a given expenditure category that belongs to a particular subgroup of households (e.g., the percentage of all food expenditures made by renter households). It is calculated by deriving the household subgroup's aggregate expenditures for the expenditure category and dividing it by the aggregate expenditure for that expenditure category for all households. The result is then multiplied by 100. For example, the percentage of food expenditures made by renter households is calculated as follows:

Percentage of food expenditures made by renter households

=

$$\frac{\text{Average expenditures on food per renter household} \times \text{Estimated number of renter households}}{\text{Average expenditures on food per household for all households} \times \text{Estimated total number of households}} \times 100$$

Example:

$$\frac{\$7,760 \times 4,875,401}{\$10,311 \times 14,706,626} \times 100 = 24.95\%$$

6. Related products and services**6.1 Data tables (formerly CANSIM)**

Previously, Statistics Canada data was available via CANSIM (the Canadian Socioeconomic Information Management System), a database consisting of multidimensional cross-sectional tables. CANSIM tables were replaced by data tables with the same or similar content. All of the content previously available has been integrated into the new data tables.

Eight tables presenting annual information from the Survey of Household Spending are available for Canada and the provinces. Table 11-10-0222-01 presents detailed household expenditure estimates, while tables 11-10-0223-01 to 11-10-0227-01 present data according to household income quintile, household type, household tenure, size of area of residence and age of the reference person, respectively. Table 11-10-0228-01 presents information on dwelling characteristics and household equipment. Finally, Table 11-10-0125-01 provides detailed food expenditure estimates.

Two tables are available with SHS estimates for the three territorial capitals. Table 11-10-0233-01 presents household expenditure estimates, while Table 11-10-0234-01 presents information on dwelling characteristics and household equipment.

6.2 Microdata products

Starting with SHS 2017, a Public-Use Microdata File (PUMF) will be produced on a regular basis. The SHS 2017 PUMF ([62M0004X](#)) is the first SHS PUMF based on data collected after the 2010 redesign. SHS microdata are also accessible through Statistics Canada's [Research Data Centre \(RDC\)](#) and [Real-Time Remote Access \(RTRA\)](#) programs. Microdata products based on SHS 2019 will be made available in 2021.

6.3 Custom tabulations

For clients with more specialized data needs, custom tabulations can be produced to their specifications on a cost-recovery basis under the terms of a contract (subject to confidentiality restrictions). Detailed aggregate data on household expenditures are also available on a custom basis.

7. References

[1] Charlebois, J. and G. Dubreuil. 2011. *Variance Estimation for the Redesigned Survey of Household Spending*. Proceedings of the Survey Methods Section, Statistical Society of Canada Annual Meeting, June 2011.

Appendix A Diary response rates among interview respondents, Canada¹ and provinces

Table A1
Diary response rates among the respondents to the interview, Canada¹ and provinces, 2019

	Interview respondents	Diaries ²			Response rate ⁴ percentage
		Refusals ³ number	Unusable	Usable	
Canada	10,890	2,903	421	7,566	69.5
Atlantic provinces	3,827	908	180	2,739	71.6
Newfoundland and Labrador	1,066	211	71	784	73.5
Prince Edward Island	513	162	19	332	64.7
Nova Scotia	1,146	315	55	776	67.7
New Brunswick	1,102	220	35	847	76.9
Quebec	1,559	537	54	968	62.1
Ontario	1,317	362	37	918	69.7
Prairie provinces	2,960	727	116	2,117	71.5
Manitoba	975	190	32	753	77.2
Saskatchewan	933	257	38	638	68.4
Alberta	1,052	280	46	726	69.0
British Columbia	1,227	369	34	824	67.2

1. Only the 10 provinces are included.

2. The definition of usable and unusable diaries is given in the "Data processing and quality control" section.

3. Includes diary "No contacts", "Refusals" and "Residual non-respondents".

4. (Usable diaries/Interview respondents) x 100.

Source: Survey of Household Spending, 2019.

Appendix B Response rates by collection month, Canada¹

Table B1
Interview response rates by collection month, Canada,¹ 2019

	Eligible sampled households	No contacts	Refusals	Residual non-respondents	Respondents	Response rate ² percentage
All months	17,491	1,400	4,589	612	10,890	62.3
January	1,484	103	364	61	956	64.4
February	1,451	90	382	53	926	63.8
March	1,443	126	396	49	872	60.4
April	1,459	76	400	53	930	63.7
May	1,500	100	388	39	973	64.9
June	1,428	106	378	47	897	62.8
July	1,420	137	335	47	901	63.5
August	1,455	108	383	69	895	61.5
September	1,446	148	385	35	878	60.7
October	1,519	115	410	68	926	61.0
November	1,457	123	398	53	883	60.6
December	1,429	168	370	38	853	59.7

1. Only the 10 provinces are included.

2. (Respondent households/Eligible sampled households) x 100.

Source: Survey of Household Spending, 2019.

Table B2
Diary response rates by collection month, Canada,¹ 2019

	Eligible sampled households ²	Interview non-respondents ³	Diaries ⁴			Response rate ⁶
			Refusals ⁵	Unusable	Usable	
	number					percentage
All months	17,491	6,601	2,903	421	7,566	43.3
January	1,484	528	191	42	723	48.7
February	1,451	525	184	37	705	48.6
March	1,443	571	205	41	626	43.4
April	1,459	529	230	32	668	45.8
May	1,500	527	266	50	657	43.8
June	1,428	531	215	34	648	45.4
July	1,420	519	251	28	622	43.8
August	1,455	560	257	30	608	41.8
September	1,446	568	248	34	596	41.2
October	1,519	593	290	27	609	40.1
November	1,457	574	258	35	590	40.5
December	1,429	576	308	31	514	36.0

1. Only the 10 provinces are included.

2. The eligible sampled households are the same for the interview and the diary.

3. Includes interview "No contacts", "Refusals" and "Residual non-respondents".

4. The definition of usable and unusable diaries is given in the "Data processing and quality control" section.

5. Includes diary "No contacts", "Refusals" and "Residual non-respondents".

6. (Usable diaries/Eligible sampled households) x 100.

Source: Survey of Household Spending, 2019.

Appendix C Response rates by size of area of residence and by dwelling type, Canada¹

Table C1
Interview response rates by size of area of residence, Canada,¹ 2019

	Eligible sampled households	No contacts	Refusals	Residual non-respondents	Respondents	Response rate ²
						percentage
All population centres and rural areas	17,491	1,400	4,589	612	10,890	62.3
Population centre 1,000,000 and over	4,884	500	1,248	168	2,968	60.8
Population centre 500,000 to 999,999	1,567	129	441	74	923	58.9
Population centre 250,000 to 499,999	1,748	119	511	44	1,074	61.4
Population centre 100,000 to 249,999	2,888	209	813	106	1,760	60.9
Population centre 30,000 to 99,999	1,840	143	515	73	1,109	60.3
Population centre 1,000 to 29,999	1,964	125	468	59	1,312	66.8
Rural area	2,600	175	593	88	1,744	67.1

1. Only the 10 provinces are included.

2. (Respondent households/Eligible sampled households) x 100.

Source: Survey of Household Spending, 2019.

Table C2
Diary response rates by size of area of residence, Canada,¹ 2019

	Eligible sampled households ²	Interview non-respondents ³	Diaries ⁴			Response rate ⁶
			Refusals ⁵	Unusable	Usable	
	number					percentage
All population centres and rural areas	17,491	6,601	2,903	421	7,566	43.3
Population centre 1,000,000 and over	4,884	1,916	925	100	1,943	39.8
Population centre 500,000 to 999,999	1,567	644	212	27	684	43.7
Population centre 250,000 to 499,999	1,748	674	351	26	697	39.9
Population centre 100,000 to 249,999	2,888	1,128	391	70	1,299	45.0
Population centre 30,000 to 99,999	1,840	731	322	50	737	40.1
Population centre 1,000 to 29,999	1,964	652	289	57	966	49.2
Rural area	2,600	856	413	91	1,240	47.7

1. Only the 10 provinces are included.
2. The eligible sampled households are the same for the interview and the diary.
3. Includes interview "No contacts", "Refusals" and "Residual non-respondents".
4. The definition of usable and unusable diaries is given in the "Data processing and quality control" section.
5. Includes diary "No contacts", "Refusals" and "Residual non-respondents".
6. (Usable diaries/Eligible sampled households) x 100.

Source: Survey of Household Spending, 2019.

Table C3
Interview response rates by dwelling type, Canada,¹ 2019

	Eligible sampled households	No contacts	Refusals	Residual non-respondents	Respondents	Response rate ²
	number					percentage
All dwelling types	17,491	1,400	4,589	612	10,890	62.3
Single detached	11,094	797	3,112	393	6,792	61.2
Double or row/terrace	1,744	128	461	55	1,100	63.1
Duplex, low-rise or high-rise apartment	4,259	437	921	148	2,753	64.6
Other	393	37	95	16	245	62.3
Not available	1	1	0	0	0	0.0

1. Only the 10 provinces are included.
2. (Usable diaries/Eligible sampled households) x 100.

Source: Survey of Household Spending, 2019.

Table C4
Diary response rates by dwelling type, Canada,¹ 2019

	Eligible sampled households ²	Interview non-respondents ³	Diaries ⁴			Response rate ⁶
			Refusals ⁵	Unusable	Usable	
	number					percentage
All dwelling types	17,491	6,601	2,903	421	7,566	43.3
Single detached	11,094	4,302	1,671	224	4,897	44.1
Double or row/terrace	1,744	644	299	48	753	43.2
Duplex, low-rise or high-rise apartment	4,259	1,506	882	135	1,736	40.8
Other	393	148	51	14	180	45.8
Not available	1	1	0	0	0	0.0

1. Only the 10 provinces are included.
2. The eligible sampled households are the same for the interview and the diary.
3. Includes interview "No contacts", "Refusals" and "Residual non-respondents".
4. The definition of usable and unusable diaries is given in the "Data processing and quality control" section.
5. Includes diary "No contacts", "Refusals" and "Residual non-respondents".
6. (Usable diaries/Eligible sampled households) x 100.

Source: Survey of Household Spending, 2019.

Appendix D Diary response rates among interview respondents, by various household characteristics, Canada¹

Table D1

Diary response rates among the respondents to the interview, by household type, Canada,¹ 2019

	Interview	Diaries ²			Response rate ⁴
	respondents	Refusals ³	Unusable	Usable	
	number				percentage
All household types	10,890	2,903	421	7,566	69.5
One person household	3,044	924	181	1,939	63.7
Couple without children	3,222	734	88	2,400	74.5
Couple with children	2,752	686	70	1,996	72.5
Couple with other related or unrelated persons	398	107	14	277	69.6
Lone-parent household with no additional persons	784	236	34	514	65.6
Other household with related or unrelated persons	690	216	34	440	63.8

1. Only the 10 provinces are included.

2. The definition of usable and unusable diaries is given in the "Data processing and quality control" section.

3. Includes diary "No contacts", "Refusals" and "Residual non-respondents".

4. (Usable diaries/Interview respondents) x 100.

Source: Survey of Household Spending, 2019.

Table D2

Diary response rates among the respondents to the interview, by household tenure, Canada,¹ 2019

	Interview	Diaries ²			Response rate ⁴
	respondents	Refusals ³	Unusable	Usable	
	number				percentage
All household tenures	10,890	2,903	421	7,566	69.5
Owner without mortgage	3,718	881	118	2,719	73.1
Owner with mortgage	4,012	1,000	116	2,896	72.2
Renter (with or without rent paid)	3,160	1,022	187	1,951	61.7

1. Only the 10 provinces are included.

2. The definition of usable and unusable diaries is given in the "Data processing and quality control" section.

3. Includes diary "No contacts", "Refusals" and "Residual non-respondents".

4. (Usable diaries/Interview respondents) x 100.

Source: Survey of Household Spending, 2019.

Table D3

Diary response rates among the respondents to the interview, by age of the reference person, Canada,¹ 2019

	Interview	Diaries ²			Response rate ⁴
	respondents	Refusals ³	Unusable	Usable	
	number				percentage
Reference person of all ages	10,890	2,903	421	7,566	69.5
Less than 30 years	939	285	42	612	65.2
30 to 39 years	1,736	497	62	1,177	67.8
40 to 54 years	2,755	742	113	1,900	69.0
55 to 64 years	2,329	597	85	1,647	70.7
65 years and over	3,131	782	119	2,230	71.2

1. Only the 10 provinces are included.

2. The definition of usable and unusable diaries is given in the "Data processing and quality control" section.

3. Includes diary "No contacts", "Refusals" and "Residual non-respondents".

4. (Usable diaries/Interview respondents) x 100.

Source: Survey of Household Spending, 2019.

Table D4
Diary response rates among the respondents to the interview, by before-tax income quintile, Canada,¹ 2019

	Interview respondents	Diaries ²			Response rate ⁴ percentage
		Refusals ³ number	Unusable	Usable	
Total of all income quintiles	10,890	2,903	421	7,566	69.5
Lowest quintile	2,199	696	143	1,360	61.8
Second quintile	2,348	626	107	1,615	68.8
Third quintile	2,188	548	59	1,581	72.3
Fourth quintile	2,145	492	68	1,585	73.9
Highest quintile	2,010	541	44	1,425	70.9

1. Only the 10 provinces are included.

2. The definition of usable and unusable diaries is given in the "Data processing and quality control" section.

3. Includes diary "No contacts", "Refusals" and "Residual non-respondents".

4. (Usable diaries/Interview respondents) x 100.

Source: Survey of Household Spending, 2019.

Appendix E Impact of expenditure imputation on communication, television, satellite radio and home security services, Canada¹

Table E1
Impact of expenditure imputation on communication, television, satellite radio and home security services, Canada,¹ 2019

	Impact of imputation ² percentage
Landline telephone services	65.0
Cell phone and pager	12.2
Television and satellite radio services	64.2
Internet access services	55.2
Home security services	9.9

1. Only the 10 provinces are included.

2. The impact of imputation is the proportion of the total value of the estimate that is obtained from imputed data.

Source: Survey of Household Spending, 2019.

Appendix F Imputation rates by type of imputation and recording method for diary expenses, Canada¹

Table F1
Imputation rates for goods and services including food from stores, by type of imputation and recording method, Canada,¹ 2019

Type of imputation	Transcribed items	Items from a receipt	All items
	percentage		
Imputation of a missing cost for a reported expense			
Food from stores	2.6	0.1	1.3
Other goods and services	5.0	0.0	2.8
All expenditures	3.4	0.1	1.7
Imputation of expenditure items (and their individual cost) from a total expense			
Food from stores	83.0	2.1	40.3
Other goods and services	23.7	1.5	13.8
All expenditures	63.2	2.0	32.4
Imputation of detailed expenditure code			
Food from stores	3.1	3.3	3.2
Other goods and services	6.8	3.2	5.2
All expenditures	4.3	3.3	3.8

1. Only the 10 provinces are included.

Source: Survey of Household Spending, 2019.

Table F2**Imputation rates for snacks, beverages and meals purchased from restaurants or fast-food outlets, by type of imputation and recording method, Canada,¹ 2019**

Type of imputation	Transcribed items	Items from a receipt	All items
	percentage		
Imputation of total cost	0.56	0.00	0.45
Imputation of costs for alcoholic beverages	15.15	10.08	14.20
Imputation of meal type (breakfast, lunch, dinner or snack and beverages)	15.24	8.75	14.01

1. Only the 10 provinces are included.

Source: Survey of Household Spending, 2019.

Appendix G Estimated number of households and average household size by domain, Canada¹**Table G1****Estimated number of households and average household size by domain defined at the national level, Canada,¹ 2019**

Domain	Estimated number of households	Average household size
Canada		
All classes	14,706,626	2.48
Region		
Atlantic Region	1,025,256	2.30
Quebec	3,631,961	2.28
Ontario	5,531,719	2.59
Prairie Region	2,499,145	2.65
British Columbia	2,018,544	2.44
Province		
Newfoundland and Labrador	223,031	2.31
Prince Edward Island	65,345	2.36
Nova Scotia	408,101	2.30
New Brunswick	328,779	2.28
Quebec	3,631,961	2.28
Ontario	5,531,719	2.59
Manitoba	493,858	2.58
Saskatchewan	434,150	2.52
Alberta	1,571,137	2.71
British Columbia	2,018,544	2.44
Before-tax household income quintile (national)		
Lowest quintile	2,940,260	1.44
Second quintile	2,939,107	1.91
Third quintile	2,939,362	2.51
Fourth quintile	2,945,193	2.96
Highest quintile	2,942,705	3.60
Household type		
One person households	4,338,648	1.00
Couples without children	3,846,270	2.00
Couples with children	3,918,625	3.99
Couples with other related or unrelated persons	830,236	4.77
Lone-parent households with no additional persons	784,638	2.56
Other households with related or unrelated persons	988,208	2.92
Household tenure		
Owner	9,831,224	2.71
Owner with mortgage	5,506,247	3.13
Owner without mortgage	4,324,977	2.18
Renter	4,875,401	2.02
Size of area of residence		
Population centre 1,000,000 and over	6,749,539	2.63
Population centre 500,000 to 999,999	1,295,961	2.53
Population centre 250,000 to 499,999	1,154,376	2.35
Population centre 100,000 to 249,999	1,671,319	2.33
Population centre 30,000 to 99,999	1,069,989	2.20
Population centre 1,000 to 29,999	1,475,740	2.34
Rural	1,289,702	2.36

Table G1**Estimated number of households and average household size by domain defined at the national level, Canada,¹ 2019**

Domain	Estimated number of households	Average household size
Age of reference person		
Less than 30 years	1,380,263	2.12
30 to 39 years	2,654,743	2.88
40 to 54 years	3,842,286	3.19
55 to 64 years	3,031,398	2.35
65 years and over	3,797,936	1.73

1. Only the 10 provinces are included.

Note: Subtotals may not add up to the total due to rounding.

Source: Survey of Household Spending, 2019.

Table G2**Estimated number of households and average household size by domain, provincial level, 2019**

Domain	Estimated number of households	Average household size
Newfoundland and Labrador		
All classes	223,031	2.31
Lowest quintile	44,525	1.41
Second quintile	44,587	1.85
Third quintile	44,680	2.37
Fourth quintile	44,532	2.74
Highest quintile	44,707	3.16
Prince Edward Island		
All classes	65,345	2.36
Lowest quintile	12,975	1.45
Second quintile	13,131	1.90
Third quintile	13,024	2.26
Fourth quintile	12,943	2.86
Highest quintile	13,273	3.32
Nova Scotia		
All classes	408,101	2.30
Lowest quintile	81,534	1.43
Second quintile	81,583	1.85
Third quintile	81,680	2.34
Fourth quintile	81,650	2.84
Highest quintile	81,654	3.04
New Brunswick		
All classes	328,779	2.28
Lowest quintile	65,557	1.39
Second quintile	65,748	1.82
Third quintile	65,872	2.20
Fourth quintile	65,664	2.65
Highest quintile	65,938	3.33
Quebec		
All classes	3,631,961	2.28
Lowest quintile	723,195	1.24
Second quintile	728,499	1.72
Third quintile	726,921	2.25
Fourth quintile	725,444	2.84
Highest quintile	727,902	3.36
Ontario		
All classes	5,531,719	2.59
Lowest quintile	1,102,005	1.47
Second quintile	1,106,124	2.07
Third quintile	1,110,318	2.61
Fourth quintile	1,104,307	3.02
Highest quintile	1,108,965	3.77

Table G2**Estimated number of households and average household size by domain, provincial level, 2019**

Domain	Estimated number of households	Average household size
Manitoba		
All classes	493,858	2.58
Lowest quintile	98,376	1.48
Second quintile	98,642	2.13
Third quintile	98,858	2.56
Fourth quintile	98,923	3.28
Highest quintile	99,059	3.47
Saskatchewan		
All classes	434,150	2.52
Lowest quintile	86,719	1.48
Second quintile	86,746	1.97
Third quintile	86,904	2.66
Fourth quintile	86,863	3.00
Highest quintile	86,919	3.49
Alberta		
All classes	1,571,137	2.71
Lowest quintile	313,624	1.72
Second quintile	313,582	2.27
Third quintile	314,263	2.86
Fourth quintile	314,599	3.03
Highest quintile	315,070	3.65
British Columbia		
All classes	2,018,544	2.44
Lowest quintile	402,380	1.47
Second quintile	404,804	1.89
Third quintile	403,716	2.33
Fourth quintile	402,591	2.89
Highest quintile	405,053	3.60

Note: Subtotals may not add up to the total due to rounding.

Source: Survey of Household Spending, 2019.

Appendix H Response rates, imputation rates, estimated number of households and average household size by domain, three territorial capitals

Table H1**Diary response rates among the respondents to the interview, three territorial capitals, 2019**

	Interview respondents	Diaries ¹			Response rate ³ percentage
		Refusals ² number	Unusable	Usable	
Territorial capitals	590	222	4	364	61.7
Whitehorse	280	134	2	144	51.4
Yellowknife	196	38	1	157	80.1
Iqaluit	114	50	1	63	55.3

1. The definition of usable and unusable diaries is given in the "Data processing and quality control" section.

2. Includes diary "No contacts", "Refusals" and "Residual non-respondents".

3. (Usable diaries/Interview respondents) x 100.

Source: Survey of Household Spending, 2019.

Table H2
Interview response rates by quarter, three territorial capitals, 2019

	Eligible sampled households	No contacts	Refusals	Residual non-respondents	Respondents	Response rate ¹
						number
Territorial capitals						
All quarters	937	105	218	24	590	63.0
Quarter 1	234	20	70	4	140	59.8
Quarter 2	236	24	44	6	162	68.6
Quarter 3	222	23	48	3	148	66.7
Quarter 4	245	38	56	11	140	57.1
Whitehorse						
All quarters	456	30	132	14	280	61.4
Quarter 1	112	8	44	2	58	51.8
Quarter 2	117	3	32	3	79	67.5
Quarter 3	110	9	27	2	72	65.5
Quarter 4	117	10	29	7	71	60.7
Yellowknife						
All quarters	296	46	45	9	196	66.2
Quarter 1	70	7	14	2	47	67.1
Quarter 2	77	12	8	3	54	70.1
Quarter 3	74	12	11	1	50	67.6
Quarter 4	75	15	12	3	45	60.0
Iqaluit						
All quarters	185	29	41	1	114	61.6
Quarter 1	52	5	12	0	35	67.3
Quarter 2	42	9	4	0	29	69.0
Quarter 3	38	2	10	0	26	68.4
Quarter 4	53	13	15	1	24	45.3

1. (Respondent households/Eligible sampled households) x 100.

Source: Survey of Household Spending, 2019.

Table H3
Diary response rates by quarter, three territorial capitals, 2019

	Eligible sampled households	Interview non-respondents ¹	Diaries ²			Response rate ⁴
			Refusals ³	Unusable	Usable	
	number					percentage
Territorial capitals						
All quarters	937	347	222	4	364	38.8
Quarter 1	234	94	53	1	86	36.8
Quarter 2	236	74	53	2	107	45.3
Quarter 3	222	74	60	1	87	39.2
Quarter 4	245	105	56	0	84	34.3
Whitehorse						
All quarters	456	176	134	2	144	31.6
Quarter 1	112	54	29	0	29	25.9
Quarter 2	117	38	24	2	53	45.3
Quarter 3	110	38	40	0	32	29.1
Quarter 4	117	46	41	0	30	25.6
Yellowknife						
All quarters	296	100	38	1	157	53.0
Quarter 1	70	23	10	0	37	52.9
Quarter 2	77	23	12	0	42	54.5
Quarter 3	74	24	7	1	42	56.8
Quarter 4	75	30	9	0	36	48.0
Iqaluit						
All quarters	185	71	50	1	63	34.1
Quarter 1	52	17	14	1	20	38.5
Quarter 2	42	13	17	0	12	28.6
Quarter 3	38	12	13	0	13	34.2
Quarter 4	53	29	6	0	18	34.0

1. Includes interview "No contacts", "Refusals" and "Residual non-respondents".

2. The definition of usable and unusable diaries is given in the "Data processing and quality control" section.

3. Includes diary "No contacts", "Refusals" and "Residual non-respondents".

4. (Usable diaries/Eligible sampled households) x 100.

Source: Survey of Household Spending, 2019.

Table H4**Impact of expenditure imputation on communication, television, satellite radio and home security services, three territorial capitals, 2019**

	Impact of imputation ¹ percentage
Landline telephone services	32.0
Cell phone and pager	4.3
Television and satellite radio services	41.9
Internet access services	31.2
Home security services	1.5

1. The impact of imputation is the proportion of the total value of the estimate that is obtained from imputed data.

Source: Survey of Household Spending, 2019.

Table H5**Imputation rates for goods and services including food from stores, by type of imputation and recording method, three territorial capitals, 2019**

Type of imputation	Transcribed items	Items from a receipt	All items
	percentage		
Imputation of a missing cost for a reported expense			
Food from stores	1.3	0.1	0.6
Other goods and services	5.0	0.1	2.8
All expenditures	2.5	0.1	1.2
Imputation of expenditure items (and their individual cost) from a total expense			
Food from stores	91.9	2.4	43.3
Other goods and services	27.0	2.2	15.9
All expenditures	71.2	2.4	35.6
Imputation of detailed expenditure code			
Food from stores	1.7	3.0	2.4
Other goods and services	8.0	3.3	5.9
All expenditures	3.7	3.1	3.4

Source: Survey of Household Spending, 2019.

Table H6**Imputation rates for snacks, beverages and meals purchased from restaurants or fast-food outlets, by type of imputation and recording method, three territorial capitals, 2019**

Type of imputation	Transcribed items	Items from a receipt	All items
	percentage		
Imputation of total cost	0.58	0.00	0.40
Imputation of costs for alcoholic beverages	20.38	15.28	18.81
Imputation of meal type (breakfast, lunch, dinner or snack and beverages)	19.00	6.50	15.15

Source: Survey of Household Spending, 2019.

Table H7**Estimated number of households and average household size, three territorial capitals, 2019**

Domain	Estimated number of households	Average household size
Territorial capitals	22,874	2.53
Whitehorse	11,921	2.37
Yellowknife	7,788	2.76
Iqaluit	3,165	2.57

Note: Subtotals may not add up to the total due to rounding.

Source: Survey of Household Spending, 2019.