

Canadian Community Health Survey (CCHS) Annual component

User guide 2010 and 2009-2010 Microdata files

June 2011



Statistics
Canada

Statistique
Canada

Canada

TABLE OF CONTENTS

WHAT'S NEW IN THE 2010 CANADIAN COMMUNITY HEALTH SURVEY?.....	2
1. INTRODUCTION	4
2. BACKGROUND	5
3. CCHS REDESIGN IN 2007	6
4. CONTENT STRUCTURE OF THE CCHS	7
4.1 COMMON CONTENT.....	7
4.2 OPTIONAL CONTENT	7
4.3 RAPID RESPONSE CONTENT.....	8
4.4 CONTENT INCLUDED IN DATA FILES.....	8
5. SAMPLE DESIGN	10
5.1 TARGET POPULATION	10
5.2 HEALTH REGIONS.....	10
5.3 SAMPLE SIZE AND ALLOCATION	10
5.4 FRAMES, HOUSEHOLD SAMPLING STRATEGIES.....	12
5.4.1 <i>Sampling of households from the area frame</i>	12
5.4.2 <i>Sampling of households from the list frame of telephone numbers</i>	14
5.4.3 <i>Sampling of households from the Random Digit Dialing frame of telephone numbers</i>	15
5.5 SAMPLE ALLOCATION OVER THE COLLECTION PERIOD	15
5.6 SAMPLING OF INTERVIEWEES	16
5.7 SUPPLEMENTARY BUY-IN SAMPLE IN ONTARIO	16
6. DATA COLLECTION	18
6.1 COMPUTER-ASSISTED INTERVIEWING.....	18
6.2 CCHS APPLICATION DEVELOPMENT.....	18
6.3 INTERVIEWER TRAINING	19
6.4 THE INTERVIEW	20
6.5 FIELD OPERATIONS.....	22
6.6 QUALITY CONTROL AND COLLECTION MANAGEMENT.....	22
7. DATA PROCESSING	24
7.1 EDITING.....	24
7.2 CODING.....	24
7.3 CREATION OF DERIVED VARIABLES	24
7.4 WEIGHTING	24
8. WEIGHTING	25
8.1 OVERVIEW	25
8.2 WEIGHTING OF THE AREA FRAME SAMPLE	26
8.3 WEIGHTING OF THE TELEPHONE FRAME SAMPLE	27
8.4 INTEGRATION OF THE TELEPHONE AND AREA FRAMES (I1).....	29
8.5 POST-INTEGRATION WEIGHTING STEPS.....	30
8.6 PARTICULAR ASPECTS OF THE WEIGHTING IN THE THREE TERRITORIES	31
8.7 CREATION OF A SHARE WEIGHT	32
8.8 WEIGHTING FOR A TWO-YEAR FILE	32
9. DATA QUALITY.....	33
9.1 RESPONSE RATES FOR 2010	33
9.2 RESPONSE RATES FOR 2009-2010.....	33
9.3 SURVEY ERRORS.....	34

9.3.1	<i>Non-sampling Errors</i>	34
9.3.2	<i>Sampling Errors</i>	35
10.	GUIDELINES FOR TABULATION, ANALYSIS AND RELEASE	36
10.1	ROUNDING GUIDELINES.....	36
10.2	SAMPLE WEIGHTING GUIDELINES FOR TABULATION	37
10.2.1	<i>Definitions: categorical estimates, quantitative estimates</i>	37
10.2.2	<i>Tabulation of categorical estimates</i>	38
10.2.3	<i>Tabulation of quantitative estimates</i>	38
10.3	GUIDELINES FOR STATISTICAL ANALYSIS	38
10.4	RELEASE GUIDELINES	39
11.	APPROXIMATE SAMPLING VARIABILITY TABLES	41
11.1	HOW TO USE THE CV TABLES FOR CATEGORICAL ESTIMATES	41
11.2	EXAMPLES OF USING THE CV TABLES FOR CATEGORICAL ESTIMATES	43
11.3	HOW TO USE THE CV TABLES TO OBTAIN CONFIDENCE LIMITS	46
11.4	EXAMPLE OF USING THE CV TABLES TO OBTAIN CONFIDENCE LIMITS.....	47
11.5	HOW TO USE THE CV TABLES TO DO A Z-TEST.....	47
11.6	EXAMPLE OF USING THE CV TABLES TO DO A Z-TEST	48
11.7	EXACT VARIANCES/COEFFICIENTS OF VARIATION.....	48
11.8	RELEASE CUT-OFFS FOR THE CCHS.....	49
12.	MICRODATA FILES: DESCRIPTION, ACCESS AND USE.....	50
12.1	MASTER FILES.....	50
12.1.1	<i>Research Data Centre</i>	50
12.1.2	<i>Custom tabulations</i>	50
12.1.3	<i>Remote access</i>	50
12.2	SHARE FILES.....	50
12.3	PUBLIC USE MICRODATA FILES	51
12.4	HOW TO USE THE CCHS DATA FILES: ANNUAL DATA FILE OR TWO-YEAR DATA FILE?	52
12.5	USE OF WEIGHT VARIABLE	52
12.6	VARIABLE NAMING CONVENTION BEGINNING IN 2007	52
12.7	VARIABLE NAMING CONVENTION BEFORE 2007.....	54
12.8	GUIDELINES FOR THE USE OF SUB-SAMPLE VARIABLES – NOT APPLICABLE TO 2010 AND 2009-2010 DATA FILES.....	55
12.9	DATA DICTIONARIES	55
12.10	DIFFERENCES IN CALCULATION OF COMMON CONTENT VARIABLES USING DIFFERENT FILES	55
	APPENDIX A - CANADIAN COMMUNITY HEALTH SURVEY CONTENT (2009-2010)	56
	APPENDIX B – SELECTION OF OPTIONAL CONTENT BY PROVINCE AND TERRITORY (2010 AND 2009-2010)	59
	APPENDIX C - AVAILABLE GEOGRAPHY IN THE MASTER AND SHARE FILES AND THEIR CORRESPONDING CODES: CANADA, PROVINCES/TERRITORIES, HEALTH REGIONS AND PEER GROUPS	67
	APPENDIX D (2010) SAMPLE ALLOCATION BY HEALTH REGION AND FRAME AND BY LOCAL HEALTH INTEGRATED NETWORK (LHIN) AND FRAMES IN THE CCHS IN ONTARIO	73
	APPENDIX E (2010) - RESPONSE RATES BY HEALTH REGION AND FRAME AND RESPONSE RATES BY LOCAL HEALTH INTEGRATED NETWORK (LHIN) AND FRAME IN THE CCHS IN ONTARIO.....	79
	APPENDIX F (2009-2010) - SAMPLE ALLOCATION BY HEALTH REGION AND FRAME AND BY LOCAL HEALTH INTEGRATED NETWORK (LHIN) AND FRAMES IN THE CCHS IN ONTARIO	86
	APPENDIX G (2009-2010) - RESPONSE RATES BY HEALTH REGION AND FRAME AND BY LOCAL HEALTH INTEGRATED NETWORK (LHIN) AND FRAME IN THE CCHS IN ONTARIO	91

WHAT'S NEW IN THE 2010 CANADIAN COMMUNITY HEALTH SURVEY?

Content

There have been a few changes to existing modules in the Canadian Community Health Survey (CCHS) content in 2010. Also, new modules were introduced for one year as part of the 2010 common content.

Changes

- **Contact with health care professional (CHP).** This module was moved from common annual content to common 1-year content in 2010.
- **Unmet health care needs (UCN)** This module was reintroduced in the survey in 2010 in the 1-year common content after having been suspended since 2007. Although the module name is new, the questions included in this module used to be part of the Health care utilisation (HCU) module.
- The-sub-module on **Chronic fatigue syndrome, multiple chemical sensitivities and fibromyalgia** was included in the Chronic conditions (CCC) module. The last time these three chronic conditions had been asked was in the 2005 CCHS.

New modules

- **Loss of productivity due to health issues (LOP):** This new module was developed in replacement of the two week disability (TWD) module.
- **Neurological conditions (NEU):** This new module was introduced in 2010 as a 1-year common content to be repeated in 2011. Respondents or persons in their household identified with a neurological condition will be contacted for a follow-up survey on neurological conditions in Canada.
- **H1N1 flu shot (H1N):** This new module collected in the 2010 survey only provides information on whether or not respondents have received the H1N1 flu shot in the past 12 months.

Methodology

- The 2010 CCHS used three sampling frames to select the sample of households: 49.5% of the sample of households came from an area frame, 49.5% came from a list frame of telephone numbers and the remaining 1% came from a Random Digit Dialling (RDD) sampling frame. However, for the last two collection periods of 2010, 40.5% of the sample came from the area frame, 58.5% from the list frame of telephone numbers and 1% from the RDD frame. The transfer of sample from the area frame to the list frame was done to reduce collection costs.
- Starting with the 2010 and 2009-2010 datasets, the 2006 Census population counts have been used to produce the population projection counts. These counts are used to ensure that the CCHS survey weights and resulting estimates are consistent with known population totals. Prior to 2010, 2001 Census population counts were used. Evaluation studies have confirmed that the impact of this change on CCHS estimates should be minimal.

Collection

- In 2009, interviewers were asked to obtain verbal permission from parents/guardians to interview youths between the ages of 12 to 15 who were selected for interviews. In 2010, the Parental Consent block (PGC) was added into the collection applications. The addition of this block formalizes the process of requesting permission from the parent or guardian (given one exists in the household) of a 12-15 year old to complete the survey.
- Prior to 2010, interviewers were instructed to ask modules including household level questions to the person most knowledgeable (PMK) about the household. In 2010, a formal block was included in the application to do the transition between respondents aged 12 to 15 to the PMK. Household level information asked at the end of the survey (Home Safety, Insurance coverage, Food Security, Neurology conditions, Education, Income and Administration) are now answered by the most knowledgeable person in the household.

Geography

- In 2010, the definition of health regions (HR) in Alberta was modified between the time of sampling and the creation of the data files. There are now five HRs in Alberta, which are simple aggregations of the nine HRs that were defined at the time of sampling. As a result of this, the total of health regions went from 121 in 2009 to 117 in 2010.

1. INTRODUCTION

The Canadian Community Health Survey (CCHS) is a cross-sectional survey that collects information related to health status, health care utilization and health determinants for the Canadian population. It surveys a large sample of respondents and is designed to provide reliable estimates at the health region level. In 2007, major changes were made to the CCHS design. Data is now collected on an ongoing basis with annual releases, rather than every two years as was the case prior to 2007. The survey's objectives were also revised and are as follows:

- support health surveillance programs by providing health data at the national, provincial and intra-provincial levels;
- provide a single data source for health research on small populations and rare characteristics;
- timely release of information easily accessible to a diverse community of users; and
- create a flexible survey instrument that includes a rapid response option to address emerging issues related to the health of the population.

Details of the other redesign changes are provided in section 3.

The CCHS data is always collected from persons aged 12 and over living in private dwellings in the 117 health regions covering all provinces and territories. Excluded from the sampling frame are individuals living on Indian Reserves and on Crown Lands, institutional residents, full-time members of the Canadian Forces, and residents of certain remote regions. The CCHS covers approximately 98% of the Canadian population aged 12 and over.

The purpose of this document is to facilitate the manipulation of the CCHS microdata files and to describe the methodology used. The CCHS produces three types of microdata files: master files, share files and public use microdata files (PUMF). The characteristics of each of these files are presented in this guide. The PUMF is released every two years and contains two years of data. The next PUMF file will be released in September 2011 and will include the data collected for the years 2009 and 2010.

Any questions about the data sets or their use should be directed to:

Electronic Products Help Line:

1-800-949-9491

For custom tabulations or general data support:

Client Custom Services, Health Statistics Division:

613-951-1746

E-mail:

hd-ds@statcan.gc.ca

For remote access support:

E-mail:

613-951-1746

Fax:

cchs-escc@statcan.gc.ca

613-951-0792

2. BACKGROUND

In 1991, the National Task Force on Health Information cited a number of issues and problems with the health information system. The members felt that data was fragmented; incomplete, could not be easily shared, was not being analysed to the fullest extent, and the results of research were not consistently reaching Canadians.¹

In responding to these issues, the Canadian Institute for Health Information (CIHI), Statistics Canada and Health Canada joined forces to create a Health Information Roadmap. From this mandate, the Canadian Community Health Survey (CCHS) was conceived. The format, content and objectives of the CCHS evolved through extensive consultation with key experts and federal, provincial and community health region stakeholders to determine their data requirements.²

To meet many data requirements, the CCHS had a two-year data collection cycle. Until the redesign in 2007, the first year of the survey cycle, designated by ".1", was a general population health survey, designed to provide reliable estimates at the health region level. The second year of the survey cycle, designated by ".2", had a smaller sample and was designed to provide provincial level results on specific health topics.

New designations for Cycles .1 and .2

As of 2007, the regional component of the CCHS program began being collected on an ongoing basis. To avoid confusion with the health focused surveys, the two components stopped using the “.1” and “.2” designations to distinguish them. Henceforth, the x.1 cycles of the CCHS are designated as "the annual component" of the CCHS. The full title is "The Canadian Community Health Survey – Annual component, 2009" and the short title is simply "CCHS – 2009". The focused content component of the survey remains unchanged. It will continue to examine in greater detail more specific topics or populations. It will be designated by the name of the survey followed by the topic of the themes covered by each survey (e.g., “Canadian Community Health Survey on Healthy Aging” or “CCHS – Healthy Aging”).

¹ 1999. Health Information Roadmap: Responding to Needs, Health Canada, Statistics Canada. p. 3.

² 1999. Health Information Roadmap: Beginning the Journey. Canadian Institute for Health Information/Statistics Canada. ISBN 1-895581-70-2. p. 19.

3. CCHS REDESIGN IN 2007

Until 2005, the CCHS data were collected every two years over a one year period and released every two years, about six months after the end of the collection period. There were two main objectives for the 2007 CCHS redesign: to address the needs of partners to increase the survey's content and the frequency of data releases, and to ensure better use of operational resources. For these reasons, the proposed changes to the CCHS design focused on improving the survey's efficiency and flexibility through ongoing data collection.

Extensive consultations were held across Canada with key experts and federal, provincial and health region stakeholders to gather input on the proposed changes and detailed information on the data requirements and products of the various partners.

Below are the main changes arising from the CCHS redesign:

- In the past, the CCHS data were collected from 130,000 respondents over a 12-month period. Now, data collection takes place on an ongoing basis. The sample, which retains the same size, is divided into 12 two-month collection periods. Each collection period is representative of the population living in the ten Canadian provinces during the two months. For operational reasons, the sample in the territories is representative of their population after 12 months.
- The common content component is divided into three: the annual common content (previously referred to as core content), the one year and two-year common content (previously referred to as theme content). The one year common content is asked for one year and re-introduced every two or four years. The two year common content is asked for two years and re-introduced every four years. The two year and one year common content was created to take advantage of the continuous collection approach. The data collection time for this component can be adjusted based on the prevalence of the desired estimates and their geographic level. The annual common content will remain relatively stable over time. At the discretion of the provinces and regions, the optional content can also be adjusted on an annual basis, rather than every two years.
- Content and collection changes inevitably impact the dissemination strategy. Previously, data were released every two years. Since 2008, CCHS data are released annually. Every two years, a file combining the two years' sample (130,000 respondents) is also released. In addition to these regular files, other special files will be made available when additional content has been collected during collection periods that do not correspond to the standard annual periods, which is January to December.
- The annual data collection is divided into six two-month periods. Unlike the previous collection strategy, these periods no longer overlap, which provides more efficient oversight of collection and offers the possibility of changing the collection interface every two months, if necessary.

4. CONTENT STRUCTURE OF THE CCHS

In addition to socio-demographic and administrative data, the content of the CCHS includes three components, each of which addresses a different need: the common content component comprising the annual common content, the two year and one year common content, the optional content component, and the rapid response component. Appendix A lists the modules included in the 2009 and 2010 questionnaire by component.

The average length of a CCHS interview is estimated at 40 to 45 minutes.

Table 4.1 Length of survey by component

CCHS component	Average interview time
Common content <ul style="list-style-type: none"> • Annual • One and two-year 	30 minutes (20 minutes) (5 minutes)
Optional content	10 minutes
Rapid response content (optional)	2 minutes

4.1 Common content

The CCHS common content component includes questions asked of respondents in all provinces and territories (unless otherwise specified). It is divided into three components: the annual common content, one-year and two year common content.

The annual common content consists of questions asked of all survey respondents. These questions will remain relatively stable in the questionnaire for a period of about six years, unless a major concern is raised about quality.

The one year and two-year common content (previously called theme content) comprises questions related to a specific topic. Combined, the two-year and one year common content take about 10 minutes of the interview time. Modules comprising this content type could be reintroduced in the survey every two, four or six years, if required. This component enables CCHS to better plan its content in the medium term.

Some of the modules in the one year common content may be asked of a sub-sample of respondents if the objective of these questions is to provide reliable data at the national or provincial level, rather than at the health region level. This approach is used to minimize the related response burden and costs.

4.2 Optional content

The optional content component gives health regions the opportunity to select content that addresses their provincial or regional public health priorities. The optional content is selected from a long list of

modules available for inclusion in the CCHS. The content modules selected by a region are asked only of residents in the regions that selected these modules. In reality, since 2005 (cycle 3.1), the regions and provinces have opted to coordinate the optional content selected in order to ensure a uniform selection of optional modules provincially. The optional content may vary annually depending on needs and must be reviewed every two years.

It should be noted that, unlike the modules included in the common content, the resulting data from the optional content modules is not easily generalized across Canada³.

Appendix B presents the selection results of the optional content for the current year by province of residence.

4.3 Rapid response content

The rapid response component is offered on a cost-recovery basis to organizations interested in obtaining national estimates on an emerging or specific topic related to the health of the population. The rapid response content takes a maximum of two minutes of interview time. The questions appear in the questionnaire for a single collection period (two months) and are asked of all CCHS respondents during that period.

4.4 Content included in data files

The survey produces different data files:

- one year reference period
- combined two years reference periods and
- one year sub-sample data files.

Table 4.2 provides clarification about the data files available for the 2009 and 2010 CCHS.

One year data files

The survey produces data files every year. In June 2011, an annual file based on the 2010 reference period has been released. It includes respondents from the 2010 data collection and variables from the common annual content, common one year content, common two year content as well as optional content.

Two year data files

Every two years, a file combining the most recent two years is released. A combined file also to be released in June 2011 contains data from 2009 and 2010. The following two year file is scheduled to be released in 2013, and will include both the 2011 and 2012 reference years.

The two-year data file includes all respondents and the questions that were in the survey over the two year reference period. Unless otherwise specified, it is the question component from the common annual

³ Unless all health regions in Canada select an optional module in the same collection period, which has never happened to date.

and two-year content and selected optional content over the two year period. The one-year common content and optional content selected for one year only are not available in the two-year data file.

Sub-sample data files

Any modules collected from a sub-sample of the population will continue to be disseminated in separate files. These files include the annual and one year common content collected from a sub-sample of respondents. Sub-sample files have been released as follow:

Year	Modules
2000	Waiting times and Access to health care services
2003	Dental visits, Driving and safety, Health utility index, Medication use, Oral health 2
2005	Waiting times, Access to health care services, Patient satisfaction, Health Utility Index, Measured height and weight, Fruit and vegetable consumption, Labour force – long form
2007	Waiting times, Access to health care services and Patient satisfaction
2008	Measured height and weight
2009	Waiting times, Access to health care services

Table 4.2 Content components in 2009 and 2010 data files

Files		Annual common content	2009 one year common content ¹	2010 one year common content ²	2009-2010 two-year common content	Optional content ³
2009	Main	Yes	No	N/A	Yes	Yes
	Sub-sample (2 modules)	Yes	Yes	N/A	No	No
2010	Main	Yes	N/A	Yes	Yes	Yes
2009-2010	Main	Yes	No	No	Yes	Yes

1 The 2009 annual common content was comprised of two modules (Access to health care services and Waiting times) which were all asked to a sub-sample of respondents.

2 The 2010 annual common content included a group of modules related to chronic disease screening.

3 Optional content will be included in the 2009-2010 data file if it is asked of respondents in a province during the two year period. Otherwise, it will only be included in the file of the year in which it was collected. Note that if an annual common content module from one year is selected for the optional content of a jurisdiction during the second year, the module will be included in the two-year data file and will be processed as optional content.

5. SAMPLE DESIGN

5.1 Target population

The CCHS targets persons aged 12 years and older who are living in private dwellings in the ten provinces and three territories. Persons living on Indian Reserves or Crown lands, those residing in institutions, full-time members of the Canadian Forces and residents of certain remote regions are excluded from this survey. The CCHS covers approximately 98% of the Canadian population aged 12 and older.

5.2 Health regions

For administrative purposes, each province is divided into health regions (HR) and each territory is designated as a single HR. Statistics Canada is sometimes asked to make minor changes to the boundaries of some of the HRs to correspond to the geography of the Census, or to better account for the health data needs determined by the new geographic boundaries. For CCHS 2010, data was collected in 114 HRs in the ten provinces, as well as to one HR per territory, totalling 117 HRs (Appendix C).

In 2010, the definition of HRs in Alberta was modified between the time of sampling and the creation of the data files. There are now 5 HRs in Alberta, which are simple aggregations of the 9 HRs that were defined at the time of sampling². The current chapter on sample design, as well as the figures on sample sizes provided in Appendix D and Appendix F, refer to the 9 HRs as they were defined at the time of sampling.

5.3 Sample size and allocation

To provide reliable estimates for each HR given the budget allocated to the CCHS component, it was determined that the survey should consist of a sample of nearly 130,000 respondents over a period of 2 years. Although producing reliable estimates for each HR was a primary objective, the quality of the estimates for certain key characteristics at the provincial level was also deemed important. Therefore, the sample allocation strategy, consisting of three steps, gave relatively equal importance to the HRs and the provinces. In the first step, a minimum size of 500 respondents per HR was imposed. This is considered the minimum for obtaining a reasonable level of data quality. However, due to response burden, a maximum sampling fraction of 1 out of 20 dwellings was imposed to avoid sampling too many dwellings in smaller regions also targeted by other surveys. Note that very few HRs have a size lower than 500 due to limit of the sampling fraction. In this first step, 60,350 units were allocated in total. The second step involves allocating the rest of the available sample by using an allocation proportional to the population size by province. The total sample size by province is therefore the sum of the sizes established by the two first steps. This sample allocation strategy was used for CCHS 2005 and the sample sizes have remained mainly the same since then. The sample was then divided evenly between the 2 collection years. Table 5.1 gives the annual sample size for 2010 and the total sample size for 2009-2010.

² The correspondence between the 5 new HRs and the 9 HRs defined at the time of sampling is as follows: HR 4831 (4821 and 4822), HR 4832 (4823), HR 4833 (4824 and 4825), HR 4834 (4826) and HR 4835 (4827, 4828 and 4829).

Table 5.1 Number of health regions and targeted sample sizes by province/territory, 2010 and 2009-2010

Province	Number of HRs	Targeted sample size 2010	Targeted sample size 2009-2010
Newfoundland and Labrador	4	2,005	4,010
Prince Edward Island	3	1,001	2,002
Nova Scotia	6	2,521	5,041
New Brunswick	7	2,575	5,150
Quebec	16	12,145	24,289
Ontario ¹	36	22,172	44,379
Manitoba	10	3,750	7,500
Saskatchewan	11	3,860	7,720
Alberta	9	6,100	12,200
British Columbia	16	8,045	16,095
Yukon	1	600	1,200
Northwest Territories	1	600	1,200
Nunavut	1	350	700
Canada	121	65,724	131,486

¹ The sample size for Ontario includes the buy-in extra sample by LHIN. The initial annual sample size for Ontario before the buy-in was 20,880 units (refer to section 5.7 for further details).

In the third step, the provincial sample was allocated among its HRs proportionally to the square root of the estimated population in each HR. This three-step approach gives sufficient sample for each HR with minimal disturbance to the proportionality of the allocation by province.

Note that the three territories were not part of the above allocation strategy as they were dealt with separately. Each year, 600 sample units were allocated to the Yukon, 600 to the Northwest Territories and 350 to Nunavut. These sizes are determined according to the available budget. The sample allocation for the territories is done proportionally to the population sizes of the strata. The strata used were the same as those defined by the Labour Force Survey (LFS), which group together communities (for more details, see section 5.4.1).

The sample was then divided between the area frame and the list frame³, as described in the next section. We should finally mention that the size of the samples taken from each frame was increased before data collection in order to account for the anticipated out-of-scope and non-response rates based on the rates obtained in previous CCHS cycles. The sample sizes by HR and frame are provided in Appendix D for 2010 and in Appendix F for 2009-2010.

³ Except for two regions which use a random digit dialing frame (RDD) only (section 5.4.3) and the three territories which use only area frame and random digit dialing frame (RDD) (sections 5.4.1 and 5.4.3).

5.4 Frames, household sampling strategies

The CCHS used three sampling frames to select the sample of households: 49.5% of the sample of households came from an area frame, 49.5% came from a list frame of telephone numbers and the remaining 1% came from a Random Digit Dialling (RDD) sampling frame. This describes the usual strategy for the CCHS. For the last two collection periods of 2010, 40.5% came from the area frame, 58.5% from the list frame of telephone numbers and 1% from the RDD frame. The transfer of sample from the area frame to the list frame was done to reduce collection costs.

5.4.1 Sampling of households from the area frame

The CCHS used the area frame designed for the Canadian Labour Force Survey (LFS) as a sampling frame. The sampling plan of the LFS is a multistage stratified cluster design in which the dwelling is the final sampling unit⁴. In the first stage, homogeneous strata are formed and independent samples of clusters are drawn from each stratum. In the second stage, dwelling lists are prepared for each cluster and dwellings, or households, are selected from these lists.

For the purpose of the LFS plan, each province is divided into three types of regions: major urban centres, cities, and rural regions. Geographic or socio-economic strata are created within each major urban centre. Within the strata, between 150 and 250 dwellings are grouped together to create clusters. Some urban centres have separate strata for apartments or for census Dissemination Areas (DA) to pinpoint households with high income, immigrants and aboriginals. In each stratum, six clusters or residential buildings (sometimes 12 or 18 apartments) are chosen by a random sampling method with a probability proportional to size (PPS), the size of which corresponds to the number of households. The number six is used throughout the sample design to allow for one sixth of the LFS sample to be rotated each month.

The other cities and rural regions of each province are stratified first on a geographical basis, then according to socio-economic characteristics. In the majority of strata, six clusters (usually census DAs) are selected using the PPS method. Some geographically isolated urban centres are covered by a three-stage sampling design. This type of sampling plan is used for Quebec, Ontario, Alberta and British Columbia.

Once the new clusters are listed, the sample is obtained using a systematic sampling of dwellings. The sample size for each systematic sample is called the “yield”. Table 5.2 gives an overview of the types of PSUs used in the LFS sample and the yield predicted by systematic sample. As the sampling rates are determined in advance, there is frequently a difference between the expected sample size and the numbers that are obtained. The yield of the sample, for example, is sometimes excessive. This can particularly happen in sectors where there is an increase in the number of dwellings due to new construction. To reduce the cost of collection, an excessive output is corrected by eliminating, from the beginning, a part of the units selected and by modifying the weight of the sample design. This change is dealt with during weighting.

⁴ Statistics Canada (2008). *Methodology of the Canadian Labour Force Survey*. Statistics Canada. Cat. No. 71-526-XIE.

Table 5.2 Major first-stage units, sizes and yields

Area	Primary Sampling Unit (PSU)	Size (households per PSU)	Yield (sampled households)
Toronto, Montreal, Vancouver	Cluster	150-250	6
Other cities	Cluster	150-250	8
Most rural areas / small urban centres	Cluster	100-250	10

Due to the specific of the CCHS, some modifications had to be incorporated in this sampling strategy. To obtain an annual sample of about 32,000 respondents for a given year of CCHS, close to 48,000 dwellings had to be selected from the area frame to account for vacant dwellings and non-responding households. Each month, the LFS design provides approximately 60,000 dwellings distributed across the various economic regions in the ten provinces, whereas the CCHS required 48,000 dwellings distributed across the HRs, which have different geographic boundaries from those of the LFS economic regions. Overall, the CCHS required a lower number of dwellings than those generated by the LFS selection mechanism, which corresponds to an *adjustment factor* of 0.80 (48,000/60,000). However, since the adjustment factors varied from 0.3 to 3.0 at the HR level, certain adjustments were required.

The changes made to the selection mechanism in the regions varied depending on the size of the adjustment factors. For HRs that had a factor smaller than or equal to 1, the number of PSUs selected was reduced if necessary. For example, if the factor was 0.5 then only 3 PSUs were selected in each stratum instead of the usual number of 6 PSUs. For those HRs with a factor greater than 1 but smaller than or equal to 2, the sampling process of dwellings within a PSU was repeated for a subset of the selected PSUs that were part of the same HR. For example, if the factor was 1.6 then the selection of dwellings within a PSU was repeated for 4 of the 6 PSUs in all strata of that HR. When it was necessary to have a repeated selection of dwellings within a PSU and there were no more dwellings available in that PSU, then another PSU was selected. When the factor was greater than 2, the sampling process of dwellings was repeated among other PSUs that were part of the same HR⁵.

Finally, when the number of dwellings available in the selected PSUs was greater than the requested number of dwellings for a given HR, a sub-sample of dwellings was selected. This process is called *stabilization*.

⁵ To reduce listing costs, the sampling process of dwellings was repeated up to 3 times within PSUs already selected in urban areas only. These cases were exceptions, however.

Sampling of households from the area frame in the three territories

For operational reasons, the LFS area frame sample design for the three territories was different. For each territory, the larger communities each have their own stratum while smaller communities are grouped into strata based on various characteristics (population, geographical information, proportion of Inuit and/or Aboriginal persons, and median household income). The LFS defined five design strata in the Yukon, ten in the Northwest Territories and seven in Nunavut. For strata consisting of a group of communities, the first stage of selection consisted of randomly selecting one community with a probability proportional to population size within each design stratum. Then, within the selected community, the second stage consisted of selecting households using the same sampling strategy as the one described above. The CCHS selected its sample from the same communities sampled by the LFS, while ensuring that different dwellings were selected. If too many or too few dwellings were available for a community within a stratum, another community was selected for the CCHS. For larger communities with their own stratum, only one stage design was necessary where households were selected directly using the same sampling strategy described above.

It is worth mentioning that the frame for the CCHS covered 90% of the private households in the Yukon, 97% in the Northwest Territories and 71% in Nunavut⁶.

5.4.2 Sampling of households from the list frame of telephone numbers

With the exception of 5 HRs (the two RDD-only HRs and the three territories), the list frame of telephone numbers was used in all HRs to complement the area frame. The list frame consists of the Canada Phone directory which is an external administrative database of names, addresses and telephone numbers from telephone directories in Canada updated every six months. It was linked to administrative postal code conversion files to map each telephone number to a stratum. Within each stratum, the required number of telephone numbers was selected using a simple random sampling process from the list. As for the RDD frame, additional telephone numbers were selected to account for the numbers not in service or out-of-scope.

It is important to mention that the undercoverage of the list frame is higher than the one for the RDD as unlisted numbers do not have a chance of being selected. Nevertheless, as the list frame is always used as a complement to the area frame, the impact of the undercoverage of the list frame is minimal and is dealt with during weighting.

⁶ In Nunavut, because of operational difficulties inherent to remote locales, only the 10 largest communities are covered by the survey: Iqaluit, Cambridge Bay, Baker Lake, Arviat, Rankin Inlet, Kugluktuk, Pond Inlet, Cape Dorset, Pangnirtung and Igloolik.

5.4.3 Sampling of households from the Random Digit Dialing frame of telephone numbers

In four HRs, a Random Digit Dialing (RDD) sampling frame of telephone numbers was used to select a sample of households. The sampling of households from the RDD frame used the Elimination of Non-Working Banks (ENWB) method, a procedure adopted by the General Social Survey⁷. A bank of one hundred telephone numbers (the first eight digits of a ten-digit telephone number) is considered to be non-working if it does not contain any residential telephone numbers. At first, the frame consists of a list of all possible banks and, as non-working banks are identified, they are eliminated from the frame. It should be noted that these banks are eliminated only when there is evidence from various sources that they are non-working. When there is no information about a bank it is left on the frame. The Canada Phone Directory and telephone companies' billing address files were used in conjunction with various internal administrative files to eliminate non-working banks.

Using available geographic information (postal codes), the banks on the frame were regrouped to create RDD strata to encompass, as closely as possible, the HR areas. Within each RDD stratum, a bank was randomly chosen and a number between 00 and 99 was generated at random to create a complete, ten-digit telephone number. This procedure was repeated until the required number of telephone numbers within the RDD stratum was reached. Frequently, the number generated is not in service or is out-of-scope, and therefore, many additional numbers must be generated to reach the targeted sample size. This success rate varies from region to region. Within the CCHS, the success rates ranged from 25% to 50% among the four HRs which required the use of the RDD frame.

5.5 Sample allocation over the collection period

In order to balance interviewer workload and to minimize possible seasonal effects on estimates of certain key characteristics such as physical activity, the initial sample of dwellings / telephone numbers was allocated at random, within each HR, over a two-month data collection period.

In the area frame, each stratum selected within each HR was randomly assigned to a collection period accounting for a number of constraints related to field operations or weighting, while maintaining a uniform size for each period. For example, a sample that is representative of the Canadian population is ensured every six months by ensuring that the dwelling sample covers all LFS strata during this period.

For the lists of telephone numbers, independent samples were selected in each collection period. This strategy ensures that each sample is representative of the Canadian population that is within the scope of the survey in each two months.

⁷ Norris, D.A. and Paton, D.G. (1991). Canada's General Social Survey: Five Years of Experience, *Survey Methodology*, 17, 227-240.

5.6 Sampling of interviewees

As was done for the previous cycles, the selection of individual respondents was designed to ensure over-representation of youths (12 to 19). The selection strategy that was adopted accounted for user needs, cost, design efficiency, response burden and operational constraints. One person is selected per household using varying probabilities taking into account the age and the household composition. The selection probabilities resulted from simulations using various parameters in order to determine the optimal approach without causing extreme sampling weights.

The selection weight multiplicative factors were modified between 2009 and 2010 to increase the probability of selecting respondents in the 12-19 and the 20-29 age groups. Table 5.3 gives the selection weight multiplicative factors used to determine the probabilities of selection of individuals in sampled households by age group, for 2009 and for 2010. For example, in 2010, for a three-person household formed of two adults of age 45 to 64 and one 15-year-old, the teenager would have a 7/9 chance of being selected (i.e., $70/(70+10+10)$) while each of the adults would have a 1/9 chance of being selected. To avoid extreme sampling weights, there is one exception to this rule: if the size of the household is greater than or equal to 5 or if the number of 12-19 year olds is greater than or equal to 3 then the selection weight multiplicative factor equals 1 for each individual in the household. Consequently, all people in that household have the same probability of being selected.

Table 5.3 Selection weight multiplicative factors for the person-level sampling strategy by age

Selection Weight Multiplicative Factors					
Age	12-19	20-29	30-44	45-64	65+
Factors (2009)	65	25	20	10	10
Factors (2010)	70	50	20	10	10

5.7 Supplementary buy-in sample in Ontario

The province of Ontario requested a sample increase in order to produce estimates at the Local Health Integrated Network (LHIN) geography level. Ontario contains 14 LHIN. The CCHS sample was increased in order to obtain a minimum size of 2,000 per LHIN over a period of 2 years. As the HR and LHIN boundaries intersect each other, the stratification level used was the HR-LHIN overlap. The preliminary sample sizes allotted by HR are therefore preserved. In cases where the HR allocation prevented the sample from reaching sizes of 2,000 per LHIN, the sample was then increased, and was allocated proportionally to the size of the population within the HR-LHIN overlap. Table 5.4 provides the sample sizes of targeted respondents by LHIN for 2010 and 2009-2010.

Table 5.4 Targeted respondents by Local Health Integrated Network (LHIN), 2010 and 2009-2010

LHIN	Targeted respondents 2010	Targeted respondents 2009-2010
01-Erie St. Clair	1,550	3,100
02-South West	2,561	5,122
03-Waterloo Wellington	1,242	2,484
04-Hamilton Niagara Haldimand Brant	2,597	5,194
05-Central West	1,056	2,125
06-Mississauga Halton	1,115	2,230
07-Toronto Central	1,084	2,165
08-Central	1,411	2,822
09-Central East	2,108	4,216
10-South East	1,313	2,626
11-Champlain	2,057	4,114
12-North Simcoe Muskoka	1,047	2,097
13-North East	1,990	3,980
14-North West	1,041	2,104
Ontario	22,172	44,379

The total sample size of the HR-LHIN overlapping areas was then allocated equally between the list frame and the area frame. The usual sample selection procedures within each frame were then applied to the total sample. The additional sample was included as part of the full CCHS sample. Sample sizes by Local Health Integrated Network and frame are given in Appendix D for 2010 and in Appendix F for 2009-2010.

6. DATA COLLECTION

6.1 Computer-assisted interviewing

Between January and December 2010, over 60,000 valid interviews were conducted using computer assisted interviewing (CAI). Approximately half the interviews were conducted in person using computer assisted personal interviewing (CAPI) and the other half were conducted over the phone using computer assisted telephone interviewing (CATI). Between January 2009 and December 2010, over 120,000 valid interviews were conducted.

CAI offers two main advantages over other collection methods. First, CAI offers a case management system and data transmission functionality. This case management system automatically records important management information for each attempt on a case and provides reports for the management of the collection process. CAI also provides an automated call scheduler, i.e. a central system to optimise the timing of call-backs and the scheduling of appointments used to support CATI collection.

The case management system routes the questionnaire applications and sample files from Statistics Canada's main office to regional collection offices (in the case of CATI) and from the regional offices to the interviewers laptops (for CAPI). Data returning to the main office takes the reverse route. To ensure confidentiality, the data is encrypted before transmission. The data are then unencrypted when they are on a separate secure computer with no remote access.

Second, CAI allows for custom interviews for every respondent based on their individual characteristics and survey responses. This includes:

- questions that are not applicable to the respondent are skipped automatically
- edits to check for inconsistent answers or out-of-range responses are applied automatically and on-screen prompts are shown when an invalid entry is recorded. Immediate feedback is given to the respondent and the interviewer is able to correct any inconsistencies.
- question text, including reference periods and pronouns, is customised automatically based on factors such as the age and sex of the respondent, the date of the interview and answers to previous questions.

6.2 CCHS application development

The CCHS uses two separate CAI applications to collect data, one for telephone interviews (CATI) and one for personal interviews (CAPI). This was done in order to customise each applications' functionality to the type of interview being conducted. Each application consisted of entry, health content, and exit components.

Entry and exit components contain standard sets of questions designed to guide the interviewer through contact initiation, collection of important sample information, respondent selection and determination of cases status. The health content consists of the health modules themselves and made up the bulk of the applications. This includes common modules asked of all respondents and optional modules which differed by health region. Each application underwent three stages of testing: block, integrated and end to end.

Block level testing consists of independently testing each content module or “block” to ensure skip patterns, logic flows and text, in both official languages, are specified correctly. Skip patterns or logic flows across modules are not tested at this stage as each module is treated as a stand alone questionnaire. Once all blocks are verified by several testers they are added together along with entry and exit components into integrated applications. These newly integrated applications are then ready for the next stage of testing.

Integrated testing occurs when all of the tested modules are added together, along with the entry and exit components, into an integrated application. This second stage of testing ensures that key information such as age and gender are passed from the entry to the health content and exit components of the applications. It also ensures that variables affecting skip patterns and logic flows are correctly passed between modules within the health content. Since, at this stage the applications essentially function as they will in the field, all possible scenarios faced by interviewers are simulated to ensure proper functionality. These scenarios test various aspects of the entry and exit components including, establishing contact, collecting contact information, determining whether a case is in scope, rostering households, creating appointments and selecting respondents. The applications are also tested to ensure that during an interview, correct modules are triggered reflecting health region optional content selections.

End to end testing occurs when the fully integrated applications are placed in simulated collection environment. The applications are loaded onto computers that are connected to a test server. Data is then collected, transmitted and extracted in real time, exactly as it would be done in the field. This last stage of testing allows for the testing of all technical aspects of data input, transmission and extraction for each of the CCHS applications. It also provided a final chance of finding errors within the entry, health content and exit components.

6.3 Interviewer training

Project managers, senior interviewers and interviewers from regional collection offices were sent self study training packages before the start of collection. These packages were prepared by the CCHS project team and were used by existing experienced CCHS interviewers to reinforce their previous training. Project managers and senior interviewers also conducted customised training sessions for new CCHS interviewing staff as needed. There were also specific training sessions to deal with various topics related to CCHS collection on a monthly basis. The focus of the training sessions were to get interviewers comfortable using the CCHS 2010 applications, and familiarise interviewers with survey content and to introduce interviewers to interviewing procedures specific to the CCHS. The training focused on:

- goals and objectives of the survey including a focus on the survey redesign
- survey methodology
- application functionality
- review of the questionnaire content and exercises with an emphasis on significant content changes
- interviewer techniques for maintaining response - complete exercises to minimise non-response
- use of mock interviews to simulate difficult situations and practise potential non-response situations
- survey management
- transmission procedures

One of the key aspects of the training was a focus on minimizing non-response. Exercises to minimise non-response were prepared for interviewers. The purpose of these exercises was to have the interviewers practice convincing reluctant respondents to participate in the survey. There was also a series of refusal avoidance workshops given to the senior interviewers responsible for refusal conversion in each regional collection office.

6.4 The interview

Sample units selected from the telephone list and RDD (Random Digit Dialling) frames were interviewed from centralised call centres using CATI. The CATI interviewers were supervised by a senior interviewer located in the same call centre. Units selected from the area frame were interviewed by decentralised field interviewers using CAPI. While in some situations field interviewers were permitted to complete some or part of an interview by telephone, roughly three-quarters of these interviews were conducted exclusively in person. CAPI interviewers worked independently from their homes using laptop computers and were supervised from a distance by senior interviewers. The variable SAM_TYP on the microdata files indicates whether a case was selected from the area frame (CAPI) or from the telephone or RDD frame (CATI).

In all selected dwellings, a knowledgeable household member was asked to supply basic demographic information on all residents of the dwelling. One member of the household was then selected for a more in-depth interview, which is referred to as the health content Interview.

CAPI interviewers were trained to make an initial personal contact with each sampled dwelling. In cases where this initial visit resulted in non-response, telephone follow-ups were permitted. The variable ADM_N09 on the microdata files indicates whether the interview was completed face-to-face, by telephone or using a combination of the two techniques.

To ensure the quality of the data collected, interviewers were instructed to make every effort to conduct the interview with the selected respondent in privacy. In situations where this was unavoidable, the respondent was interviewed with another person present. Flags on the microdata files indicate whether somebody other than the respondent was present during the interview (ADM_N10) and whether the interviewer felt that the respondent's answers were influenced by the presence of the other person (ADM_N11).

To ensure the best possible response rate attainable, many practices were used to minimise non-response, including:

a) Introductory letters

Before the start of each collection period introductory letters explaining the purpose of the survey were sent to the sampled households. These explained the importance of the survey and provided examples of how CCHS data would be used.

b) Initiating contact

Interviewers were instructed to make all reasonable attempts to obtain interviews. When the timing of the interviewer's call (or visit) was inconvenient, an appointment was made to call back at a more

convenient time. If requests for appointments were unsuccessful over the telephone, interviewers were instructed to follow-up with a personal visit. If no one was home on first visit, a brochure with information about the survey and intention to make contact was left at the door. Numerous call-backs were made at different times on different days.

c) Refusal conversion

For individuals who at first refused to participate in the survey, a letter was sent from the nearest Statistics Canada Regional Office to the respondent, stressing the importance of the survey and the household's collaboration. This was followed by a second call (or visit) from a senior interviewer, a project supervisor or another interviewer to try to convince respondent of the importance of participating in the survey.

d) Language barriers

To remove language as a barrier to conducting interviews, each of the Statistics Canada Regional Offices recruited interviewers with a wide range of language competencies. When necessary, cases were transferred to an interviewer with the language competency needed to complete an interview.

e) Youth interviews

In 2009, interviewers were obliged to obtain verbal permission from parents/guardians to interview youths between the ages of 12 to 15 who were selected for interviews. In 2010, the Parental Consent block (PGC) was added into the applications. The addition of this block formalizes the process of requesting permission from the parent or guardian (given one exists in the household) of a 12-15 year old to complete the survey. Several procedures were followed by interviewers to alleviate potential parental concerns and to ensure a completed interview. Interviewers carried with them a card entitled "Note to parents / guardians about interviewing youths for the Canadian Community Health Survey". This card explained the purpose of collecting information from youth, lists the subjects to be covered in the survey, asks for permission to share and link the obtained information and explains the need to respect a child's right to privacy and confidentiality.

If a parent/guardian asked to see the actual questions; interviewers were instructed to either show the survey questions, or if the interview was being conducted by phone, to immediately have the regional office send a copy of the questionnaire.

If privacy could not be obtained to interview the selected youth either in person or over the phone (another person listening in) the interview was coded a refusal. However, for CAPI interviews, if privacy could not be obtained to interview the selected youth, the interviewer was able to propose to the parent/guardian that the interviewer read the questions out loud and the youth enter their answers directly on the computer.

The Person Most Knowledgeable (PMK) block was added to the 2010 application to collect household level information found at the end of the survey (Home Safety, Insurance coverage, Food Security, Neurology conditions, Education, Income and Administration) from the most knowledgeable person in the household. This block is initiated when the selected respondent is between the ages of 12 to 15. The block again formalizes the process of identifying a person in the household who is likely better able to answer these household level questions than the young selected respondent. If a PMK is found then the

interview moves from the younger selected respondent between the ages of 12 and 15, to a parent, guardian who finishes the rest of the interview after the PMK block.

Since the PMK block was not collected in 2009, PMK variables are not included in the 2009-2010 data file.

f) Proxy interviews

In cases where the selected respondent was, for reasons of physical or mental health, incapable of completing an interview, another knowledgeable member of the household supplied information about the selected respondent. This is known as a proxy interview. While proxy interviewees were able to provide accurate answers to most of the survey questions, the more sensitive or personal questions were beyond the scope of knowledge of a proxy respondent. This resulted in some questions from the proxy interview being unanswered. Every effort was taken to keep proxy interviews to a minimum.

In 2010, the Proxy interview (GR) block was modified to prompt the interviewer to specifically identify whether the proxy interview is being conducted due to a physical or mental condition. Interviewers are then asked to record the specific condition for either case. The variable ADM_PRX indicates whether a case was completed by proxy.

6.5 Field operations

The majority of the 2009 and 2010 sample was divided on a yearly basis into six non-overlapping two-month collection periods. Regional collection offices were instructed to use the first 4 weeks of each collection period to resolve the majority of the sample, with next 4 weeks being used finalise the remaining sample and to follow up on outstanding non-response cases. All cases were to have been attempted by the second week of each collection period. Sample files were sent approximately two weeks before the start of each collection period to centralised collection offices. A series of dummy cases were included with each CAPI sample. These cases were completed by senior interviewers for the purposes of ensuring that all data transmission procedures were working through the collection cycle. Once, the samples were received, project supervisors were responsible for planning CAPI interviewer assignments. Wherever possible, assignments were generally no larger than 15 cases per interviewer.

Transmission of cases from each of the CATI offices to head office was the responsibility of the regional office project supervisor, senior interviewer and the technical support team. These transmissions were performed nightly and sent all completed cases to Statistics Canada's head office. Completed CAPI interviews were transmitted daily from the interviewer's home directly to Statistics Canada's head office using a secure telephone transmission.

For final response rates, refer to Appendix E for 2010 and to Appendix G for 2009-2010.

6.6 Quality control and collection management

During collection year, several methods are used to ensure data quality and to optimize collection. These included using internal measures to verify interviewer performance and the use of a series of ongoing reports to monitor various collection targets and data quality.

A system of validation was used for CAPI cases whereby interviewers had their work validated on a regular basis by the Regional Office. Each collection period, randomly selected cases were flagged in the sample. Regional office managers and supervisors created lists of cases to be validated. These cases were handed to the validation team who then contacted households to verify that a legitimate interview took place. Validation procedures generally occurred during the first few weeks of a collection period to ensure that any issues were detected promptly. Interviewers were provided feedback by their supervisors on a regular basis.

CATI interviewers were also randomly chosen for validation. Validation in the CATI collection offices consisted of senior interviewers monitoring interviews to ensure proper techniques and procedures (reading the questions as worded in the applications, not prompting respondents for answers, etc.) were followed by the interviewer.

A series of reports were produced to effectively track and manage collection targets and to assist in identifying other collection issues.

Cumulative reports were generated at the end of each collection period, showing response, link, share and proxy rates for both the CATI and CAPI samples by individual health region. The reports were useful in identifying health regions that were below collection target levels, allowing the regional offices to focus efforts in these regions.

Using information obtained from the CAI applications, further analysis was done in head office in order to identify interviews that were completed below acceptable time frames. These short interviews were flagged, removed from the microdata and treated as non-response.

7. DATA PROCESSING

7.1 Editing

Most editing of the data was performed at the time of the interview by the computer-assisted interviewing (CAI) application. It was not possible for interviewers to enter out-of-range values and flow errors were controlled through programmed skip patterns. For example, CAI ensured that questions that did not apply to the respondent were not asked.

In response to some types of inconsistent or unusual reporting, warning messages were invoked but no corrective action was taken at the time of the interview. Where appropriate, edits were instead developed to be performed after data collection at Head Office. Inconsistencies were usually corrected by setting one or both of the variables in question to "not stated".

7.2 Coding

Pre-coded answer categories were supplied for all suitable variables. Interviewers were trained to assign the respondent's answers to the appropriate category.

In the event that a respondent's answer could not be easily assigned to an existing category, several questions also allowed the interviewer to enter a long-answer text in the "Other-specify" category. All such questions were closely examined in head office processing. For some of these questions, write-in responses were coded into one of the existing listed categories if the write-in information duplicated a listed category. For all questions, the 'Other-specify' responses are taken into account when refining the answer categories for future cycles.

7.3 Creation of derived variables

To facilitate data analysis and to minimize the risk of error, a number of variables on the file have been derived using items found on the CCHS questionnaire. Derived variables generally have a "D", "G" or "F" in the fourth character of the variable name. In some cases, the derived variables are straightforward, involving collapsing of response categories. In other cases, several variables have been combined to create a new variable. The *Derived Variables Documentation (DV)* provides details on how these more complex variables were derived. For more information on the naming convention, please go to Section 12.6.

7.4 Weighting

The principle behind estimation in a probability sample such as CCHS is that each person in the sample "represents", besides himself or herself, several other persons not in the sample. For example, in a simple random 2% sample of the population, each person in the sample represents 50 persons in the population. In the terminology used here, it can be said that each person has a weight of 50.

The weighting phase is a step that calculates, for each person, his or her associated sampling weight. This weight appears on the PUMF, and must be used to derive meaningful estimates from the survey. For example, if the number of individuals who smoke daily is to be estimated, it is done by selecting the records referring to those individuals in the sample having that characteristic and summing the weights entered on those records.

8. WEIGHTING

In order for estimates produced from survey data to be representative of the covered population, and not just the sample itself, users must incorporate the survey weights in their calculations. A survey weight is given to each person included in the final sample, that is, the sample of persons having responded to the survey. This weight corresponds to the number of persons in the entire population that are represented by the respondent.

As described in Section 5, the CCHS has recourse to three sampling frames for its sample selection: an area frame acting as the primary frame and two frames made up of telephone numbers used to complement the area frame. Since only minor differences differentiate the two telephone frames in terms of weighting, they are treated together as one and referred to as being part of the telephone frame.

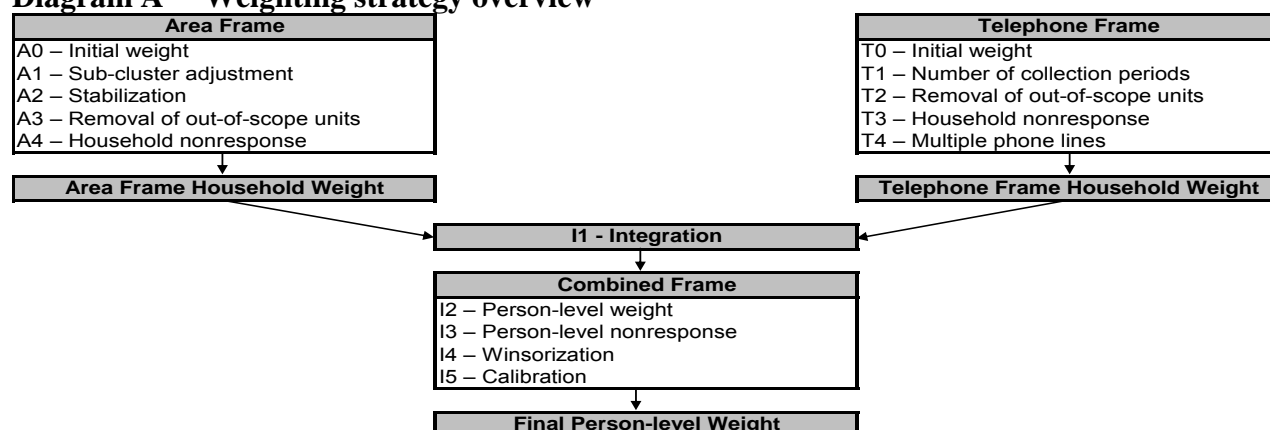
Depending on the need, one or two frames are used for the selection of the sample within a given health region (HR). When two frames are used, the weighting strategy treats both the area and telephone frames independently to come up with separate household-level weights for each of the frames used. These household-level weights are then combined into a single set of household weights through a step called "*integration*". After applying person-level selection weights and some further adjustments, this integrated weight becomes the final person-level weight.

8.1 Overview

As mentioned earlier, units from both the area and telephone frames are treated separately up to the integration step. The following sections describe the weighting process for the provinces. Sub-section 8.2 provides details on the weighting strategy for the area frame, while sub-section 8.3 deals with the strategy for the telephone frame. The integration of the two frames is discussed in 8.4. This is followed by the last weighting steps including calibration, where the weights are adjusted to control for seasonality and to match known population totals. These steps are explained in sub-section 8.5.

Although the two frames are used to cover the three territories, the sampling methods used are slightly different from those used in the provinces. These modifications affect the weighting of these three regions substantially, and they are reported in sub-section 8.6.

Diagram A presents an overview of the different adjustments that are part of the weighting strategy. A numbering system is used to identify each adjustment and will be used throughout the section. Letters *A* and *T* are used as prefixes to refer to adjustments applied to the units on the Area and Telephone frames respectively, while prefix *I* identifies adjustments applied from the *Integration* step onwards.

Diagram A Weighting strategy overview

8.2 Weighting of the area frame sample

A0 – Initial weight

The weighting on the area frame sample begins with a weight provided by the Labour Force Survey (LFS). This weight is based on the LFS design since the CCHS area frame sample design is based on the LFS. The LFS design consists of a sample of dwellings within clusters selected from LFS strata. In the initial adjustment A0, the LFS weight is adjusted to take into consideration the fact that the CCHS selects a sample to be representative of the Health Region. To do so, the CCHS selects a different number of clusters than the LFS and can repeat the sampling of dwellings within the selected clusters. The resulting weight is called weight A0. For more details about the selection mechanism, as well as a more complete definition of LFS strata and clusters, refer to Statistics Canada (1998)⁹.

A1 – Sub-cluster adjustment

In clusters that experience significant growth, a sub-sampling methodology is used to ensure that the workload of the interviewers is kept at a reasonable level. This can consist of sub-sampling from the selected dwellings, dividing the cluster into sub-clusters, or reclassifying the cluster as a stratum and creating new clusters within the stratum. In all these cases, a sub-sample adjustment is calculated and applied to the CCHS weight. This adjustment is applied to weight A0 to produce weight A1. Again, more information can be found in the LFS documentation (Statistics Canada (1998)).

⁹ Statistics Canada. 1998. *Methodology of the Canadian Labour Force Survey*. Statistics Canada. Cat. No. 71-526-XPB.

A2 – Stabilization

In some HRs, the increase of the sample size as described in section 5, results in a larger sample than necessary. Stabilization is used to bring the sample size back down to the desired level. The stabilization process consists of randomly sub-sampling dwellings at the HR level from the dwellings originally selected within each cluster. An adjustment factor representing the effect of this stabilization is calculated in order to adjust the probability of selection appropriately. This factor, multiplied by weight A1, produces weight A2.

A3 – Removal of out-of-scope units

Among all dwellings sampled, a certain proportion is identified during collection as being out-of-scope. Dwellings that are demolished or under construction, vacant, seasonal or secondary, and institutions are examples of out-of-scope cases for the CCHS. These dwellings and their associated weight are simply removed from the sample. This leaves a sample that consists of, and is representative of, in-scope dwellings or households. These remaining in-scope dwellings maintain the same weight as in the previous step, which is now called weight A3.

A4 – Household nonresponse

During collection, a certain proportion of sampled households inevitably result in nonresponse. This usually occurs when a household refuses to participate in the survey, provides unusable data, or cannot be reached for an interview. Weights of the nonresponding households are redistributed to responding households within response homogeneity groups (RHGs). In order to create the response homogeneity groups, a scoring method based on logistic regression models is used to determine the propensity to respond and these response probabilities are used to divide the sample into groups with similar response properties. The information available for nonrespondents is limited so the regression model uses characteristics such as the collection period and geographic information, as well as paradata or process data, which includes the number of contact attempts, the time/day of attempt, and whether the household was called on a weekend or weekday. Starting in 2008, RHGs were formed within province to better control for provincial totals. An adjustment factor is calculated within each response group as follows:

$$\frac{\text{Sum of weight A3 for all households}}{\text{Sum of weight A3 for all responding households}}$$

Weight A3 is multiplied by this factor to produce weight A4 for the responding households. Non-responding households are dropped from the process at this point.

8.3 Weighting of the telephone frame sample

As mentioned earlier, the telephone frame is composed of two frames: a Random Digit Dialling (RDD) frame and a list frame. Only one of the frames can be used within an HR. When the list frame is used, it is always used as a complement to the area frame within the HR. When the RDD frame is used, it is always used as the only frame within the HR. For the purposes of weighting, units coming from the two telephone frames are treated together and therefore are subject to the same adjustments.

The geographical boundaries used to select the sample from the telephone frame do not always conform to the HR geography. Consequently, some units may have been sampled from one HR but the information collected at the time of the interview places them in a neighbouring HR. This is handled in the weighting by applying the first 3 telephone adjustments (T0, T1 and T2) relative to the HR assigned at the time of sample selection. The remaining 2 adjustments (T3 and T4) are applied to the HR based on information collected from the respondent to ensure that all units belong to their correct HR.

T0 –Initial weight

The initial design weight is defined as the inverse of the probability of selection and is computed separately for the RDD and list frame samples since the method of selection differs between these two frames. For the RDD frame, the selection of telephone numbers is done within each RDD stratum. An RDD stratum is an aggregation of area code prefixes (ACP: the first six digits of a 10-digit telephone number), with each ACP containing valid banks of one hundred numbers (see Norris and Paton¹⁰ for more details). Therefore, the probability of selection is the ratio between the number of sampled units and one hundred times the number of banks within the RDD stratum.

For the list frame, telephone numbers are randomly selected among those assigned to the specific HR. The probability of selection corresponds to the ratio of the number of sampled units to the number of telephone numbers on the list within the HR. The ratio is based on the frame available and the number of units selected for the particular two-month collection period. The probability of selection can therefore change depending on sample allocation and frame updates. The inverse of these probabilities represents the initial weight T0.

T1 – Number of collection periods

On the area frame, the entire sample is selected at the beginning of the year. This is in contrast to the telephone frame, where samples are drawn every two months. Each of these samples comes with an initial weight that allows each sample to be representative of the population at the HR level. To ensure that the total sample represents the population only once, an adjustment factor is applied to reduce the weights of each two-month sample. The adjustment factor applied to each two-month sample is equal to the the inverse of the number of samples being combined (i.e. the number of collection periods). Following this adjustment, the entire list frame sample corresponds to the average over the entire combined collection period. The initial weights are multiplied by this adjustment factor to produce weight T1.

¹⁰ Norris, D.A. and Paton, D.G. 1991. Canada's General Social Survey: Five Years of Experience. *Survey Methodology*. 17, 227-240.

T2 - Removal of out-of-scope numbers

Telephone numbers associated with businesses, institutions or other out-of-scope dwellings, as well as numbers not in service or any other non-working numbers are all examples of out-of-scope cases for the telephone frame. Similar to the methods used on the area frame, these cases are simply removed from the process, leaving only in-scope dwellings in the sample. These in-scope dwellings keep the same weight as in the previous step, now called weight T2.

T3 – Household nonresponse

The adjustment applied here to compensate for the effect of household nonresponse is identical to the one applied for the area frame (adjustment A4) although the paradata used does differ because of the differences in collection applications for personal and telephone interviews. The adjustment factor calculated within each response homogeneity group is obtained as follows:

$$\frac{\textit{Sum of weights T2 for all households}}{\textit{Sum of weights T2 for all responding households}}$$

The weight T2 of responding households is multiplied by this factor to produce the weight T3. Nonresponding households are removed from the process at this point.

T4 - Multiple phone lines

Some households can possess more than one residential telephone line. This has an impact on the weighting because these households have a higher probability of being selected. The weights for these households need to be adjusted for the number of residential telephone lines within the household. The adjustment factor represents the inverse of the number of lines in the household. The weight T4 is obtained by multiplying this factor by the weight T3.

8.4 Integration of the telephone and area frames (I1)

This step consists of integrating the weights for households common to the area and telephone frames into a single weight by applying a method of integration¹¹. Those units on the area frame that are not on the telephone frame do not have their weights adjusted. For all others units, an adjustment factor α between 0 and 1 is applied to the weights. The weight of the area frame units is multiplied by this factor α , while the weight of the telephone frame units is multiplied by $1 - \alpha$. Note that in the case where an HR is covered by only one frame, the adjustment factor is equal to 1. Starting in 2008, a fixed α of 0.4 has been used for those units on both frames to ensure greater comparability of estimates across years. The product between the factor derived here and the final household weight calculated earlier (A4 or T4, depending on which frame the unit belongs to), gives the integrated household weight I1.

¹¹ Skinner, C.J. and Rao, J.N.K. 1996. Estimation in Dual Frame Surveys with Complex Designs. *Journal of the American Statistical Association*. 91, 433, 349-356.

8.5 Post-integration weighting steps

I2 – Creation of person level weight

Since persons are the desired sampling units, the household-level weights computed to this point need to be converted to the person level. This weight is obtained by multiplying the weight I1 by the inverse of the probability of selection of the person selected in the household. This gives the weight I2. As mentioned earlier, the probability of selection for an individual changes depending on the number of people in the household and the ages of those individuals (see Section 5.6 for more details).

I3 – Person nonresponse

A CCHS interview can be seen as a two-part process. First, the interviewer gets the complete roster of the people within the household. Second, the selected person is interviewed. In some cases, interviewers can only get through the first part, either because they cannot get in touch with the selected person, or because that selected person refuses to be interviewed. Such individuals are defined as person nonrespondents and an adjustment factor must be applied to the weights of person respondents to account for this nonresponse. Using the same methodology that is used in the treatment of household nonresponse, the adjustment is applied within response homogeneity groups. In this process, the scoring method is used to define a response probability based on characteristics available for both respondents and non-respondents. All characteristics collected when creating the roster of household members are available for the estimation of the response probabilities as well as geographic information and some paradata. The probabilities are grouped into response homogeneity groups and the following adjustment factor is calculated within each group:

$$\frac{\textit{Sum of weight I2 for all selected persons}}{\textit{Sum of weight I2 for all responding selected persons}}$$

Weight I2 for responding persons is multiplied by the above adjustment factor to produce weight I3. Nonresponding persons are dropped from the weighting process from this point onward.

I4 – Winsorization

Following the series of adjustments applied to the respondents, some units may come out with extreme weights compared to other units of the same domain of interest. These units could represent a large proportion of their HR or have a large impact on the variance. In order to prevent this, the weight of these outlier units is adjusted downward using a “winsorization” trimming approach.

I5 – Calibration

The last step necessary to obtain the final CCHS weight is calibration (I5). Calibration is done using CALMAR¹² to ensure that the sum of the final weights corresponds to the population estimates defined at the HR level, for all 10 age-sex groups of interest. The five age groups are 12-19, 20-29, 30-44, 45-64, 65+, for both males and females. Starting in 2009, additional controls at sub-HR levels were introduced for the applicable HRs. These controls included grouped CLSCs in health regions 2403 (National Capital Region, Quebec) and 2415 (Laurentides, Quebec) as well as DHAs across Nova Scotia. A minimum domain size of 20 respondents is required to calibrate at the HR by age by sex level. For domains that have less than 20 respondents, some collapsing is done within province and / or within gender. At the same time, weights are adjusted to ensure that each collection period (two-month period) is equally represented within the sample. Note that the calibration is done using the most up to date geography and may not match the geography used in sampling.

The population estimates are based on the 2006 Census counts and counts of birth, death, immigration and emigration since that time. The average of these monthly estimates for each of the HR-age-sex post-strata by collection period is used to calibrate. The weight I4 is adjusted using CALMAR to obtain the final weight I5. Weight I5 corresponds to the *final CCHS person-level weight* and can be found on the data file with the variable name WTS_M for master or PUMF users. Prior to the 2010 and 2009-2010 reference period, 2001 Census population counts were used. Evaluation studies have confirmed that the impact of this change on CCHS estimates should be minimal.

8.6 Particular aspects of the weighting in the three territories

As described in Section 5, the sampling frame used in the three territories is somewhat different from the one used in the provinces. Therefore, the weighting strategy is adapted to comply with these differences. This section summarises the changes applied to the steps described in sub-sections 8.1 to 8.5.

For the area frame, as mentioned in sub-section 5.4.1, an additional stage of selection is added in the territories where each territory is stratified into groupings of communities and one community is selected within each group. The capital of each territory forms a stratum on its own and is selected automatically at the first stage. This has an effect in the computation of the probability of selection, and therefore in the value of the initial weight (A0). Once the initial weight is calculated, the same series of adjustments (A1 to A4) is applied to the area frame units. Household-level and person-level nonresponse adjustment classes are built in the same way as for the provinces, using the same set of variables.

For the weighting of the telephone frame units, it should be noted that only the RDD frame is used and its use is exclusive to the capitals of the Yukon and the Northwest Territories. All of the telephone frame adjustments are applied to derive a final weight for the telephone units.

The two sets of weights (area and telephone) are subsequently integrated and post-stratified in a similar way to what is done for the provinces, with three exceptions. First, the integration is applied only to units located in the Yukon and Northwest Territories capitals since the other communities are covered only by the area frame. Second, the population counts used for calibration for Nunavut represent 70% of

¹² Sautory O. CALMAR 2: A New Version of the CALMAR Calibration Adjustment Program. *Proceedings of Statistics Canada Symposium* (Statistics Canada, Catalogue no. 11-522-XCB), 2003.

the entire population because of the under-coverage of the area frame that was described in section 5.4.1.

Finally, starting with the 2008 and 2007-2008 reference year products, controls have been put in place to ensure that the proportion of aboriginals and the proportion of individuals in the capital regions are controlled in the Northwest Territories and Yukon. A similar control based on Inuit status was introduced for Nunavut. Starting in 2009, the proportion of individuals in the capital regions is controlled in Nunavut. These controls ensure that the proportion of the estimates represented by these different groups is consistent with proportions indicated by the 2006 Census.

8.7 Creation of a share weight

Along with the master file and PUMF which contain all CCHS respondents, a share file is created which contains only a portion (>90%) of the original CCHS respondents. The individuals on this share file have agreed to share their data with certain partners. To compensate for the loss of some respondents from the file, the weights of these "sharers" must be adjusted by the factor:

$$\frac{\text{Sum of weight I5 for all respondents}}{\text{Sum of weight I5 for all respondents agreeing to share their data}}$$

Similar to the nonresponse adjustments, this factor is calculated within homogeneity groups, where in this case, individuals with similar estimated propensity to share will be grouped together. The final weight after this adjustment is called WTS_S.

8.8 Weighting for a two-year file

When two years of data are combined to create a two-year file, new weights are calculated straightforwardly by halving the annual weights. This ensures that the sum of the final weights is equal to the average population size over the two years. For more information on combining multiple years, please refer to the article "Combining cycles of the Canadian Community Health Survey" published in the Statistics Canada Health Reports publication (82-003) at the following link:<http://www.statcan.gc.ca/pub/82-003-x/2009001/article/10795-eng.pdf>

9. DATA QUALITY

9.1 Response rates for 2010

In total, 88,410 of the selected units in the CCHS 2010 were in-scope for the survey⁸. Out of these, 71,315 households accepted to participate in the survey resulting in an overall household-level response rate of 80.7%. Among these responding households, 71,315 individuals (one per household) were selected to participate to the survey, out of which a response was obtained for 63,191 individuals, resulting in an overall person-level response rate of 88.6%. At the Canada level, this yields a combined response rate of 71.5% for the CCHS 2010. Table 9.1 provides combined response rates as well as relevant information for their calculation by health region or group of health regions. Table 9.2 provides the same data by Local Health Integrated Network (LHIN) level.

Table 9.1 : 2010 response rates by health region and frames

(see Appendix E)

Table 9.2 : 2010 response rates by Local Health Integrated Network (LHIN) and frames in Ontario

(see Appendix E)

9.2 Response rates for 2009-2010

In total, 172,671 of the selected units in the CCHS 2009-2010 were in-scope for the survey. Out of these, 139,841 households accepted to participate in the survey resulting in an overall household-level response rate of 81.0%. Among these responding households, 139,841 individuals (one per household) were selected to participate to the survey, out of which a response was obtained for 124,870 individuals, resulting in an overall person-level response rate of 89.3%. At the Canada level, this yields a combined response rate of 72.3% for the CCHS 2009-2010. Table 9.3 provides combined response rates as well as relevant information for their calculation by health region or group of health regions. Table 9.4 provides the same data by Local Health Integrated Network (LHIN) level.

Table 9.3 : 2009-2010 response rates by health region and frames

(see Appendix G)

Table 9.4 : 2009-2010 response rates by Local Health Integrated Network (LHIN) and frames in Ontario

(see Appendix G)

⁸ Among the units selected, some are not in-scope for the survey. They are, for examples, vacant, demolished or non-residential dwellings or invalid phone numbers such as phone numbers without service or non-residential lines. These units are identified during the data collection, otherwise they would have been excluded before the sample selection. These units are not considered in the calculation of response rates.

Next, we describe how the various components of the equation should be handled to correctly compute combined response rates.

Household-level response rate

HHRR =	$\frac{\text{Number of responding households in both frames}}{\text{All in-scope households in both frames}}$
--------	---

Person-level response rate

PPRR =	$\frac{\text{Number of responding persons in both frames}}{\text{All selected persons in both frames}}$
--------	---

Combined response rate = HHRR x PPRR

Below is an example on how to calculate the combined response rate for Canada using the information found in Table 9.1. The same method applies to rates computed for smaller regions such as province or health region, or to rates computed for the CCHS 2009-2010 using the information found in Table 9.3.

HHRR =	$\frac{33,387 + 37,928}{40,070 + 48,340} = \frac{71,315}{88,410} = 0.807$
--------	---

PPRR =	$\frac{30,449 + 32,742}{33,387 + 37,928} = \frac{63,191}{71,315} = 0.886$
--------	---

Combined response rate	=	0.807 x 0.866
	=	0.715
	=	71.5%

9.3 Survey Errors

The estimates derived from this survey are based on a sample of individuals. Somewhat different figures might have been obtained if a complete census had been taken using the same questionnaire, interviewers, supervisors, processing methods, etc. than those actually used. The difference between the estimates obtained from the sample and the results from a complete count under similar conditions is called the *sampling error* of the estimate.

Errors which are not related to sampling may occur at almost every phase of a survey operation. Interviewers may misunderstand instructions, respondents may make errors in answering questions, the answers may be incorrectly entered on the computer and errors may be introduced in the processing and tabulation of the data. These are all examples of *non-sampling errors*.

9.3.1 Non-sampling Errors

Over a large number of observations, randomly occurring errors will have little effect on estimates derived from the survey. However, errors occurring systematically will contribute to biases in the survey estimates. Considerable time and effort was made to reduce non-sampling errors in the CCHS 2010. Quality assurance measures were implemented at each step of data collection and processing to monitor the quality of the data. These measures included the use of highly skilled interviewers, extensive training with respect to the survey procedures and questionnaire, and the observation of interviewers to detect problems. Testing of the CAI application and field tests were also essential procedures to ensure that data collection errors were minimized.

A major source of non-sampling errors in surveys is the effect of *non-response* on the survey results. The extent of non-response varies from partial non-response (failure to answer just one or some questions) to total non-response. Partial non-response to the CCHS was minimal; once the questionnaire was started, it tended to be completed with very little non-response. Total non-response occurred either because a person refused to participate in the survey or because the interviewer was unable to contact the selected person. Total non-response was handled by adjusting the weight of persons who responded to the survey to compensate for those who did not respond. See section 8 for details on the weight adjustment for non-response.

9.3.2 Sampling Errors

Since it is an unavoidable fact that estimates from a sample survey are subject to sampling error, sound statistical practice calls for researchers to provide users with some indication of the magnitude of this sampling error. The basis for measuring the potential size of sampling errors is the standard deviation of the estimates derived from survey results. However, because of the large variety of estimates that can be produced from a survey, the standard deviation of an estimate is usually expressed relative to the estimate to which it pertains. This resulting measure, known as the coefficient of variation (CV) of an estimate, is obtained by dividing the standard deviation of the estimate by the estimate itself and is expressed as a percentage of the estimate.

For example, suppose hypothetically that it is estimated that 25% of Canadians aged 12 and over are regular smokers and that this estimate is found to have a standard deviation of 0.003. Then the CV of the estimate is calculated as:

$$(0.003/0.25) \times 100\% = 1.20\%$$

Statistics Canada commonly uses CV results when analyzing data and urges users producing estimates from the CCHS data files to also do so. For details on how to determine CVs, see Section 11. For guidelines on how to interpret CV results, see the table at the end of sub-section 10.4.

10. GUIDELINES FOR TABULATION, ANALYSIS AND RELEASE

This section of the documentation outlines the guidelines to be used by users in tabulating, analyzing, publishing or otherwise releasing any data derived from the survey files. With the aid of these guidelines, users of microdata should be able to produce figures that are in close agreement with those produced by Statistics Canada and, at the same time, will be able to develop currently unpublished figures in a manner consistent with these established guidelines.

10.1 Rounding guidelines

In order that estimates for publication or other release derived from the data files (Master, Share or PUMF) correspond to those produced by Statistics Canada, users are urged to adhere to the following guidelines regarding the rounding of such estimates:

- a) Estimates in the main body of a statistical table are to be rounded to the nearest hundred units using the normal rounding technique. In normal rounding, if the first or only digit to be dropped is 0 to 4, the last digit to be retained is not changed. If the first or only digit to be dropped is 5 to 9, the last digit to be retained is raised by one. For example, in normal rounding to the nearest 100, if the last two digits are between 00 and 49, they are changed to 00 and the preceding digit (the hundreds digit) is left unchanged. If the last digits are between 50 and 99 they are changed to 00 and the preceding digit is incremented by 1;
- b) Marginal sub-totals and totals in statistical tables are to be derived from their corresponding unrounded components and then are to be rounded themselves to the nearest 100 units using normal rounding;
- c) Averages, proportions, rates and percentages are to be computed from unrounded components (i.e., numerators and/or denominators) and then are to be rounded themselves to one decimal using normal rounding. In normal rounding to a single digit, if the final or only digit to be dropped is 0 to 4, the last digit to be retained is not changed. If the first or only digit to be dropped is 5 to 9, the last digit to be retained is increased by 1;
- d) Sums and differences of aggregates (or ratios) are to be derived from their corresponding unrounded components and then are to be rounded themselves to the nearest 100 units (or the nearest one decimal) using normal rounding;
- e) In instances where, due to technical or other limitations, a rounding technique other than normal rounding is used resulting in estimates to be published or otherwise released that differ from corresponding estimates published by Statistics Canada, users are urged to note the reason for such differences in the publication or release document(s);
- f) Under no circumstances are unrounded estimates to be published or otherwise released by users. Unrounded estimates imply greater precision than actually exists.

10.2 Sample weighting guidelines for tabulation

The sample design used for this survey was not self-weighting. That is to say, the sampling weights are not identical for all individuals in the sample. When producing simple estimates, including the production of ordinary statistical tables, users must apply the proper sampling weight. If proper weights are not used, the estimates derived from the data file cannot be considered to be representative of the survey population, and will not correspond to those produced by Statistics Canada.

Users should also note that some software packages might not allow the generation of estimates that exactly match those available from Statistics Canada, because of their treatment of the weight field.

10.2.1 Definitions: categorical estimates, quantitative estimates

Before discussing how the survey data can be tabulated and analyzed, it is useful to describe the two main types of point estimates of population characteristics that can be generated from the data files.

Categorical estimates:

Categorical estimates are estimates of the number or percentage of the surveyed population possessing certain characteristics or falling into some defined category. The number of individuals who smoke daily is an example of such an estimate. An estimate of the number of persons possessing a certain characteristic may also be referred to as an estimate of an aggregate.

Example of categorical question:

At the present do/does ... smoke cigarettes daily, occasionally or not at all? (SMK_202)

- Daily
- Occasionally
- Not at all

Quantitative estimates:

Quantitative estimates are estimates of totals or of means, medians and other measures of central tendency of quantities based upon some or all of the members of the surveyed population.

An example of a quantitative estimate is the average number of cigarettes smoked per day by individuals who smoke daily. The numerator is an estimate of the total number of cigarettes smoked per day by individuals who smoke daily, and its denominator is an estimate of the number of individuals who smoke daily.

Example of quantitative question:

How many cigarettes do/does you/he/she smoke each day now? (SMK_204)

Number of cigarettes

10.2.2 Tabulation of categorical estimates

Estimates of the number of people with a certain characteristic can be obtained from the data file by summing the final weights of all records possessing the characteristic of interest.

Proportions and ratios of the form \hat{X} / \hat{Y} are obtained by:

- a) summing the final weights of records having the characteristic of interest for the numerator (\hat{X});
- b) summing the final weights of records having the characteristic of interest for the denominator (\hat{Y}); then
- c) dividing the numerator estimate by the denominator estimate.

10.2.3 Tabulation of quantitative estimates

Estimates of sums or averages for quantitative variables can be obtained using the following three steps (only step a) is necessary to obtain the estimate of a sum):

- a) multiplying the value of the variable of interest by the final weight and summing this quantity over all records of interest to obtain the numerator (\hat{X});
- b) summing the final weights of records having the characteristic of interest for the denominator (\hat{Y}); then
- c) dividing the numerator estimate by the denominator estimate.

For example, to obtain the estimate of the average number of cigarettes smoked each day by individuals who smoke daily, first compute the numerator (\hat{X}) by summing the product between the value of variable **SMK_204** and the weight **WTS_M**. Next, sum this value over those records with a value of "daily" to the variable **SMK_202**. The denominator (\hat{Y}) is obtained by summing the final weight of those records with a value of "daily" to the variable **SMK_202**. Divide (\hat{X}) by (\hat{Y}) to obtain the average number of cigarettes smoked each day by daily smokers.

10.3 Guidelines for statistical analysis

The CCHS is based upon a complex design, with stratification and multiple stages of selection, and unequal probabilities of selection of respondents. Using data from such complex surveys presents problems to analysts because the survey design and the selection probabilities affect the estimation and variance calculation procedures that should be used.

While many analysis procedures found in statistical packages allow weights to be used, the meaning or definition of the weight in these procedures can differ from what is appropriate in a sample survey framework, with the result that while in many cases the estimates produced by the packages are correct, the variances that are calculated are almost meaningless.

For many analysis techniques (for example linear regression, logistic regression, analysis of variance), a method exists that can make the application of standard packages more meaningful. If the weights on the records are rescaled so that the average weight is one (1), then the results produced by the standard packages will be more reasonable; they still will not take into account the stratification and clustering of the sample's design, but they will take into account the unequal probabilities of selection. The rescaling can be accomplished by using in the analysis a weight equal to the original weight divided by the average of the original weights for the sampled units (people) contributing to the estimator in question.

10.4 Release guidelines

Before releasing and/or publishing any estimate from the data files, users must first determine the number of sampled respondents having the characteristic of interest (for example, the number of respondents who smoke when interested in the proportion of smokers for a given population) in order to ensure that enough observations are available to calculate a quality estimate. For users of the PUMF, if this number is less than 30, the unweighted estimate should not be released regardless of the value of the coefficient of variation for this estimate. For users of the master or share files, it is recommended to have at least 10 observations in the numerator and 20 in the denominator. For weighted estimates, based on sample sizes of 10 or more (30 for the PUMF), users should determine the coefficient of variation of the estimate and follow the guidelines below.

Table 10.1 Sampling variability guidelines

Type of Estimate	CV (in %)	Guidelines
Acceptable	$0.0 \leq CV \leq 16.5$	Estimates can be considered for general unrestricted release. Requires no special notation.
Marginal	$16.6 \leq CV \leq 33.3$	Estimates can be considered for general unrestricted release but should be accompanied by a warning cautioning subsequent users of the high sampling variability associated with the estimates. Such estimates should be identified by the letter E (or in some other similar fashion).
Unacceptable	$CV > 33.3$	<p>Statistics Canada recommends not to release estimates of unacceptable quality. However, if the user chooses to do so then estimates should be flagged with the letter F (or in some other fashion) and the following warning should accompany the estimates:</p> <p>“The user is advised that . . . (specify the data) . . . do not meet Statistics Canada’s quality standards for this statistical program. Conclusions based on these data will be unreliable and most likely invalid. These data and any consequent findings should not be published. If the user chooses to publish these data or findings, then this disclaimer must be published with the data.”</p>

11. APPROXIMATE SAMPLING VARIABILITY TABLES

In order to supply coefficients of variation that will be applicable to a wide variety of categorical estimates produced from a PUMF and that could be readily accessed by the user, a set of Approximate Sampling Variability Tables will be produced with each PUMF. These "look-up" tables allow the user to obtain an approximate coefficient of variation based on the size of the estimate calculated from the survey data.

The coefficients of variation (CV) are derived using the variance formula for simple random sampling and incorporating a factor which reflects the multi-stage, clustered nature of the sample design. This factor, known as the *design effect*, was determined by first calculating design effects for a wide range of characteristics and then choosing, for each table produced, a conservative value among all design effects relative to that table. The value chosen was then used to generate a table that applies to the entire set of characteristics.

The Approximate Sampling Variability Tables, along with the design effects, the sample sizes and the population counts that were used to produce them, are provided in the document *Approximate Sampling Variability Tables*, which is available to the share file and PUMF users. All coefficients of variation in the Approximate Sampling Variability Tables are approximate and, therefore, unofficial. Options concerning the computation of exact coefficients of variation are discussed in sub-section 11.7.

Remember: As indicated in Sampling Variability Guidelines in Section 10.4, if the number of observations on which an estimate is based is less than 30, the weighted estimate should not be released regardless of the value of the coefficient of variation. Coefficients of variation based on small sample sizes are too unpredictable to be adequately represented in the tables.

11.1 How to use the CV tables for categorical estimates

The following rules should enable the user to determine the approximate coefficients of variation from the Sampling Variability Tables for estimates of the number, proportion or percentage of the surveyed population possessing a certain characteristic and for ratios and differences between such estimates.

Rule 1: Estimates of numbers possessing a characteristic (aggregates)

The coefficient of variation depends only on the size of the estimate itself. On the appropriate Approximate Coefficients of Variations Table, locate the estimated number in the left-most column of the table (headed "Numerator of Percentage") and follow the asterisks (if any) across to the first figure encountered. Since not all the possible values for the estimate are available, the smallest value which is the closest must be taken (as an example, if the estimate is equal to 1,700 and the two closest available values are 1,000 and 2,000, the first has to be chosen). This figure is the approximate coefficient of variation.

Rule 2: Estimates of proportions or percentages of people possessing a characteristic

The coefficient of variation of an estimated proportion (or percentage) depends on both the size of the proportion and the size of the numerator upon which the proportion is based. Estimated proportions are relatively more reliable than the corresponding estimates of the numerator of the proportion when the proportion is based upon a sub-group of the population. This is due to the fact that the coefficients of variation of the latter type of estimates are based on the largest entry in a row of a particular table, whereas the coefficients of variation of the former type of estimators are based on some entry (not necessarily the largest) in that same row. (Note that in the tables the CVs decline in value reading across a row from left to right). For example, the estimated proportion of individuals who smoke daily out of those who smoke at all is more reliable than the estimated number who smoke daily.

When the proportion (or percentage) is based upon the total population covered by each specific table, the CV of the proportion is the same as the CV of the numerator of the proportion. In this case, this is equivalent to applying Rule 1.

When the proportion (or percentage) is based upon a subset of the total population (e.g., those who smoke at all), reference should be made to the proportion (across the top of the table) and to the numerator of the proportion (down the left side of the table). Since not all the possible values for the proportion are available, the smallest value which is the closest must be taken (for example, if the proportion is 23% and the two closest values available in the column are 20% and 25%, 20% must be chosen). The intersection of the appropriate row and column gives the coefficient of variation.

Rule 3: Estimates of differences between aggregates or percentages

The standard error of a difference between two estimates is approximately equal to the square root of the sum of squares of each standard error considered separately. That is, the standard error of a difference ($\hat{d} = \hat{X}_2 - \hat{X}_1$) is:

$$\sigma_{\hat{d}} = \sqrt{(\hat{X}_1 \alpha_1)^2 + (\hat{X}_2 \alpha_2)^2}$$

where \hat{X}_1 is estimate 1, \hat{X}_2 is estimate 2, and α_1 and α_2 are the coefficients of variation of \hat{X}_1 and \hat{X}_2 respectively. The coefficient of variation of \hat{d} is given by $\sigma_{\hat{d}} / \hat{d}$. This formula is accurate for the difference between independent populations or subgroups, but is only approximate otherwise. It will tend to overstate the error, if \hat{X}_1 and \hat{X}_2 are positively correlated and understate the error if \hat{X}_1 and \hat{X}_2 are negatively correlated.

Rule 4: Estimates of ratios

In the case where the numerator is a subset of the denominator, the ratio should be converted to a percentage and Rule 2 applied. This would apply, for example, to the case where the denominator is the number of individuals who smoke at all and the numerator is the number of individuals who smoke daily out of those who smoke at all.

Consider the case where the numerator is not a subset of the denominator, as for example, the ratio of the number of individuals who smoke daily or occasionally as compared to the number of individuals who do not smoke at all. The standard deviation of the ratio of the estimates is approximately equal to the square root of the sum of squares of each coefficient of variation considered separately multiplied by \hat{R} , where \hat{R} is the ratio of the estimates ($\hat{R} = \hat{X}_1 / \hat{X}_2$). That is, the standard error of a ratio is:

$$\sigma_{\hat{R}} = \hat{R} \sqrt{\alpha_1^2 + \alpha_2^2}$$

Where α_1 and α_2 are the coefficients of variation of \hat{X}_1 and \hat{X}_2 respectively.

The coefficient of variation of \hat{R} is given by $\sigma_{\hat{R}} / \hat{R} = \sqrt{\alpha_1^2 + \alpha_2^2}$. The formula will tend to overstate the error, if \hat{X}_1 and \hat{X}_2 are positively correlated and understate the error if \hat{X}_1 and \hat{X}_2 are negatively correlated.

Rule 5: Estimates of differences of ratios

In this case, Rules 3 and 4 are combined. The CVs for the two ratios are first determined using Rule 4, and then the CV of their difference is found using Rule 3.

11.2 Examples of using the CV tables for categorical estimates

The following "real life" examples are included to assist users in applying the foregoing rules.

Example 1: Estimates of numbers possessing a characteristic (aggregates)

Suppose that a user estimates that 4,722,617 individuals smoke daily in Canada. How does the user determine the coefficient of variation of this estimate?

- 1) Refer to the CANADA level CV table.
- 2) The estimated aggregate (4,722,617) does not appear in the left-hand column (the "Numerator of Percentage" column), so it is necessary to use the smallest figure closest to it, namely 4,000,000.

- 3) The coefficient of variation for an estimated aggregate (expressed as a percentage) is found by referring to the first non-asterisk entry on that row, namely, 1.70%.
- 4) So the approximate coefficient of variation of the estimate is 1.70%. According to the Sampling Variability Guidelines presented in Section 10.4, the finding that there were 4,722,617 individuals who smoke daily is publishable with no qualifications.

Example 2 : Estimates of proportions or percentages possessing a characteristic

Suppose that the user estimates that $4,722,617/6,081,453=77.7\%$ of individuals in Canada who smoke at all smoke daily. How does the user determine the coefficient of variation of this estimate?

- 1) Refer to the CANADA level CV table.
- 2) Because the estimate is a percentage which is based on a subset of the total population (i.e., individuals who smoke at all, that is to say, daily or occasionally), it is necessary to use both the percentage (77.7%) and the numerator portion of the percentage (4,722,617) in determining the coefficient of variation.
- 3) The numerator (4,722,617) does not appear in the left-hand column (the "Numerator of Percentage" column) so it is necessary to use the smallest figure closest to it, namely 4,000,000. Similarly, the percentage estimate does not appear as any of the column headings, so it is necessary to use the figure closest to it, 70.0%.
- 4) The figure at the intersection of the row and column used, namely 1.0% is the coefficient of variation (expressed as a percentage) to be used.
- 5) So the approximate coefficient of variation of the estimate is 1.0%. According to the Sampling Variability Guidelines presented in Section 10.4, the finding that 77.7% of individuals who smoke at all smoke daily can be published with no qualifications.

Example 3 : Estimates of differences between aggregates or percentages

Suppose that a user estimates that, among men, $2,535,367/13,078,499 = 19.4\%$ smoke daily (estimate 1), while for women, this percentage is estimated at $2,187,250 / 13,476,931 = 16.2\%$ (estimate 2). How does the user determine the coefficient of variation of the difference between these two estimates?

- 1) Using the CANADA level CV table in the same manner as described in example 2 gives the CV for estimate 1 as 2.41.5% (expressed as a percentage), and the CV for estimate 2 as 2.41.5% (expressed as a percentage).

- 2) Using rule 3, the standard error of a difference ($\hat{d} = \hat{X}_2 - \hat{X}_1$) is :

$$\sigma_{\hat{d}} = \sqrt{(\hat{X}_1 \alpha_1)^2 + (\hat{X}_2 \alpha_2)^2}$$

Where \hat{X}_1 is estimate 1, \hat{X}_2 is estimate 2, and α_1 and α_2 are the coefficients of variation of \hat{X}_1 and \hat{X}_2 respectively. The standard error of the difference $\hat{d} = (0.194 - 0.162) = 0.032$ is :

$$\begin{aligned} \sigma_{\hat{d}} &= \sqrt{[(0.194)(0.024)]^2 + [(0.162)(0.024)]^2} \\ &= 0.0061 \end{aligned}$$

- 3) The coefficient of variation of \hat{d} is given by $\sigma_{\hat{d}} / \hat{d} = 0.006104 / 0.032 = 0.12590$.
- 4) So the approximate coefficient of variation of the difference between the estimates is 12.59.0% (expressed as a percentage). According to the Sampling Variability Guidelines presented in Section 10.4, this estimate can be published but a warning has to be issued with no qualifications.

Example 4 : Estimates of ratios

Suppose that the user estimates that 4,722,617 individuals smoke daily, while 1,358,836 individuals smoke occasionally. The user is interested in comparing the estimate of daily to occasional smokers in the form of a ratio. How does the user determine the coefficient of variation of this estimate?

- 1) First of all, this estimate is a ratio estimate, where the numerator of the estimate ($= \hat{X}_1$) is the number of individuals who smoke occasionally. The denominator of the estimate ($= \hat{X}_2$) is the number of individuals who smoke daily.
- 2) Refer to the CANADA level CV table.
- 3) The numerator of this ratio estimate is 1,358,836. The smallest figure closest to it is
- 4) 1,000,000. The coefficient of variation for this estimate (expressed as a percentage) is found by referring to the first non-asterisk entry on that row, namely, 3.72.3%.
- 5) The denominator of this ratio estimate is 4,722,617. The figure closest to it is 4,000,000. The
- 6) coefficient of variation for this estimate (expressed as a percentage) is found by referring to the first non-asterisk entry on that row, namely, 1.07%.

7) So the approximate coefficient of variation of the ratio estimate is given by rule 4, which is,

$$\alpha_{\hat{R}} = \sqrt{\alpha_1^2 + \alpha_2^2},$$

That is,

$$\begin{aligned}\alpha_{\hat{R}} &= \sqrt{(.037)^2 + (.017)^2} \\ &= 0.041\end{aligned}$$

where α_1 and α_2 are the coefficients of variation of \hat{X}_1 and \hat{X}_2 respectively. The obtained ratio of occasional to daily smokers is 1,358,836/4,722,617 which is 0.29:1. The coefficient of variation of this estimate is 4.12.5% (expressed as a percentage), which is releasable with no qualifications, according to the Sampling Variability Guidelines presented in Section 10.4.

11.3 How to use the CV tables to obtain confidence limits

Although coefficients of variation are widely used, a more intuitively meaningful measure of sampling error is the confidence interval of an estimate. A confidence interval constitutes a statement on the level of confidence that the true value for the population lies within a specified range of values. For example a 95% confidence interval can be described as follows: if sampling of the population is repeated indefinitely, each sample leading to a new confidence interval for an estimate, then in 95% of the samples the interval will cover the true population value.

Using the standard error of an estimate, confidence intervals for estimates may be obtained under the assumption that under repeated sampling of the population, the various estimates obtained for a population characteristic are normally distributed about the true population value. Under this assumption, the chances are about 68 out of 100 that the difference between a sample estimate and the true population value would be less than one standard error, about 95 out of 100 that the difference would be less than two standard errors, and about 99 out of 100 that the differences would be less than three standard errors. These different degrees of confidence are referred to as the confidence levels.

Confidence intervals for an estimate, \hat{X} , are generally expressed as two numbers, one below the estimate and one above the estimate, as $(\hat{X} - k, \hat{X} + k)$, where k is determined depending upon the level of confidence desired and the sampling error of the estimate.

Confidence intervals for an estimate can be calculated directly from the Approximate Sampling Variability Tables by first determining from the appropriate table the coefficient of variation of the estimate \hat{X} , and then using the following formula to convert to a confidence interval CI:

$$CI_X = [\hat{X} - z \hat{X} \alpha_{\hat{X}}, \hat{X} + z \hat{X} \alpha_{\hat{X}}]$$

Where $\alpha_{\hat{X}}$ is determined coefficient of variation for \hat{X} , and

- $z = 1$ if a 68% confidence interval is desired
- $z = 1.6$ if a 90% confidence interval is desired
- $z = 2$ if a 95% confidence interval is desired
- $z = 3$ if a 99% confidence interval is desired.

Note: Release guidelines presented in section 10.4 which apply to the estimate also apply to the confidence interval. For example, if the estimate is not releasable, then the confidence interval is not releasable either.

11.4 Example of using the CV tables to obtain confidence limits

A 95% confidence interval for the estimated proportion of individuals who smoke daily from those who smoke at all (from example 2, sub-section 11.2) would be calculated as follows:

$$\hat{X} = 0.777$$

$$z = 2$$

$$\alpha_{\hat{X}} = 0.0016 \text{ is the coefficient of variation of this estimate as determined from the tables.}$$

$$CI_{\hat{X}} = \{0.777 - (2) (0.777) (0.0061), 0.777 + (2) (0.777) (0.0061)\}$$

$$CI_{\hat{X}} = \{0.7618, 0.79386\}$$

11.5 How to use the CV tables to do a Z-test

Standard errors may also be used to perform hypothesis testing, a procedure for distinguishing between population parameters using sample estimates. The sample estimates can be numbers, averages, percentages, ratios, etc. Tests may be performed at various levels of significance, where a level of significance is the probability of concluding that the characteristics are different when, in fact, they are identical.

Let \hat{X}_1 and \hat{X}_2 be sample estimates for 2 characteristics of interest. Let the standard error on the difference $\hat{X}_1 - \hat{X}_2$ be $\sigma_{\hat{d}}$. If the ratio of $\hat{X}_1 - \hat{X}_2$ over $\sigma_{\hat{d}}$ is between -2 and 2, then no conclusion about the difference between the characteristics is justified at the 5% level of significance. If however, this ratio is smaller than -2 or larger than +2, the observed difference is significant at the 0.05 level.

11.6 Example of using the CV tables to do a Z-test

Let us suppose we wish to test, at 5% level of significance, the hypothesis that there is no difference between the proportion of men who smoke daily AND the proportion of women who smoke daily. From example 3, sub-section 11.2, the standard error of the difference between these two estimates was found to be = 0.00461. Hence,

$$z = \frac{\hat{X}_1 - \hat{X}_2}{\sigma_{\hat{d}}} = \frac{0.194 - 0.162}{0.0061} = \frac{0.032}{0.0061} = 5.25$$

Since $z = 5.25$ is greater than 2, it must be concluded that there is a significant difference between the two estimates at the 0.05 level of significance. Note that the two sub-groups compared are considered as being independent, so the test is correct.

11.7 Exact variances/coefficients of variation

All coefficients of variation in the Approximate Sampling Variability Tables (CV Tables) are indeed approximate and, therefore, unofficial.

The computation of exact coefficients of variation is not a straightforward task since there is no simple mathematical formula that would account for all CCHS sampling frame and weighting aspects. Therefore, other methods such as resampling methods must be used in order to estimate measures of precision. Among these methods, the bootstrap method is the one recommended for analysis of CCHS data.

The computation of coefficients of variation (or any other measure of precision) with the use of the bootstrap method requires access to information that is considered confidential and not available on the PUMF. This computation must be done using the Master file. Access to the Master file is discussed in section 12.3.

For the computation of coefficients of variation, the bootstrap method is advised. A macro program, called "Bootvar", was developed in order to give users easy access to the bootstrap method. The Bootvar program is available in SAS and SPSS formats, and is made up of macros that calculate the variances of totals, ratios, differences between ratios, and linear and logistic regressions.

There are a number of reasons why a user may require an exact variance. A few are given below.

Firstly, if a user desires estimates at a geographic level other than those available in the tables (for example, at the rural/urban level), then the CV tables provided are not adequate. Coefficients of variation of these estimates may be obtained using "domain" estimation techniques through the exact variance program.

Secondly, should a user require more sophisticated analyses such as estimates of parameters from linear regressions or logistic regressions, the CV tables will not provide correct associated coefficients of variation. Although some standard statistical packages allow sampling weights to be incorporated in the analyses, the variances that are produced often do not take into account the stratified and clustered nature of the design properly, whereas the exact variance program would do so.

Thirdly, for estimates of quantitative variables, separate tables are required to determine their sampling error. Since most of the variables for the CCHS are primarily categorical in nature, this has not been done. Thus, users wishing to obtain coefficients of variation for quantitative variables can do so through the exact variance program. As a general rule, however, the coefficient of variation of a quantitative total will be larger than the coefficient of variation of the corresponding category estimate (i.e., the estimate of the number of persons contributing to the quantitative estimate). If the corresponding category estimate is not releasable, the quantitative estimate will not be either. For example, the coefficient of variation of the estimate of the total number of cigarettes smoked each day by individuals who smoke daily would be greater than the coefficient of variation of the corresponding estimate of the number of individuals who smoke daily. Hence if the coefficient of variation of the latter is not releasable, then the coefficient of variation of the corresponding quantitative estimate will also not be releasable.

Lastly, should users find themselves in a position where they can use the CV tables, but this renders a coefficient of variation in the "marginal" range (16.6% - 33.3%), the user should release the associated estimate with a warning cautioning users of the high sampling variability associated with the estimate. This would be a good opportunity to recalculate the coefficient of variation through the exact variance program to find out if it is releasable without a qualifying note. The reason for this is that the coefficients of variation produced by the tables are based on a wide range of variables and are therefore considered crude, whereas the exact variance program would give an exact coefficient of variation associated with the variable in question.

11.8 Release cut-offs for the CCHS

The document *Approximate Sampling Variability Table*, which is available to the share file and PUMF users, presents tables giving the minimum cut-offs for estimates of totals at the Canada, provincial, health region and CLSC levels and those for various age groups at the Canada level. Estimates smaller than the value given in the "Marginal" column may not be released under any circumstances.

12. MICRODATA FILES: DESCRIPTION, ACCESS AND USE

The CCHS produces three types of microdata files: master files, share files and public use microdata files (PUMF). Table 12.1 includes the list of all available 2010 and 2009-2010 data files.

12.1 Master files

The master files contain all variables and all records from the survey collected during a collection period. These files are accessible at Statistics Canada for internal use and in Statistics Canada's Research Data Centres (RDC), and are also subject to custom tabulation requests.

12.1.1 Research Data Centre

The RDC Program enables researchers to use the survey data in the master files in a secure environment in several universities across Canada. Researchers must submit research proposals that, once approved, give them access to the RDC. For more information, please consult the following web page:

<http://www.statcan.ca/english/rdc/index.htm>

12.1.2 Custom tabulations

Another way to access the master files is to offer all users the option of having staff in Client Services of the Health Statistics Division prepare custom tabulations. This service is offered on a cost-recovery basis. It allows users who do not possess knowledge of tabulation software products to get custom results. The results are screened for confidentiality and reliability concerns before release. For more information, please contact Client Services at 613-951-1746 or by e-mail at hd-ds@statcan.gc.ca.

12.1.3 Remote access

Finally, the remote access service to the survey master files is another way to have access to these data if, for some reason, the user cannot access a Research Data Centre. Each purchaser of the microdata product can be supplied with a synthetic or 'dummy' master file and a corresponding record layout. With these tools, the researcher can develop his own set of analytical computer programs. The code for the custom tabulations is then sent via e-mail to cchs-escc@statcan.gc.ca. The code will then be transferred into Statistics Canada's internal secured network and processed using the appropriate master file of CCHS data. Estimates generated will be released to the user, subject to meeting the guidelines for analysis and release outlined in Section 10 of this document. Results are screened for confidentiality and reliability concerns and then the output is returned to the client. There is no charge for this service.

12.2 Share files

The share files contain all variables and all records of CCHS respondents who agreed to share their data with Statistic Canada's partners, which are the provincial and territorial health departments, Health Canada and the Public Health Agency of Canada. Statistics Canada also asks respondents living in Quebec for their permission to share their data with the Institut de la statistique du Québec. The share file is released only to these organizations. Personal identifiers are removed from the share files to respect respondent confidentiality. Users of these files must first certify that they will not disclose, at any time, any information that might identify a survey respondent.

12.3 Public use microdata files

The public use microdata files (PUMF) are developed from the master files using a technique that balances the need to ensure respondent confidentiality with the need to produce the most useful data possible at the health region level. The PUMF must meet stringent security and confidentiality standards required by the *Statistics Act* before they are released for public access. To ensure that these standards have been achieved, each PUMF goes through a formal review and approval process by an executive committee of Statistics Canada.

Variables most likely to lead to identification of an individual are deleted from the data file or are collapsed to broader categories.

The PUMF contains the data collected over two years. It includes questions that were asked over two years. Unless otherwise specified, these questions are usually those included in the annual common content and in the two-year common content as well as the optional content selected for two years by the provinces and territories.

There is no charge to access the PUMF in a post-secondary educational institution that is part of the Data Liberation Initiative. They are also free of charge from Client Services on request at 613-951-1746 or by e-mail at hd-ds@statcan.gc.ca.

Table 12.1 2010 and 2009-2010 CCHS data files

Reference period	Files	File name	Sampling weight	Bootstrap weights file	Variables included	Records included
2010	Main master file	HS.txt	WTS_M	b5.txt	All common and all optional modules.	All respondent records
	Share file	HS.txt	WTS_S	b5.txt	All common and all optional modules.	Records of all respondents who agreed to share their data
2009-2010	Main master file	HS.txt	WTS_M	b5.txt	All common annual and 2-yr and optional modules that were selected for 2 years	All respondent records
	Share file	HS.txt	WTS_S	b5.txt	All common annual and 2-yr and optional modules that were selected for 2 years	Records of all respondents who agreed to share their data

12.4 How to use the CCHS data files: annual data file or two-year data file?

Since the 2008 and 2007-2008 data were released, users that have access to share files or master files have had the choice of using one-year or two-year data files. Decisions about which period to use in a given data analysis should be guided by the level of detail and the quality required. With a one-year file, estimates will not always be available because of the quality associated with limited sample sizes.

Before interpreting and using a CCHS estimate, it is recommended to make sure that the estimates meets the following rules:

- Coefficient of Variation 33.3% or less
- a minimum of 10 respondents in the domain with the characteristic and
- total domain of interest includes at least 20 respondents.

This will not be possible for rare characteristics and detailed domains with one-year files. Instead, users will have to rely on two-year files or multi-year files.

Where the use of either a one-year or two-year file is viable, the user should consider the trade-off between accuracy and currency. If it is important to reflect the current characteristics of a population as closely as possible, the one-year file would be preferable. However, with the increased sample size, more detailed estimates and analyses can be carried out with a two-year file.

12.5 Use of weight variable

The weight variable **WTS_M** represents the sampling weight for key survey files. For a given respondent, the sampling weight can be interpreted as the number of people the respondent represents in the Canadian population. This weight must always be used when computing statistical estimates in order to make inference at the population level possible. The production of unweighted estimates is not recommended. The sample allocation, as well as the survey design specifics can cause such results to not correctly represent the population. Refer to section 8 on weighting for a more detailed explanation on the creation of this weight. The weight variable **WTS_M** must be used for regional analyses.

The **Food Security** module, included in certain reference period data files, measures concepts that apply not only to the respondent's situation, but also to that of the respondent's entire household. Depending on the level of analysis, the analysis of the variables may require use of a weight calculated to represent the number of Canadian households, rather than the number of persons. This weight variable **WTS_HH** is found in a separate file (HS_HHWT.txt). It can be used in place of the variable **WTS_M** for household analyses at the national and provincial levels.

12.6 Variable naming convention beginning in 2007

The variable naming convention adopted allows data users to easily use and identify the data based on the module and variable type. The CCHS variable naming convention fulfils two requirements: to restrict variable names to a maximum of eight characters for ease of use by analytical software products and to identify easily conceptually identical variables from one survey collection period to the next. Questions to which changes are made between two collection periods, and where the changes alter the concept measured by the question, are entirely renamed to avoid any confusion in the analysis.

The CCHS variable naming convention was changed beginning with the data from the 2007 collection period. The letter corresponding to the survey version (e.g., A = 2000 (cycle 1.1), C = 2003 (cycle 2.1) and E = 2005 (3.1)) is no longer used in the variable names. A new variable (REFPER, format = YYYYMM-YYYYMM) was added to the microdata files in order to identify the beginning and the end of the reference during which data included in the file were collected. This variable will be useful, notably for users wanting to use data from several collection periods at a time. Therefore, variable names for identical modules or questions from one collection year to the next (e.g., 2007 and 2008) will be the same.

The naming convention used for variables beginning with the 2007 CCHS use up to eight characters. The variable names are structured as follows:

Positions 1 to 3:	Module/questionnaire section name
Position 4:	Variable type (underscore, C, D, F or G)
Positions 5 to 8:	Question number and answer option for multiple response questions

Example 1 shows that the structure of the variable name for question 202, Smoking Module, is SMK_202 :

Positions 1 to 3:	SMK	Smoking module
Position 4 :	_	(underscore = collected data)
Position 5 to 8:	202	Question number

Example 2 shows the structure of the variable name for question 2 of the Health Care Utilization Module (HCU_02A), which is a multi-response question:

Positions 1 to 3:	HCU	Health care utilization module
Position 4 :	_	(underscore = collected data)
Position 5 to 8:	02AA	Corresponding question number and answer option

Positions 1 to 3 contain the acronyms for each of the modules. These acronyms appear beside the module names given in the table in Appendix A.

Position 4 designates the variable type based on whether it is a variable collected directly from a questionnaire question (“_”), from a coded (“C”), derived (“D”), grouped (“G”), or flag (“F”) variable.

In general, the last four positions (5 to 8) follow the variable numbering used on the questionnaire. The letter "Q" used to represent the word "question" is removed, and all question numbers are presented in a two or three digit format. For example, question Q01A in the questionnaire becomes simply 01A, and question Q15 becomes simply 15.

Table 12.2 Designation of codes used in the 4th position of the CCHS variable names

_	Collected variable	A variable that appears directly on the questionnaire
C	Coded variable	A variable coded from one or more collected variables (e.g., SIC, Standard Industrial Classification code)
D	Derived variable	A variable calculated from one or more collected or coded variables, usually calculated during head office processing (e.g., Health Utility Index)
F	Flag variable	A variable calculated from one or more collected variables (like a derived variable), but usually calculated by the data collection computer application for later use during the interview (e.g., work flag)
G	Grouped variable	Collected, coded, suppressed or derived variables collapsed into groups (e.g., age groups)

For questions that have more than one response option, the final position in the variable naming sequence is represented by a letter. For this type of question, new variables were created to differentiate between a "yes" or "no" answer for each response option. For example, if Q2 had 4 response options, the new questions would be named Q2A for option 1, Q2B for option 2, Q2C for option 3, etc. If only options 2 and 3 were selected, then Q2A = No, Q2B = Yes, Q2C = Yes and Q2D = No.

12.7 Variable naming convention before 2007

As mentioned earlier, the variable naming convention was changed in 2007. The flag for the cycle in which the variables were collected was removed. This flag was found in the 4th position for 2000 to 2005 data (cycles 1.1 to 3.1).

Here is the list of letters used in the CCHS microdata files between cycles 1.1 and 3.1 and their corresponding cycle.

Letter	Cycle and cycle name
A	2000 (Cycle 1.1) : Canadian Community Health Survey
B	2002 (Cycle 1.2) : Canadian Community Health Survey - Mental Health and Well-Being
C	2003 (Cycle 2.1) : Canadian Community Health Survey
D	2004 (Cycle 2.2) : Canadian Community Health Survey - Nutrition
E	2005 (Cycle 3.1) : Canadian Community Health Survey

12.8 Guidelines for the use of sub-sample variables – Not applicable to 2010 and 2009-2010 data files

12.9 Data dictionaries

Separate data dictionary reports, including universe statements and frequencies, are provided for the main master file and each of the sub-sample files.

In the master file data dictionary reports, optional content modules are treated in the same way as previous CCHS cycles. For each module, a flag indicates whether a given respondent lives in a health region where the module was selected as optional content. When the flag is equal to 2 (No), all variables in the module have “not applicable” values. For example, the DOWST variable indicates if the Work stress module applies to a given respondent.

12.10 Differences in calculation of common content variables using different files

Variables from common content modules can be estimated using either of the two data files provided, when a one year and a two-year data file is available. Depending on which file is used, very small differences will be observed.

All official Statistics Canada estimates of variables from common modules are based on the main master file sampling weight.

Appendix A - Canadian community health survey content (2009-2010)

Appendix A - Canadian community health survey content (2009-2010)

Annual common content (all regions)				
<ul style="list-style-type: none"> • Age of respondent (ANC) • Alcohol use (ALC) • Chronic conditions (CCC) • Exposure to second-hand smoke (ETS) • Flu shots (FLU) • Fruit and vegetable consumption (FVC) • General health (GEN) 		<ul style="list-style-type: none"> • Health care utilization (HCU) • Pain and discomfort (HUP) • Height and weight – Self-reported (HWT) • Maternal experiences - Breastfeeding (MEX) • Fruit and vegetable consumption (FVC) • Physical activities (PAC) • Restriction of activities (RAC) • Smoking (SMK) 		<p>Administration and socio-demographic information</p> <ul style="list-style-type: none"> • Administrative information (ADM) • Dwelling characteristics (DWL) • Education (EDU) • Income (INC) • Labour force (LBS) • Socio-demographic characteristics (SDC) • Person most knowledgeable about the household (PMK - 2010 only, not in 2009-2010 data file)
Two year / One year common content (all regions)				
2009-2010: Injuries and Functional Health		2009 Only: Health Services and Access (sub-sample) ⁱ		2010 Only: Health Care Utilization and Economic Burden
<ul style="list-style-type: none"> • Health Utilities Index (HUI) • Activities of daily living (ADL) • Use of protective equipment (UPE) 	<ul style="list-style-type: none"> • Sexual behaviours (SXB) • Injuries (INJ) 	<ul style="list-style-type: none"> • Access to health care services (ACC) • Wait times (WTM) 	<ul style="list-style-type: none"> • Contacts with health professionals (CHP) • Unmet health care needs (UCN) • H1N1 Immunization • Neurological conditions (NEU) 	<ul style="list-style-type: none"> • Loss of Productivity (LOP) • Fibromyalgia (CC3) • Chronic fatigue syndrome and multiple chemical sensitivities (CC4)

i Asked of a sub-sample of respondents. These theme modules were not asked of respondents in the territories.

Optional content (certain regions)			
<ul style="list-style-type: none"> • Alcohol use - Dependence (ALD) • Alcohol use during the past week (ALW) • Blood pressure check (BPC) • Breast examination (BRX) • Breast self-examination (BSX) • Changes made to improve health (CIH) • Colorectal cancer screening (CCS) • Consultations about mental health (CMH) • Dental visits (DEN) • Depression (DEP) • Diabetes care (DIA) • Dietary supplement use – Vitamins and minerals (DSU) • Distress (DIS) • Driving and safety (DRV) • Eye examinations (EYX) • Food choices (FDC) 	<ul style="list-style-type: none"> • Food security (FSC) • Health care system satisfaction (HCS) • Health status (SF-36) (SFR) • Home care services (HMC) • Home safety (HMS) • Illicit drugs use (IDU) • Insurance coverage (INS) • Mammography (MAM) • Mastery (MAS) • Maternal experiences – Alcohol use during pregnancy (MXA) • Maternal experiences – Smoking during pregnancy (MXS) • Oral health 2 (OH2) • Pap smear test (PAP) • Patient satisfaction – Community-based care (PSC) • Patient satisfaction - Health care services (PAS)ⁱⁱ 	<ul style="list-style-type: none"> • Physical activities – Facilities at work (PAF) • Problem gambling (CPG) • Prostate cancer screening (PSA) • Psychological well-being (PWB) • Satisfaction with life (SWL) • Sedentary activities (SAC) • Self-esteem (SFE) • Smoking - Other tobacco products (TAL) • Smoking - Physician counselling (SPC) • Smoking - Stages of change (SCH) • Smoking cessation methods (SCA) • Social support - Availability (SSA) • Social support – Utilization (SSU) • Stress – Coping with stress (STC) • Stress – Sources (STS) 	<ul style="list-style-type: none"> • Suicidal thoughts and attempts (SUI) • Sun safety behaviours (SSB) • Voluntary organizations - Participation (ORG)
Rapid Response			
2009		2010	
<ul style="list-style-type: none"> • Sleep Apnea (SLA) (Jan – Feb 2009) • Osteoporosis (OST) (Mar – Apr 2009) • Infertility (IFT) (Sep – Dec 2009) 		<ul style="list-style-type: none"> • Stigma towards depression (STG) and Mental Health Experience (MHE) (May – June 2010) • Osteoporosis (OST) (Jul – Aug 2010) 	

Appendix B – Selection of optional content by province and territory (2010 and 2009-2010)

Appendix B (2010) - Selection of optional content by province and territory

DescriptionE	N.L.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Y.T.	N.W.T.	Nvt
ACC Access to health care services	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ALD Alcohol use - Dependence	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
ALW Alcohol use during the past week	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
BPC Blood pressure check	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
BRX Breast examinations	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
BSX Breast self-examinations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
CIH Changes made to improve health	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
CCS Colorectal cancer screening	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
CMH Consultations about mental health	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
DEN Dental visits	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
DEP Depression	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
DIA Diabetes care	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
DSU Dietary supplement use - Vitamins and minerals	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
DIS Distress	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
DRV Driving and safety	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
EYX Eye examinations	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
FDC Food choices	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
FSC Food security	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
HCS Health care system satisfaction	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
SFR Health status (SF-36)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
HMC Home care services	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

DescriptionE	N.L.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Y.T.	N.W.T.	Nvt
HMS Home safety	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
IDG Illicit drugs use	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
INS Insurance coverage	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
MAM Mammography	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
MAS Mastery	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
MXA Maternal experiences - Alcohol use during pregnancy	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
MXS Maternal experiences - Smoking during pregnancy	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
OH2 Oral health 2	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PAP PAP smear test	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
PSC Patient satisfaction - Community-based care	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
PAS Patient satisfaction - Health care services	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PAF Physical activities - Facilities at work	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
CPG Problem gambling	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
PSA Prostate cancer screening	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
PWB Psychological well-being	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SWL Satisfaction with life	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SAC Sedentary activities	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SFE Self-esteem	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
TAL Smoking - Other tobacco products	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SPC Smoking - Physician counselling	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
SCH Smoking - Stages of change	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SCA Smoking cessation methods	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
SSA Social support - Availability	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

DescriptionE	N.L.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Y.T.	N.W.T.	Nvt
SSU Social support - Utilization	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
STC Stress - Coping with stress	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
STS Stress - Sources	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SUI Suicidal thoughts and attempts	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
SSB Sun safety behaviours	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ORG Voluntary organizations - Participation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
WTM Waiting times	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Appendix B (2009-2010) - Selection of optional content by province and territory

DescriptionE	N.L.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Y.T.	N.W.T.	Nvt
ACC Access to health care services	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ALD Alcohol use - Dependence	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
ALW Alcohol use during the past week	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
BPC Blood pressure check	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
BRX Breast examinations	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
BSX Breast self-examinations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
CIH Changes made to improve health	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
CCS Colorectal cancer screening	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
CMH Consultations about mental health	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
DEN Dental visits	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
DEP Depression	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
DIA Diabetes care	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
DSU Dietary supplement use - Vitamins and minerals	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
DIS Distress	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
DRV Driving and safety	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
EYX Eye examinations	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
FDC Food choices	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
FSC Food security	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
HCS Health care system satisfaction	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
SFR Health status (SF-36)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
HMC Home care services	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

DescriptionE	N.L.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Y.T.	N.W.T.	Nvt
HMS Home safety	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
IDG Illicit drugs use	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
INS Insurance coverage	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
MAM Mammography	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
MAS Mastery	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
MXA Maternal experiences - Alcohol use during pregnancy	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
MXS Maternal experiences - Smoking during pregnancy	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
OH2 Oral health 2	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PAP PAP smear test	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
PSC Patient satisfaction - Community-based care	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
PAS Patient satisfaction - Health care services	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PAF Physical activities - Facilities at work	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
CPG Problem gambling	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
PSA Prostate cancer screening	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
PWB Psychological well-being	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SWL Satisfaction with life	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SAC Sedentary activities	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SFE Self-esteem	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
TAL Smoking - Other tobacco products	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SPC Smoking - Physician counselling	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
SCH Smoking - Stages of change	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SCA Smoking cessation methods	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
SSA Social support - Availability	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

DescriptionE	N.L.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Y.T.	N.W.T.	Nvt
SSU Social support - Utilization	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
STC Stress - Coping with stress	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
STS Stress - Sources	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SUI Suicidal thoughts and attempts	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
SSB Sun safety behaviours	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ORG Voluntary organizations - Participation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
WTM Waiting times	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Appendix C - Available geography in the master and share files and their corresponding codes: Canada, provinces/territories, health regions and peer groups

Appendix C - Available geography in the master and share files and their corresponding codes: Canada, provinces/territories, health regions and peer groups

0	Canada
10	Newfoundland and Labrador
1011-C	Eastern Regional Integrated Health Authority
1012-I	Central Regional Integrated Health Authority
1013-I	Western Regional Integrated Health Authority
1014-H	Labrador-Grenfell Regional Integrated Health Authority
11	Prince Edward Island
1101-D	Kings County
1102-A	Queens County
1103-C	Prince County
12	Nova Scotia
1201-C	Zone 1
1202-C	Zone 2
1203-C	Zone 3
1204-C	Zone 4
1205-I	Zone 5
1206-A	Zone 6
13	New Brunswick
1301-C	Zone 1
1302-C	Zone 2
1303-C	Zone 3
1304-C	Zone 4
1305-I	Zone 5
1306-I	Zone 6
1307-I	Zone 7
24	Quebec
2401-C	Région du Bas-Saint-Laurent
2402-C	Région du Saguenay - Lac-Saint-Jean
2403-A	Région de la Capitale-Nationale
2404-C	Région de la Mauricie et du Centre-du-Québec
2405-C	Région de l'Estrie
2406-G	Région de Montréal
2407-A	Région de l'Outaouais
2408-C	Région de l'Abitibi-Témiscamingue
2409-H	Région de la Côte-Nord
2410-H	Région du Nord-du-Québec
2411-I	Région de la Gaspésie - Îles-de-la-Madeleine
2412-E	Région de la Chaudière-Appalaches
2413-A	Région de Laval
2414-E	Région de Lanaudière
2415-E	Région des Laurentides
2416-A	Région de la Montérégie
35	Ontario by Local Health Integration Network
3501	Erie St. Clair Health Integration Network
3502	South West Health Integration Network
3503	Waterloo Wellington Health Integration Network

3504	Hamilton Niagara Haldimand Brant Health Integration Network
3505	Central West Health Integration Network
3506	Mississauga Halton Health Integration Network
3507	Toronto Central Health Integration Network
3508	Central Health Integration Network
3509	Central East Health Integration Network
3510	South East Health Integration Network
3511	Champlain Health Integration Network
3512	North Simcoe Muskoka Health Integration Network
3513	North East Health Integration Network
3514	North West Health Integration Network
35	Ontario by Health Unit
3526-C	District of Algoma Health Unit
3527-A	Brant County Health Unit
3530-B	Durham Regional Health Unit
3531-E	Elgin-St. Thomas Health Unit
3533-E	Grey Bruce Health Unit
3534-E	Haldimand-Norfolk Health Unit
3535-E	Haliburton, Kawartha, Pine Ridge District Health Unit
3536-B	Halton Regional Health Unit
3537-A	City of Hamilton Health Unit
3538-A	Hastings and Prince Edward Counties Health Unit
3539-E	Huron County Health Unit
3540-A	Chatham-Kent Health Unit
3541-A	Kingston, Frontenac and Lennox and Addington Health Unit
3542-A	Lambton Health Unit
3543-E	Leeds, Grenville and Lanark District Health Unit
3544-A	Middlesex-London Health Unit
3546-A	Niagara Regional Area Health Unit
3547-C	North Bay Parry Sound District Health Unit
3549-H	Northwestern Health Unit
3551-B	City of Ottawa Health Unit
3552-E	Oxford County Health Unit
3553-B	Peel Regional Health Unit
3554-E	Perth District Health Unit
3555-A	Peterborough County-City Health Unit
3556-H	Porcupine Health Unit
3557-E	Renfrew County and District Health Unit
3558-E	Eastern Ontario Health Unit
3560-E	Simcoe Muskoka District Health Unit
3561-C	Sudbury and District Health Unit
3562-C	Thunder Bay District Health Unit
3563-C	Timiskaming Health Unit
3565-B	Waterloo Health Unit
3566-B	Wellington-Dufferin-Guelph Health Unit
3568-B	Windsor-Essex County Health Unit
3570-B	York Regional Health Unit
3595-G	City of Toronto Health Unit

46	Manitoba	
4610-A		Winnipeg Regional Health Authority
4615-A		Brandon Regional Health Authority
4620-E		North Eastman Regional Health Authority
4625-E		South Eastman Regional Health Authority
4630-E		Interlake Regional Health Authority
4640-D		Central Regional Health Authority
4645-D		Assiniboine Regional Health Authority
4660-D		Parkland Regional Health Authority
4670-H		NOR-MAN Regional Health Authority
4685-F		Burntwood/Churchill
47	Saskatchewan	
4701-D		Sun Country Regional Health Authority
4702-D		Five Hills Regional Health Authority
4703-D		Cypress Regional Health Authority
4704-A		Regina Qu'Appelle Regional Health Authority
4705-D		Sunrise Regional Health Authority
4706-A		Saskatoon Regional Health Authority
4707-D		Heartland Regional Health Authority
4708-D		Kelsey Trail Regional Health Authority
4709-C		Prince Albert Parkland Regional Health Authority
4710-H		Prairie North Regional Health Authority
4714-F		Mamawetan/Keewatin/Athabasca
48	Alberta	
4831-A		South Zone
4832-B		Calgary Zone
4833-E		Central Zone
4834-B		Edmonton Zone
4835-E		North Zone
59	British Columbia	
5911-E		East Kootenay Health Service Delivery Area
5912-C		Kootenay-Boundary Health Service Delivery Area
5913-A		Okanagan Health Service Delivery Area
5914-C		Thompson/Cariboo Health Service Delivery Area
5921-A		Fraser East Health Service Delivery Area
5922-B		Fraser North Health Service Delivery Area
5923-B		Fraser South Health Service Delivery Area
5931-B		Richmond Health Service Delivery Area
5932-G		Vancouver Health Service Delivery Area
5933-B		North Shore/Coast Garibaldi Health Service Delivery Area
5941-A		South Vancouver Island Health Service Delivery Area
5942-A		Central Vancouver Island Health Service Delivery Area
5943-C		North Vancouver Island Health Service Delivery Area
5951-H		Northwest Health Service Delivery Area

5952-H	Northern Interior Health Service Delivery Area
5953-H	Northeast Health Service Delivery Area
60	Yukon
6001-H	Yukon
61	Northwest Territories
6101-H	Northwest Territories
62	Nunavut – 10 largest communities
6201-F	Nunavut – 10 largest communities
A	Peer group A
B	Peer group B
C	Peer group C
D	Peer group D
E	Peer group E
F	Peer group F
G	Peer group G
H	Peer group H
I	Peer group I
J	Peer group J

Appendix D (2010) Sample allocation by health region and frame and by Local Health Integrated Network (LHIN) and frames in the CCHS in Ontario

Appendix D (2010) Sample allocation by health region and frame

Geography		Area Frame		Phone frames		Combined	
Prov./Terr.	Health Region	expected # of respondents	raw sample size	expected # of respondents	raw sample size	expected # of respondents	raw sample size
Canada	Total	31,092	47,287	34,632	60,424	65,724	107,711
N.L.	Total	943	1,384	1,062	1,578	2,005	2,962
	1011	381	554	429	642	810	1,196
	1012	221	340	249	374	470	714
	1013	200	277	225	326	425	603
	1014	141	214	159	236	300	450
P.E.I.	Total	471	828	530	986	1,001	1,814
	1101	84	151	94	184	178	335
	1102	216	380	244	446	460	826
	1103	171	297	192	356	363	653
N.S.	Total	1,184	1,839	1,337	2,004	2,521	3,843
	1201	186	280	210	320	396	600
	1202	150	229	170	254	320	483
	1203	169	263	191	306	360	569
	1204	165	297	185	268	350	565
	1205	197	257	223	336	420	593
	1206	317	513	358	520	675	1,033
N.B.	Total	1,211	1,890	1,364	2,070	2,575	3,960
	1301	235	357	265	402	500	759
	1302	228	388	257	402	485	790
	1303	221	369	249	382	470	751
	1304	127	187	143	216	270	403
	1305	118	186	132	202	250	388
	1306	162	212	183	274	345	486
	1307	120	191	135	192	255	383
Que.	Total	5,520	7,935	6,625	11,778	12,145	19,713
	2401	282	372	318	496	600	868
	2402	295	426	333	528	628	954
	2403	436	659	490	848	926	1,507
	2404	377	517	426	630	803	1,147
	2405	290	467	328	536	618	1,003
	2406	730	1,092	823	1,526	1,553	2,618
	2407	303	475	342	612	645	1,087
	2408	282	364	318	470	600	834
	2409	282	390	318	622	600	1,012
	2410	0	0	400	1,176	400	1,176
	2411	282	404	318	554	600	958
	2412	340	454	383	694	723	1,148
	2413	315	462	355	636	670	1,098
	2414	337	481	381	636	718	1,117
	2415	358	532	403	708	761	1,240
	2416	611	840	689	1,106	1,300	1,946
Ont.	Total	10,317	15,867	11,855	20,898	22,172	36,765
	3526	200	280	225	406	425	686

Geography		Area Frame		Phone frames		Combined	
Prov./Terr.	Health Region	expected # of respondents	raw sample size	expected # of respondents	raw sample size	expected # of respondents	raw sample size
	3527	190	295	215	364	405	659
	3530	383	610	432	706	815	1,316
	3531	160	240	180	310	340	550
	3533	236	361	266	490	502	851
	3534	182	287	204	370	386	657
	3535	223	384	252	470	475	854
	3536	331	483	374	634	705	1,117
	3537	388	626	437	794	825	1,420
	3538	221	363	249	406	470	769
	3539	139	191	156	286	295	477
	3540	188	241	212	368	400	609
	3541	237	440	268	472	505	912
	3542	204	289	231	440	435	729
	3543	223	333	252	420	475	753
	3544	353	581	397	644	750	1,225
	3546	360	538	405	674	765	1,212
	3547	188	301	212	406	400	707
	3549	169	302	223	437	392	739
	3551	482	797	543	896	1,025	1,693
	3552	176	243	199	312	375	555
	3553	626	903	706	1,286	1,332	2,189
	3554	153	203	172	268	325	471
	3555	200	311	225	408	425	719
	3556	176	265	199	338	375	603
	3557	176	272	199	362	375	634
	3558	244	335	276	466	520	801
	3560	476	729	631	1,157	1,107	1,886
	3561	254	419	286	476	540	895
	3562	260	431	389	700	649	1,131
	3563	118	214	132	242	250	456
	3565	360	551	405	674	765	1,225
	3566	273	365	310	488	583	853
	3568	336	498	379	668	715	1,166
	3570	444	659	500	916	944	1,575
	3595	988	1,527	1,114	2,144	2,102	3,671
Man.	Total	1,765	2,502	1,985	3,258	3,750	5,760
	4610	496	698	559	858	1,055	1,556
	4615	132	188	148	216	280	404
	4620	118	161	132	242	250	403
	4625	141	177	159	256	300	433
	4630	162	268	183	330	345	598
	4640	188	248	212	318	400	566
	4645	167	231	188	286	355	517
	4660	125	180	140	228	265	408
	4670	118	170	132	230	250	400
	4685	118	181	132	294	250	475

Geography		Area Frame		Phone frames		Combined	
Prov./Terr.	Health Region	expected # of respondents	raw sample size	expected # of respondents	raw sample size	expected # of respondents	raw sample size
Sask.	Total	1,697	2,465	2,163	4,192	3,860	6,657
	4701	141	189	159	262	300	451
	4702	141	222	159	248	300	470
	4703	125	184	140	222	265	406
	4704	291	414	329	528	620	942
	4705	146	215	164	260	310	475
	4706	310	453	350	534	660	987
	4707	127	210	143	210	270	420
	4708	122	168	138	210	260	378
	4709	153	222	172	298	325	520
	4710	141	189	159	274	300	463
	4714	0	0	250	1,146	250	1,146
Alta.⁹	Total	2,868	4,538	3,232	5,484	6,100	10,022
	4821	240	313	270	434	510	747
	4822	195	269	220	356	415	625
	4823	656	1,043	739	1,228	1,395	2,271
	4824	329	541	371	616	700	1,157
	4825	209	297	236	400	445	697
	4826	616	1,032	694	1,152	1,310	2,184
	4827	254	417	286	528	540	945
	4828	219	334	246	420	465	754
	4829	150	293	170	350	320	643
B.C.	Total	3,781	5,921	4,264	7,372	8,045	13,293
	5911	143	219	162	286	305	505
	5912	146	194	164	268	310	462
	5913	277	353	313	528	590	881
	5914	235	357	265	418	500	775
	5921	244	399	276	456	520	855
	5922	357	564	403	706	760	1,270
	5923	376	540	424	718	800	1,258
	5931	200	293	225	394	425	687
	5932	376	644	424	846	800	1,490
	5933	256	441	289	558	545	999
	5941	317	463	358	610	675	1,073
	5942	247	353	278	440	525	793
	5943	125	249	140	198	265	447
	5951	153	273	172	318	325	591
	5952	200	367	225	374	425	741
	5903	129	212	146	254	275	466
Y.T.	6001	475	779	125	432	600	1,211
N.W.T.	6101	510	826	90	372	600	1,198
Nvt.	6201	350	512	0	0	350	512

⁹ As mentioned in section 5.2, the figures for Alberta are based on the definition of HRs that was used at the time of sampling.

Appendix D (2010) - Sample allocation by Local Health Integrated Network (LHIN) and frames in the CCHS in Ontario

Geography		Area Frame		Phone frames		Combined	
Prov.	LHIN	expected # of respondents	raw sample size	expected # of respondents	raw sample size	expected # of respondents	raw sample size
Ont.	Total	10,317	15,867	11,856	20,898	22,172	36,765
	3501	728	1,028	822	1,476	1,550	2,504
	3502	1,205	1,801	1,356	2,304	2,561	4,105
	3503	584	843	658	1,068	1,242	1,911
	3504	1,221	1,888	1,376	2,372	2,597	4,260
	3505	496	712	560	1,012	1,056	1,724
	3506	524	776	591	1,062	1,115	1,838
	3507	509	820	575	1,120	1,084	1,940
	3508	663	989	748	1,386	1,411	2,375
	3509	991	1,570	1,117	1,978	2,108	3,548
	3510	617	1,043	696	1,196	1,313	2,239
	3511	966	1,498	1,091	1,826	2,057	3,324
	3512	448	687	599	1,093	1,047	1,780
	3513	936	1,479	1,054	1,868	1,990	3,347
	3514	429	733	612	1,137	1,041	1,870

Appendix E (2010) - Response rates by health region and frame and Response rates by Local Health Integrated Network (LHIN) and frame in the CCHS in Ontario

Appendix E (2010) - Table 9.1 response rates by health region and frame

Geography		Area frame							Phone frames							Combined
Prov. Terr.	Health Region	# in scope HH	# resp. HH	HH resp. rates	# pers. select.	# resp.	Pers. resp. rates	Resp. rates	# in scope HH	# resp. HH	HH resp. rates	# pers. select.	# resp.	Pers. resp. rates	Resp. rates	Combined resp. rates
Canada	Total	40,070	33,387	83.3	33,387	30,449	91.2	76.0	48,340	37,928	78.5	37,928	32,742	86.3	67.7	71.5
N.L.	Total	1,128	999	88.6	999	934	93.5	82.8	1,327	1,108	83.5	1,108	936	84.5	70.5	76.2
	1011	473	414	87.5	414	384	92.8	81.2	556	466	83.8	466	397	85.2	71.4	75.9
	1012	255	228	89.4	228	210	92.1	82.4	295	241	81.7	241	204	84.6	69.2	75.3
	1013	225	200	88.9	200	192	96.0	85.3	285	247	86.7	247	216	87.4	75.8	80.0
	1014	175	157	89.7	157	148	94.3	84.6	191	154	80.6	154	119	77.3	62.3	73.0
P.E.I.	Total	641	541	84.4	541	491	90.8	76.6	693	558	80.5	558	482	86.4	69.6	72.9
	1101	104	92	88.5	92	82	89.1	78.8	60	39	65.0	39	32	82.1	53.3	69.5
	1102	293	233	79.5	233	207	88.8	70.6	383	309	80.7	309	269	87.1	70.2	70.4
	1103	244	216	88.5	216	202	93.5	82.8	250	210	84.0	210	181	86.2	72.4	77.5
N.S.	Total	1,496	1,264	84.5	1,264	1,144	90.5	76.5	1,644	1,368	83.2	1,368	1,198	87.6	72.9	74.6
	1201	215	198	92.1	198	184	92.9	85.6	261	213	81.6	213	188	88.3	72.0	78.2
	1202	199	169	84.9	169	158	93.5	79.4	204	174	85.3	174	156	89.7	76.5	77.9
	1203	194	162	83.5	162	154	95.1	79.4	248	208	83.9	208	189	90.9	76.2	77.6
	1204	221	188	85.1	188	173	92.0	78.3	215	177	82.3	177	153	86.4	71.2	74.8
	1205	216	188	87.0	188	168	89.4	77.8	271	221	81.5	221	191	86.4	70.5	73.7
	1206	451	359	79.6	359	307	85.5	68.1	445	375	84.3	375	321	85.6	72.1	70.1
N.B.	Total	1,564	1,322	84.5	1,322	1,197	90.5	76.5	1,680	1,416	84.3	1,416	1,232	87.0	73.3	74.9
	1301	301	233	77.4	233	209	89.7	69.4	317	263	83.0	263	234	89.0	73.8	71.7
	1302	295	246	83.4	246	228	92.7	77.3	332	285	85.8	285	257	90.2	77.4	77.4
	1303	304	259	85.2	259	241	93.1	79.3	305	275	90.2	275	238	86.5	78.0	78.7
	1304	159	133	83.6	133	117	88.0	73.6	172	137	79.7	137	122	89.1	70.9	72.2
	1305	158	146	92.4	146	133	91.1	84.2	160	138	86.3	138	115	83.3	71.9	78.0
	1306	185	173	93.5	173	156	90.2	84.3	232	189	81.5	189	157	83.1	67.7	75.1

Geography		Area frame							Phone frames							Combined
Prov. Terr.	Health Region	# in scope HH	# resp. HH	HH resp. rates	# pers. select.	# resp.	Pers. resp. rates	Resp. rates	# in scope HH	# resp. HH	HH resp. rates	# pers. select.	# resp.	Pers. resp. rates	Resp. rates	Combined resp. rates
	1307	162	132	81.5	132	113	85.6	69.8	162	129	79.6	129	109	84.5	67.3	68.5
Que.	Total	6,915	5,740	83.0	5,740	5,340	93.0	77.2	9,324	7,201	77.2	7,201	6,213	86.3	66.6	71.1
	2401	285	265	93.0	265	252	95.1	88.4	392	314	80.1	314	274	87.3	69.9	77.7
	2402	351	308	87.7	308	299	97.1	85.2	423	336	79.4	336	296	88.1	70.0	76.9
	2403	629	513	81.6	513	480	93.6	76.3	748	591	79.0	591	510	86.3	68.2	71.9
	2404	429	373	86.9	373	350	93.8	81.6	548	438	79.9	438	391	89.3	71.4	75.8
	2405	381	301	79.0	301	270	89.7	70.9	437	361	82.6	361	332	92.0	76.0	73.6
	2406	950	714	75.2	714	655	91.7	68.9	1,346	921	68.4	921	763	82.8	56.7	61.8
	2407	412	337	81.8	337	310	92.0	75.2	503	401	79.7	401	357	89.0	71.0	72.9
	2408	299	266	89.0	266	247	92.9	82.6	402	326	81.1	326	280	85.9	69.7	75.2
	2409	329	291	88.4	291	276	94.8	83.9	426	324	76.1	324	273	84.3	64.1	72.7
	2410	.	.	.	.	.	.	.	402	325	80.8	325	282	86.8	70.1	70.1
	2411	344	316	91.9	316	291	92.1	84.6	432	329	76.2	329	271	82.4	62.7	72.4
	2412	394	345	87.6	345	320	92.8	81.2	561	451	80.4	451	394	87.4	70.2	74.8
	2413	432	341	78.9	341	317	93.0	73.4	557	415	74.5	415	344	82.9	61.8	66.8
	2414	417	331	79.4	331	310	93.7	74.3	543	417	76.8	417	363	87.1	66.9	70.1
	2415	483	384	79.5	384	357	93.0	73.9	594	457	76.9	457	392	85.8	66.0	69.5
	2416	780	655	84.0	655	606	92.5	77.7	1,010	795	78.7	795	691	86.9	68.4	72.5
Ont.	Total	13,545	11,061	81.7	11,061	9,952	90.0	73.5	17,800	13,590	76.3	13,590	11,574	85.2	65.0	68.7
	3526	250	216	86.4	216	199	92.1	79.6	326	264	81.0	264	223	84.5	68.4	73.3
	3527	264	219	83.0	219	194	88.6	73.5	297	238	80.1	238	201	84.5	67.7	70.4
	3530	557	445	79.9	445	403	90.6	72.4	613	473	77.2	473	399	84.4	65.1	68.5
	3531	224	201	89.7	201	192	95.5	85.7	254	199	78.3	199	172	86.4	67.7	76.2
	3533	302	263	87.1	263	242	92.0	80.1	377	290	76.9	290	258	89.0	68.4	73.6
	3534	241	202	83.8	202	175	86.6	72.6	311	254	81.7	254	218	85.8	70.1	71.2
	3535	256	208	81.3	208	187	89.9	73.0	332	267	80.4	267	234	87.6	70.5	71.6
	3536	441	357	81.0	357	312	87.4	70.7	553	433	78.3	433	362	83.6	65.5	67.8

Geography		Area frame							Phone frames							Combined
Prov. Terr.	Health Region	# in scope HH	# resp. HH	HH resp. rates	# pers. select.	# resp.	Pers. resp. rates	Resp. rates	# in scope HH	# resp. HH	HH resp. rates	# pers. select.	# resp.	Pers. resp. rates	Resp. rates	Combined resp. rates
	3537	547	415	75.9	415	369	88.9	67.5	668	485	72.6	485	404	83.3	60.5	63.6
	3538	318	277	87.1	277	233	84.1	73.3	335	261	77.9	261	223	85.4	66.6	69.8
	3539	162	143	88.3	143	132	92.3	81.5	212	171	80.7	171	149	87.1	70.3	75.1
	3540	205	191	93.2	191	183	95.8	89.3	291	222	76.3	222	197	88.7	67.7	76.6
	3541	366	267	73.0	267	231	86.5	63.1	355	284	80.0	284	254	89.4	71.5	67.3
	3542	235	199	84.7	199	187	94.0	79.6	352	270	76.7	270	230	85.2	65.3	71.0
	3543	292	247	84.6	247	230	93.1	78.8	378	298	78.8	298	268	89.9	70.9	74.3
	3544	493	407	82.6	407	375	92.1	76.1	580	449	77.4	449	373	83.1	64.3	69.7
	3546	472	396	83.9	396	372	93.9	78.8	576	458	79.5	458	390	85.2	67.7	72.7
	3547	227	196	86.3	196	171	87.2	75.3	281	215	76.5	215	184	85.6	65.5	69.9
	3549	279	204	73.1	204	176	86.3	63.1	414	325	78.5	325	277	85.2	66.9	65.4
	3551	738	561	76.0	561	487	86.8	66.0	788	606	76.9	606	524	86.5	66.5	66.3
	3552	221	180	81.4	180	173	96.1	78.3	278	220	79.1	220	197	89.5	70.9	74.1
	3553	775	651	84.0	651	559	85.9	72.1	1,097	811	73.9	811	643	79.3	58.6	64.2
	3554	178	155	87.1	155	150	96.8	84.3	225	185	82.2	185	164	88.6	72.9	77.9
	3555	256	218	85.2	218	201	92.2	78.5	303	230	75.9	230	196	85.2	64.7	71.0
	3556	235	195	83.0	195	176	90.3	74.9	290	227	78.3	227	196	86.3	67.6	70.9
	3557	209	192	91.9	192	172	89.6	82.3	287	231	80.5	231	206	89.2	71.8	76.2
	3558	305	255	83.6	255	229	89.8	75.1	401	317	79.1	317	279	88.0	69.6	72.0
	3560	538	430	79.9	430	381	88.6	70.8	1,086	846	77.9	846	721	85.2	66.4	67.9
	3561	341	296	86.8	296	262	88.5	76.8	368	292	79.3	292	261	89.4	70.9	73.8
	3562	388	283	72.9	283	246	86.9	63.4	699	541	77.4	541	461	85.2	66.0	65.0
	3563	134	114	85.1	114	107	93.9	79.9	211	163	77.3	163	141	86.5	66.8	71.9
	3565	486	400	82.3	400	370	92.5	76.1	605	471	77.9	471	417	88.5	68.9	72.1
	3566	316	275	87.0	275	246	89.5	77.8	410	329	80.2	329	297	90.3	72.4	74.8
	3568	422	335	79.4	335	307	91.6	72.7	595	447	75.1	447	366	81.9	61.5	66.2

Geography		Area frame							Phone frames							Combined
Prov. Terr.	Health Region	# in scope HH	# resp. HH	HH resp. rates	# pers. select.	# resp.	Pers. resp. rates	Resp. rates	# in scope HH	# resp. HH	HH resp. rates	# pers. select.	# resp.	Pers. resp. rates	Resp. rates	Combined resp. rates
	3570	603	485	80.4	485	428	88.2	71.0	815	571	70.1	571	467	81.8	57.3	63.1
	3595	1,269	983	77.5	983	895	91.0	70.5	1,837	1,247	67.9	1,247	1,022	82.0	55.6	61.7
Man.	Total	2,168	1,840	84.9	1,840	1,682	91.4	77.6	2,412	2,024	83.9	2,024	1,774	87.6	73.5	75.5
	4610	640	496	77.5	496	438	88.3	68.4	734	627	85.4	627	553	88.2	75.3	72.1
	4615	169	143	84.6	143	139	97.2	82.2	172	152	88.4	152	134	88.2	77.9	80.1
	4620	131	115	87.8	115	106	92.2	80.9	153	130	85.0	130	111	85.4	72.5	76.4
	4625	177	158	89.3	158	147	93.0	83.1	202	173	85.6	173	155	89.6	76.7	79.7
	4630	187	161	86.1	161	148	91.9	79.1	217	176	81.1	176	158	89.8	72.8	75.7
	4640	226	198	87.6	198	183	92.4	81.0	261	224	85.8	224	190	84.8	72.8	76.6
	4645	197	182	92.4	182	167	91.8	84.8	217	179	82.5	179	163	91.1	75.1	79.7
	4660	140	125	89.3	125	115	92.0	82.1	172	146	84.9	146	127	87.0	73.8	77.6
	4670	138	118	85.5	118	107	90.7	77.5	147	112	76.2	112	93	83.0	63.3	70.2
	4685	163	144	88.3	144	132	91.7	81.0	137	105	76.6	105	90	85.7	65.7	74.0
Sask.	Total	2,034	1,771	87.1	1,771	1,664	94.0	81.8	2,742	2,244	81.8	2,244	1,985	88.5	72.4	76.4
	4701	160	153	95.6	153	151	98.7	94.4	203	171	84.2	171	157	91.8	77.3	84.8
	4702	197	178	90.4	178	171	96.1	86.8	207	167	80.7	167	142	85.0	68.6	77.5
	4703	140	134	95.7	134	130	97.0	92.9	176	134	76.1	134	120	89.6	68.2	79.1
	4704	351	310	88.3	310	284	91.6	80.9	426	347	81.5	347	307	88.5	72.1	76.1
	4705	155	142	91.6	142	139	97.9	89.7	209	177	84.7	177	161	91.0	77.0	82.4
	4706	390	306	78.5	306	273	89.2	70.0	479	385	80.4	385	334	86.8	69.7	69.9
	4707	154	135	87.7	135	131	97.0	85.1	167	143	85.6	143	126	88.1	75.4	80.1
	4708	134	120	89.6	120	113	94.2	84.3	148	126	85.1	126	114	90.5	77.0	80.5
	4709	192	152	79.2	152	141	92.8	73.4	224	175	78.1	175	158	90.3	70.5	71.9
	4710	161	141	87.6	141	131	92.9	81.4	186	160	86.0	160	135	84.4	72.6	76.7
	4714	.	.	.	.	.	.	.	317	259	81.7	259	231	89.2	72.9	72.9
Alta.	Total	3,898	3,244	83.2	3,244	2,925	90.2	75.0	4,500	3,571	79.4	3,571	3,084	86.4	68.5	71.6

Geography		Area frame							Phone frames							Combined
Prov. Terr.	Health Region	# in scope HH	# resp. HH	HH resp. rates	# pers. select.	# resp.	Pers. resp. rates	Resp. rates	# in scope HH	# resp. HH	HH resp. rates	# pers. select.	# resp.	Pers. resp. rates	Resp. rates	Combined resp. rates
	4831	497	426	85.7	426	400	93.9	80.5	656	533	81.3	533	478	89.7	72.9	76.1
	4832	917	796	86.8	796	728	91.5	79.4	1,026	802	78.2	802	682	85.0	66.5	72.6
	4833	699	569	81.4	569	517	90.9	74.0	812	644	79.3	644	552	85.7	68.0	70.7
	4834	917	727	79.3	727	639	87.9	69.7	988	783	79.3	783	685	87.5	69.3	69.5
	4835	868	726	83.6	726	641	88.3	73.8	1,018	809	79.5	809	687	84.9	67.5	70.4
B.C.	Total	4,977	4,143	83.2	4,143	3,760	90.8	75.5	5,869	4,552	77.6	4,552	3,991	87.7	68.0	71.5
	5911	188	167	88.8	167	156	93.4	83.0	226	172	76.1	172	156	90.7	69.0	75.4
	5912	162	145	89.5	145	134	92.4	82.7	185	152	82.2	152	132	86.8	71.4	76.7
	5913	314	290	92.4	290	275	94.8	87.6	462	374	81.0	374	330	88.2	71.4	78.0
	5914	279	245	87.8	245	221	90.2	79.2	320	251	78.4	251	222	88.4	69.4	74.0
	5921	347	284	81.8	284	252	88.7	72.6	352	277	78.7	277	247	89.2	70.2	71.4
	5922	517	436	84.3	436	402	92.2	77.8	591	451	76.3	451	382	84.7	64.6	70.8
	5923	480	396	82.5	396	372	93.9	77.5	587	446	76.0	446	380	85.2	64.7	70.5
	5931	247	197	79.8	197	190	96.4	76.9	307	225	73.3	225	183	81.3	59.6	67.3
	5932	533	400	75.0	400	376	94.0	70.5	639	457	71.5	457	405	88.6	63.4	66.6
	5933	285	222	77.9	222	168	75.7	58.9	442	334	75.6	334	289	86.5	65.4	62.9
	5941	417	355	85.1	355	321	90.4	77.0	509	403	79.2	403	360	89.3	70.7	73.5
	5942	300	264	88.0	264	242	91.7	80.7	359	293	81.6	293	263	89.8	73.3	76.6
	5943	211	174	82.5	174	161	92.5	76.3	165	130	78.8	130	120	92.3	72.7	74.7
	5951	205	165	80.5	165	140	84.8	68.3	227	186	81.9	186	167	89.8	73.6	71.1
	5952	315	253	80.3	253	216	85.4	68.6	300	242	80.7	242	214	88.4	71.3	69.9
	5953	177	150	84.7	150	134	89.3	75.7	198	159	80.3	159	141	88.7	71.2	73.3
Y.T.	6001	659	573	86.9	573	541	94.4	82.1	201	167	83.1	167	158	94.6	78.6	81.3
N.W.T.	6101	641	556	86.7	556	518	93.2	80.8	148	129	87.2	129	115	89.1	77.7	80.2
Nvt.	6201	404	333	82.4	333	301	90.4	74.5	.	.	.	.	.	.	.	74.5

Appendix E (2010) - Table 9.2 Response rate by Local Health Integrated Network (LHIN) and frame in the CCHS in Ontario

Geography		Area frame							Phone frames							Combined
Prov. Terr.	Health Region	# in scope HH	# resp. HH	HH resp. rates	# pers. select.	# resp.	Pers. resp. rates	Resp. rates	# in scope HH	# resp. HH	HH resp. rates	# pers. select.	# resp.	Pers. resp. rates	Resp. rates	Combined resp. rates
Ont.	Total	13,545	11,061	81.7	11,061	9,952	90.0	73.5	17,800	13,590	76.3	13,590	11,574	85.2	65.0	68.7
	3501	862	725	84.1	725	677	93.4	78.5	1,238	939	75.8	939	793	84.5	64.1	70.0
	3502	1,561	1,332	85.3	1,332	1,244	93.4	79.7	1,918	1,510	78.7	1,510	1,308	86.6	68.2	73.4
	3503	757	641	84.7	641	587	91.6	77.5	929	731	78.7	731	653	89.3	70.3	73.5
	3504	1,666	1,342	80.6	1,342	1,210	90.2	72.6	2,008	1,554	77.4	1,554	1,319	84.9	65.7	68.8
	3505	574	474	82.6	474	395	83.3	68.8	870	634	72.9	634	509	80.3	58.5	62.6
	3506	727	605	83.2	605	538	88.9	74.0	918	695	75.7	695	558	80.3	60.8	66.6
	3507	600	468	78.0	468	432	92.3	72.0	926	634	68.5	634	529	83.4	57.1	63.0
	3508	930	735	79.0	735	664	90.3	71.4	1,243	872	70.2	872	715	82.0	57.5	63.5
	3509	1,320	1,069	81.0	1,069	961	89.9	72.8	1,601	1,212	75.7	1,212	1,022	84.3	63.8	67.9
	3510	893	723	81.0	723	631	87.3	70.7	995	784	78.8	784	693	88.4	69.6	70.1
	3511	1,335	1,076	80.6	1,076	951	88.4	71.2	1,546	1,210	78.3	1,210	1,058	87.4	68.4	69.7
	3512	466	367	78.8	367	325	88.6	69.7	1,016	785	77.3	785	671	85.5	66.0	67.2
	3513	1,187	1,017	85.7	1,017	915	90.0	77.1	1,479	1,164	78.7	1,164	1,008	86.6	68.2	72.1
	3514	667	487	73.0	487	422	86.7	63.3	1,113	866	77.8	866	738	85.2	66.3	65.2

Appendix F (2009-2010) - Sample allocation by health region and frame and by Local Health Integrated Network (LHIN) and frames in the CCHS in Ontario

Appendix F (2009-2010) Sample allocation by health region and frame

Geography		Area Frame		Phone frames		Combined	
Prov./Terr.	Health Region	expected # of respondents	raw sample size	expected # of respondents	raw sample size	expected # of respondents	raw sample size
Canada	Total	64,228	95,175	67,258	116,344	131,486	211,519
N.L.	Total	1,946	2,788	2,064	3,174	4,010	5,962
	1011	786	1,129	834	1,290	1,620	2,419
	1012	456	673	484	734	940	1,407
	1013	413	559	437	668	850	1,227
	1014	291	428	309	482	600	910
P.E.I.	Total	972	1,613	1,030	1,934	2,002	3,547
	1101	173	310	183	352	356	662
	1102	446	746	474	866	920	1,612
	1103	353	557	373	716	726	1,273
N.S.	Total	2,445	3,742	2,596	3,924	5,041	7,666
	1201	384	586	407	632	791	1,218
	1202	310	465	330	506	640	971
	1203	349	502	371	576	720	1,078
	1204	340	618	360	538	700	1,156
	1205	407	541	433	660	840	1,201
	1206	655	1,030	695	1,012	1,350	2,042
N.B.	Total	2,500	3,830	2,650	4,008	5,150	7,838
	1301	485	744	515	786	1,000	1,530
	1302	471	791	499	780	970	1,571
	1303	456	742	484	748	940	1,490
	1304	262	389	278	414	540	803
	1305	243	356	257	382	500	738
	1306	335	451	355	514	690	965
	1307	248	357	262	384	510	741
Que.	Total	11,394	16,039	12,895	22,776	24,289	38,815
	2401	582	755	618	970	1,200	1,725
	2402	609	849	647	1,074	1,256	1,923
	2403	899	1,306	953	1,574	1,852	2,880
	2404	779	1,038	827	1,242	1,606	2,280
	2405	599	922	637	1,010	1,236	1,932
	2406	1,507	2,206	1,599	2,984	3,106	5,190
	2407	626	983	664	1,134	1,290	2,117
	2408	582	747	618	926	1,200	1,673
	2409	582	795	618	1,180	1,200	1,975
	2410	0	0	800	2,424	800	2,424
	2411	582	815	618	1,070	1,200	1,885
	2412	702	938	744	1,330	1,446	2,268
	2413	650	942	690	1,200	1,340	2,142
	2414	696	961	740	1,224	1,436	2,185
	2415	738	1,068	783	1,332	1,521	2,400
	2416	1,261	1,715	1,339	2,102	2,600	3,817
Ont.	Total	21,428	31,763	22,951	40,056	44,379	71,819
	3526	413	598	437	742	850	1,340

Geography		Area Frame		Phone frames		Combined	
Prov./Terr.	Health Region	expected # of respondents	raw sample size	expected # of respondents	raw sample size	expected # of respondents	raw sample size
	3527	393	577	417	676	810	1,253
	3530	791	1,184	839	1,354	1,630	2,538
	3531	330	479	350	586	680	1,065
	3533	476	720	518	940	994	1,660
	3534	375	577	397	718	772	1,295
	3535	461	700	489	884	950	1,584
	3536	684	982	726	1,186	1,410	2,168
	3537	801	1,248	849	1,490	1,650	2,738
	3538	456	680	484	844	940	1,524
	3539	287	419	303	562	590	981
	3540	388	491	412	698	800	1,189
	3541	490	820	520	922	1,010	1,742
	3542	422	575	448	806	870	1,381
	3543	461	668	489	798	950	1,466
	3544	728	1,145	772	1,274	1,500	2,419
	3546	743	1,043	787	1,292	1,530	2,335
	3547	388	611	412	790	800	1,401
	3549	369	637	423	875	792	1,512
	3551	995	1,547	1,055	1,706	2,050	3,253
	3552	364	488	386	594	750	1,082
	3553	1,297	1,852	1,376	2,492	2,673	4,344
	3554	316	426	334	514	650	940
	3555	413	627	437	792	850	1,419
	3556	364	551	386	602	750	1,153
	3557	364	550	386	686	750	1,236
	3558	504	690	536	862	1,040	1,552
	3560	1,036	1,534	1,191	2,231	2,227	3,765
	3561	524	812	556	956	1,080	1,768
	3562	592	914	720	1,288	1,312	2,202
	3563	243	397	257	458	500	855
	3565	743	1,111	787	1,274	1,530	2,385
	3566	566	747	602	944	1,168	1,691
	3568	694	995	736	1,268	1,430	2,263
	3570	917	1,286	972	1,786	1,889	3,072
	3595	2,040	3,081	2,162	4,166	4,202	7,247
Man.	Total	3,642	5,086	3,858	6,246	7,500	11,332
	4610	1,024	1,412	1,086	1,644	2,110	3,056
	4615	272	388	288	444	560	832
	4620	243	329	257	470	500	799
	4625	291	382	309	496	600	878
	4630	335	540	355	612	690	1,152
	4640	388	501	412	594	800	1,095
	4645	345	470	365	556	710	1,026
	4660	258	370	272	438	530	808
	4670	243	352	257	458	500	810
	4685	243	341	257	534	500	875

Geography		Area Frame		Phone frames		Combined	
Prov./Terr.	Health Region	expected # of respondents	raw sample size	expected # of respondents	raw sample size	expected # of respondents	raw sample size
Sask.	Total	3,503	5,020	4,217	8,290	7,720	13,310
	4701	291	376	309	490	600	866
	4702	291	423	309	512	600	935
	4703	258	369	272	444	530	813
	4704	601	848	639	1,032	1,240	1,880
	4705	301	431	319	488	620	919
	4706	640	908	680	1,062	1,320	1,970
	4707	262	423	278	426	540	849
	4708	252	357	268	414	520	771
	4709	316	508	334	604	650	1,112
	4710	291	378	309	532	600	910
	4714	0	0	500	2,286	500	2,286
	Alta. ¹⁰	Total	5,920	9,028	6,280	10,560	12,200	19,588
4821		495	686	525	842	1,020	1,528
4822		403	528	427	674	830	1,202
4823		1,354	2,039	1,436	2,350	2,790	4,389
4824		679	1,054	721	1,204	1,400	2,258
4825		432	587	458	736	890	1,323
4826		1,271	2,020	1,349	2,298	2,620	4,318
4827		524	821	556	990	1,080	1,811
4828		452	710	478	816	930	1,526
4829		310	585	330	650	640	1,235
B.C.		Total	7,808	12,013	8,287	13,984	16,095	25,997
	5911	296	451	314	550	610	1,001
	5912	301	430	319	502	620	932
	5913	572	747	608	1,014	1,180	1,761
	5914	485	689	515	820	1,000	1,509
	5921	504	752	536	858	1,040	1,610
	5922	737	1,107	783	1,294	1,520	2,401
	5923	776	1,145	824	1,408	1,600	2,553
	5931	413	580	438	730	851	1,310
	5932	776	1,283	824	1,560	1,600	2,843
	5933	529	937	562	1,032	1,091	1,969
	5941	655	958	696	1,138	1,351	2,096
	5942	510	726	541	824	1,051	1,550
	5943	258	430	272	408	530	838
	5951	316	584	335	636	651	1,220
5952	413	674	438	734	851	1,408	
5903	267	518	284	476	551	994	
Y.T.	6001	950	1,517	250	738	1,200	2,255
N.W.T.	6101	1,020	1,642	180	654	1,200	2,296
Nvt.	6201	700	1,092	0	0	700	1,092

¹⁰ As mentioned in section 5.2, the figures for Alberta are based on the definition of HRs that was used at the time of sampling.

Appendix F (2009-2010) - Sample allocation by Local Health Integrated Network (LHIN) and frames in the CCHS in Ontario

Geography		Area Frame		Phone frames		Combined	
Prov.	LHIN	expected # of respondents	raw sample size	expected # of respondents	raw sample size	expected # of respondents	raw sample size
Ont.	Total	21,428	31,763	22,952	40,056	44,379	71,819
	3501	1,504	2,061	1,596	2,772	3,100	4,833
	3502	2,487	3,654	2,635	4,434	5,122	8,088
	3503	1,206	1,710	1,278	2,046	2,484	3,756
	3504	2,521	3,738	2,673	4,508	5,194	8,246
	3505	1,032	1,484	1,093	1,966	2,125	3,450
	3506	1,082	1,548	1,148	2,004	2,230	3,552
	3507	1,050	1,675	1,115	2,164	2,165	3,839
	3508	1,369	1,929	1,453	2,706	2,822	4,635
	3509	2,047	3,039	2,169	3,808	4,216	6,847
	3510	1,274	1,984	1,352	2,360	2,626	4,344
	3511	1,996	2,972	2,118	3,458	4,114	6,430
	3512	967	1,446	1,130	2,119	2,097	3,565
	3513	1,932	2,970	2,048	3,548	3,980	6,518
	3514	961	1,552	1,143	2,163	2,104	3,715

Appendix G (2009-2010) - Response rates by health region and frame and by Local Health Integrated Network (LHIN) and frame in the CCHS in Ontario

Appendix G (2009-2010) - Table 9.3 response rates by health region and frame

Geography		Area frame							Phone frames							Combined
Prov. Terr.	Health Region	# in scope HH	# resp. HH	HH resp. rates	# pers. select.	# resp.	Pers. resp. rates	Resp. rates	# in scope HH	# resp. HH	HH resp. rates	# pers. select.	# resp.	Pers. resp. rates	Resp. rates	Combined resp. rates
Canada	Total	80,206	66,694	83.2	66,694	60,924	91.3	76.0	92,465	73,147	79.1	73,147	63,946	87.4	69.2	72.3
N.L.	Total	2,269	1,990	87.7	1,990	1,840	92.5	81.1	2,663	2,245	84.3	2,245	1,928	85.9	72.4	76.4
	1011	942	800	84.9	800	726	90.8	77.1	1,104	933	84.5	933	799	85.6	72.4	74.5
	1012	506	457	90.3	457	420	91.9	83.0	601	500	83.2	500	431	86.2	71.7	76.9
	1013	460	417	90.7	417	396	95.0	86.1	563	479	85.1	479	425	88.7	75.5	80.3
	1014	361	316	87.5	316	298	94.3	82.5	395	333	84.3	333	273	82.0	69.1	75.5
P.E.I.	Total	1,261	1,065	84.5	1,065	961	90.2	76.2	1,338	1,103	82.4	1,103	952	86.3	71.2	73.6
	1101	207	182	87.9	182	166	91.2	80.2	115	86	74.8	86	72	83.7	62.6	73.9
	1102	601	494	82.2	494	439	88.9	73.0	721	595	82.5	595	514	86.4	71.3	72.1
	1103	453	389	85.9	389	356	91.5	78.6	502	422	84.1	422	366	86.7	72.9	75.6
N.S.	Total	3,027	2,572	85.0	2,572	2,325	90.4	76.8	3,204	2,706	84.5	2,706	2,387	88.2	74.5	75.6
	1201	438	412	94.1	412	383	93.0	87.4	501	419	83.6	419	376	89.7	75.0	80.8
	1202	388	330	85.1	330	306	92.7	78.9	409	350	85.6	350	314	89.7	76.8	77.8
	1203	380	318	83.7	318	302	95.0	79.5	445	373	83.8	373	338	90.6	76.0	77.6
	1204	468	408	87.2	408	376	92.2	80.3	435	369	84.8	369	322	87.3	74.0	77.3
	1205	456	385	84.4	385	347	90.1	76.1	529	434	82.0	434	376	86.6	71.1	73.4
	1206	897	719	80.2	719	611	85.0	68.1	885	761	86.0	761	661	86.9	74.7	71.4
N.B.	Total	3,057	2,605	85.2	2,605	2,351	90.2	76.9	3,285	2,803	85.3	2,803	2,484	88.6	75.6	76.2
	1301	622	497	79.9	497	448	90.1	72.0	644	547	84.9	547	489	89.4	75.9	74.0
	1302	585	488	83.4	488	454	93.0	77.6	644	557	86.5	557	494	88.7	76.7	77.1
	1303	558	481	86.2	481	440	91.5	78.9	615	543	88.3	543	489	90.1	79.5	79.2
	1304	326	275	84.4	275	245	89.1	75.2	329	277	84.2	277	249	89.9	75.7	75.4
	1305	287	262	91.3	262	228	87.0	79.4	309	271	87.7	271	237	87.5	76.7	78.0
	1306	388	362	93.3	362	330	91.2	85.1	429	357	83.2	357	306	85.7	71.3	77.8

Geography		Area frame							Phone frames							Combined
Prov. Terr.	Health Region	# in scope HH	# resp. HH	HH resp. rates	# pers. select.	# resp.	Pers. resp. rates	Resp. rates	# in scope HH	# resp. HH	HH resp. rates	# pers. select.	# resp.	Pers. resp. rates	Resp. rates	Combined resp. rates
	1307	291	240	82.5	240	206	85.8	70.8	315	251	79.7	251	220	87.6	69.8	70.3
Que.	Total	14,002	11,529	82.3	11,529	10,752	93.3	76.8	18,091	14,204	78.5	14,204	12,383	87.2	68.4	72.1
	2401	599	555	92.7	555	529	95.3	88.3	767	630	82.1	630	553	87.8	72.1	79.2
	2402	716	613	85.6	613	585	95.4	81.7	880	730	83.0	730	655	89.7	74.4	77.7
	2403	1,237	986	79.7	986	931	94.4	75.3	1,375	1,094	79.6	1,094	965	88.2	70.2	72.6
	2404	886	762	86.0	762	714	93.7	80.6	1,074	870	81.0	870	784	90.1	73.0	76.4
	2405	735	566	77.0	566	524	92.6	71.3	828	692	83.6	692	631	91.2	76.2	73.9
	2406	1,951	1,449	74.3	1,449	1,339	92.4	68.6	2,604	1,843	70.8	1,843	1,533	83.2	58.9	63.1
	2407	829	675	81.4	675	620	91.9	74.8	941	759	80.7	759	680	89.6	72.3	73.4
	2408	618	547	88.5	547	509	93.1	82.4	800	655	81.9	655	573	87.5	71.6	76.3
	2409	675	591	87.6	591	566	95.8	83.9	817	624	76.4	624	530	84.9	64.9	73.5
	2410	.	.	.	.	.	.	.	964	775	80.4	775	682	88.0	70.7	70.7
	2411	685	631	92.1	631	589	93.3	86.0	825	638	77.3	638	543	85.1	65.8	75.0
	2412	829	734	88.5	734	687	93.6	82.9	1,102	873	79.2	873	769	88.1	69.8	75.4
	2413	860	675	78.5	675	625	92.6	72.7	1,057	809	76.5	809	686	84.8	64.9	68.4
	2414	850	690	81.2	690	639	92.6	75.2	1,054	827	78.5	827	719	86.9	68.2	71.3
	2415	958	764	79.7	764	696	91.1	72.7	1,091	854	78.3	854	745	87.2	68.3	70.3
	2416	1,574	1,291	82.0	1,291	1,199	92.9	76.2	1,912	1,531	80.1	1,531	1,335	87.2	69.8	72.7
Ont.	Total	27,207	22,290	81.9	22,290	20,163	90.5	74.1	33,503	25,846	77.1	25,846	22,332	86.4	66.7	70.0
	3526	537	469	87.3	469	432	92.1	80.4	590	475	80.5	475	416	87.6	70.5	75.2
	3527	530	438	82.6	438	377	86.1	71.1	549	437	79.6	437	380	87.0	69.2	70.2
	3530	1,080	872	80.7	872	791	90.7	73.2	1,179	920	78.0	920	775	84.2	65.7	69.3
	3531	427	367	85.9	367	337	91.8	78.9	488	388	79.5	388	337	86.9	69.1	73.7
	3533	608	544	89.5	544	506	93.0	83.2	711	551	77.5	551	492	89.3	69.2	75.7
	3534	488	397	81.4	397	354	89.2	72.5	592	470	79.4	470	406	86.4	68.6	70.4
	3535	472	383	81.1	383	339	88.5	71.8	611	504	82.5	504	442	87.7	72.3	72.1
	3536	917	747	81.5	747	671	89.8	73.2	1,041	815	78.3	815	696	85.4	66.9	69.8

Geography		Area frame							Phone frames							Combined
Prov. Terr.	Health Region	# in scope HH	# resp. HH	HH resp. rates	# pers. select.	# resp.	Pers. resp. rates	Resp. rates	# in scope HH	# resp. HH	HH resp. rates	# pers. select.	# resp.	Pers. resp. rates	Resp. rates	Combined resp. rates
	3537	1,094	835	76.3	835	742	88.9	67.8	1,258	944	75.0	944	807	85.5	64.1	65.9
	3538	594	511	86.0	511	445	87.1	74.9	682	539	79.0	539	465	86.3	68.2	71.3
	3539	355	318	89.6	318	299	94.0	84.2	438	359	82.0	359	316	88.0	72.1	77.6
	3540	414	389	94.0	389	374	96.1	90.3	538	421	78.3	421	374	88.8	69.5	78.6
	3541	700	535	76.4	535	466	87.1	66.6	694	554	79.8	554	497	89.7	71.6	69.1
	3542	480	402	83.8	402	374	93.0	77.9	648	519	80.1	519	452	87.1	69.8	73.2
	3543	556	467	84.0	467	425	91.0	76.4	697	553	79.3	553	491	88.8	70.4	73.1
	3544	974	787	80.8	787	734	93.3	75.4	1,107	857	77.4	857	740	86.3	66.8	70.8
	3546	920	769	83.6	769	710	92.3	77.2	1,096	849	77.5	849	742	87.4	67.7	72.0
	3547	478	411	86.0	411	359	87.3	75.1	551	431	78.2	431	367	85.2	66.6	70.6
	3549	535	390	72.9	390	344	88.2	64.3	712	566	79.5	566	492	86.9	69.1	67.0
	3551	1,425	1,050	73.7	1,050	929	88.5	65.2	1,493	1,170	78.4	1,170	1,022	87.4	68.5	66.9
	3552	449	380	84.6	380	367	96.6	81.7	535	428	80.0	428	381	89.0	71.2	76.0
	3553	1,666	1,409	84.6	1,409	1,236	87.7	74.2	2,157	1,636	75.8	1,636	1,348	82.4	62.5	67.6
	3554	389	345	88.7	345	333	96.5	85.6	437	359	82.2	359	319	88.9	73.0	78.9
	3555	499	424	85.0	424	387	91.3	77.6	587	455	77.5	455	405	89.0	69.0	72.9
	3556	493	405	82.2	405	360	88.9	73.0	515	395	76.7	395	344	87.1	66.8	69.8
	3557	420	395	94.0	395	356	90.1	84.8	544	428	78.7	428	380	88.8	69.9	76.3
	3558	611	503	82.3	503	461	91.7	75.5	737	576	78.2	576	511	88.7	69.3	72.1
	3560	1,188	939	79.0	939	848	90.3	71.4	1,872	1,462	78.1	1,462	1,274	87.1	68.1	69.3
	3561	643	563	87.6	563	492	87.4	76.5	749	589	78.6	589	540	91.7	72.1	74.1
	3562	782	595	76.1	595	535	89.9	68.4	1,129	883	78.2	883	769	87.1	68.1	68.2
	3563	147	125	85.0	125	117	93.6	79.6	392	304	77.6	304	260	85.5	66.3	69.9
	3565	979	808	82.5	808	742	91.8	75.8	1,126	880	78.2	880	781	88.8	69.4	72.4
	3566	660	583	88.3	583	536	91.9	81.2	780	632	81.0	632	564	89.2	72.3	76.4
	3568	853	693	81.2	693	640	92.4	75.0	1,128	853	75.6	853	714	83.7	63.3	68.3

Geography		Area frame							Phone frames							Combined
Prov. Terr.	Health Region	# in scope HH	# resp. HH	HH resp. rates	# pers. select.	# resp.	Pers. resp. rates	Resp. rates	# in scope HH	# resp. HH	HH resp. rates	# pers. select.	# resp.	Pers. resp. rates	Resp. rates	Combined resp. rates
	3570	1,175	955	81.3	955	858	89.8	73.0	1,573	1,160	73.7	1,160	973	83.9	61.9	66.6
	3595	2,669	2,087	78.2	2,087	1,887	90.4	70.7	3,567	2,484	69.6	2,484	2,060	82.9	57.8	63.3
Man.	Total	4,363	3,689	84.6	3,689	3,358	91.0	77.0	4,624	3,883	84.0	3,883	3,467	89.3	75.0	75.9
	4610	1,297	1,016	78.3	1,016	901	88.7	69.5	1,420	1,202	84.6	1,202	1,075	89.4	75.7	72.7
	4615	358	291	81.3	291	270	92.8	75.4	357	305	85.4	305	273	89.5	76.5	75.9
	4620	269	240	89.2	240	223	92.9	82.9	275	235	85.5	235	208	88.5	75.6	79.2
	4625	354	305	86.2	305	278	91.1	78.5	384	334	87.0	334	298	89.2	77.6	78.0
	4630	376	325	86.4	325	297	91.4	79.0	406	341	84.0	341	312	91.5	76.8	77.9
	4640	463	410	88.6	410	379	92.4	81.9	477	401	84.1	401	346	86.3	72.5	77.1
	4645	409	373	91.2	373	335	89.8	81.9	437	356	81.5	356	326	91.6	74.6	78.1
	4660	269	235	87.4	235	220	93.6	81.8	337	277	82.2	277	247	89.2	73.3	77.1
	4670	283	245	86.6	245	228	93.1	80.6	295	239	81.0	239	210	87.9	71.2	75.8
	4685	285	249	87.4	249	227	91.2	79.6	236	193	81.8	193	172	89.1	72.9	76.6
Sask.	Total	4,108	3,616	88.0	3,616	3,413	94.4	83.1	5,484	4,491	81.9	4,491	4,036	89.9	73.6	77.7
	4701	316	305	96.5	305	299	98.0	94.6	385	322	83.6	322	292	90.7	75.8	84.3
	4702	368	328	89.1	328	313	95.4	85.1	429	346	80.7	346	307	88.7	71.6	77.8
	4703	282	256	90.8	256	250	97.7	88.7	358	288	80.4	288	258	89.6	72.1	79.4
	4704	736	664	90.2	664	607	91.4	82.5	853	687	80.5	687	619	90.1	72.6	77.2
	4705	310	282	91.0	282	272	96.5	87.7	388	322	83.0	322	293	91.0	75.5	80.9
	4706	780	634	81.3	634	586	92.4	75.1	945	772	81.7	772	682	88.3	72.2	73.5
	4707	292	256	87.7	256	249	97.3	85.3	334	278	83.2	278	254	91.4	76.0	80.4
	4708	279	251	90.0	251	238	94.8	85.3	309	267	86.4	267	244	91.4	79.0	82.0
	4709	435	360	82.8	360	339	94.2	77.9	443	359	81.0	359	331	92.2	74.7	76.3
	4710	310	280	90.3	280	260	92.9	83.9	357	301	84.3	301	265	88.0	74.2	78.7
	4714	.	.	.	.	.	.	.	683	549	80.4	549	491	89.4	71.9	71.9
Alta.	Total	7,641	6,281	82.2	6,281	5,634	89.7	73.7	8,568	6,809	79.5	6,809	5,984	87.9	69.8	71.7

Geography		Area frame							Phone frames							Combined
Prov. Terr.	Health Region	# in scope HH	# resp. HH	HH resp. rates	# pers. select.	# resp.	Pers. resp. rates	Resp. rates	# in scope HH	# resp. HH	HH resp. rates	# pers. select.	# resp.	Pers. resp. rates	Resp. rates	Combined resp. rates
	4831	1,024	862	84.2	862	812	94.2	79.3	1,204	989	82.1	989	889	89.9	73.8	76.3
	4832	1,769	1,482	83.8	1,482	1,362	91.9	77.0	1,968	1,549	78.7	1,549	1,345	86.8	68.3	72.4
	4833	1,373	1,111	80.9	1,111	1,005	90.5	73.2	1,529	1,229	80.4	1,229	1,079	87.8	70.6	71.8
	4834	1,754	1,372	78.2	1,372	1,170	85.3	66.7	1,940	1,526	78.7	1,526	1,347	88.3	69.4	68.1
	4835	1,721	1,454	84.5	1,454	1,285	88.4	74.7	1,927	1,516	78.7	1,516	1,324	87.3	68.7	71.5
B.C.	Total	10,000	8,215	82.2	8,215	7,485	91.1	74.9	11,138	8,581	77.0	8,581	7,553	88.0	67.8	71.1
	5911	382	331	86.6	331	307	92.7	80.4	432	329	76.2	329	304	92.4	70.4	75.1
	5912	328	297	90.5	297	276	92.9	84.1	371	297	80.1	297	264	88.9	71.2	77.3
	5913	659	593	90.0	593	562	94.8	85.3	869	688	79.2	688	615	89.4	70.8	77.0
	5914	557	488	87.6	488	447	91.6	80.3	613	486	79.3	486	434	89.3	70.8	75.3
	5921	651	539	82.8	539	483	89.6	74.2	656	520	79.3	520	454	87.3	69.2	71.7
	5922	990	819	82.7	819	764	93.3	77.2	1,096	822	75.0	822	712	86.6	65.0	70.8
	5923	1,015	844	83.2	844	780	92.4	76.8	1,162	886	76.2	886	766	86.5	65.9	71.0
	5931	479	395	82.5	395	370	93.7	77.2	589	430	73.0	430	353	82.1	59.9	67.7
	5932	1,060	782	73.8	782	741	94.8	69.9	1,209	842	69.6	842	726	86.2	60.0	64.7
	5933	617	492	79.7	492	377	76.6	61.1	822	609	74.1	609	535	87.8	65.1	63.4
	5941	846	691	81.7	691	633	91.6	74.8	923	728	78.9	728	647	88.9	70.1	72.4
	5942	616	522	84.7	522	490	93.9	79.5	668	548	82.0	548	494	90.1	74.0	76.6
	5943	355	287	80.8	287	272	94.8	76.6	330	268	81.2	268	246	91.8	74.5	75.6
	5951	457	370	81.0	370	325	87.8	71.1	460	371	80.7	371	335	90.3	72.8	72.0
	5952	577	436	75.6	436	383	87.8	66.4	580	469	80.9	469	414	88.3	71.4	68.9
	5953	411	329	80.0	329	275	83.6	66.9	358	288	80.4	288	254	88.2	70.9	68.8
Y.T.	6001	1,236	1,095	88.6	1,095	1,026	93.7	83.0	329	277	84.2	277	256	92.4	77.8	81.9
N.W.T.	6101	1,245	1,065	85.5	1,065	988	92.8	79.4	238	199	83.6	199	184	92.5	77.3	79.0
Nvt.	6201	790	682	86.3	682	628	92.1	79.5	.	.	.	.	.	.	.	79.5

Appendix G (2009-2010) - Table 9.4 Response rate by Local Health Integrated Network (LHIN) and frame in the CCHS in Ontario

Geography		Area frame							Phone frames							Combined
Prov. Terr.	Health Region	# in scope HH	# resp. HH	HH resp. rates	# pers. select.	# resp.	Pers. resp. rates	Resp. rates	# in scope HH	# resp. HH	HH resp. rates	# pers. select.	# resp.	Pers. resp. rates	Resp. rates	Combined resp. rates
Ont.	Total	27,207	22,290	81.9	22,290	20,163	90.5	74.1	33,503	25,846	77.1	25,846	22,332	86.4	66.7	70.0
	3501	1,747	1,484	84.9	1,484	1,388	93.5	79.5	2,314	1,793	77.5	1,793	1,540	85.9	66.6	72.1
	3502	3,172	2,713	85.5	2,713	2,553	94.1	80.5	3,679	2,915	79.2	2,915	2,561	87.9	69.6	74.6
	3503	1,536	1,307	85.1	1,307	1,196	91.5	77.9	1,755	1,391	79.3	1,391	1,246	89.6	71.0	74.2
	3504	3,317	2,664	80.3	2,664	2,390	89.7	72.1	3,806	2,943	77.3	2,943	2,543	86.4	66.8	69.3
	3505	1,300	1,076	82.8	1,076	926	86.1	71.2	1,693	1,263	74.6	1,263	1,037	82.1	61.3	65.6
	3506	1,476	1,241	84.1	1,241	1,121	90.3	75.9	1,761	1,348	76.5	1,348	1,128	83.7	64.1	69.5
	3507	1,352	1,042	77.1	1,042	965	92.6	71.4	1,799	1,270	70.6	1,270	1,075	84.6	59.8	64.7
	3508	1,789	1,443	80.7	1,443	1,298	90.0	72.6	2,379	1,732	72.8	1,732	1,447	83.5	60.8	65.9
	3509	2,537	2,074	81.8	2,074	1,860	89.7	73.3	3,084	2,372	76.9	2,372	2,018	85.1	65.4	69.0
	3510	1,682	1,374	81.7	1,374	1,210	88.1	71.9	1,930	1,527	79.1	1,527	1,345	88.1	69.7	70.7
	3511	2,624	2,087	79.5	2,087	1,872	89.7	71.3	2,910	2,286	78.6	2,286	2,014	88.1	69.2	70.2
	3512	1,060	827	78.0	827	745	90.1	70.3	1,748	1,356	77.6	1,356	1,183	87.2	67.7	68.7
	3513	2,298	1,973	85.9	1,973	1,760	89.2	76.6	2,804	2,201	78.5	2,201	1,934	87.9	69.0	72.4
	3514	1,317	985	74.8	985	879	89.2	66.7	1,841	1,449	78.7	1,449	1,261	87.0	68.5	67.8