

**HSAS 2005 Preliminary Tables
Methodological Notes**

Introduction

The purpose of this note is to describe the methodology used to produce the tables from the Health Services and Access Survey (HSAS) of 2005. Only the data source for HSAS 2005 is presented in this note although the tables in the report contain 2001 and 2003 results as well. For more information on the data source for the previous years, see the report on Access to Health Care Services in Canada, 2001, 2003 (Statistics Canada, Catalogue 82-575-XIE).

Data source

These tables are based on cross sectional data, collected by personal and telephone interviews between January and June 2005 (first six months data), using the 2005 HSAS questionnaire. The HSAS was conducted as a subsample of the CCHS 2005. The HSAS covers approximately 98% of the population of Canadians aged 15 and older living in private dwellings in the 10 provinces. Excluded from this survey are residents of the three territories, those living on Indian reserves or Crown lands, residents in institutions, full-time members of the Canadian Forces, and residents of certain remote regions.

Since the HSAS is a subsample of the CCHS, it is based on the same multiple sample frames as its parent survey. First, it uses the area frame designed for the Canadian Labour Force Survey (LFS). The sampling plan of the LFS is a multistage stratified cluster design in which the dwelling is the final sampling unit. The CCHS also uses two types of telephone frames: list frames and a random digit dialling (RDD) sampling frame of telephone numbers.

In order to produce reliable estimates at the national and provincial levels, in particular for the estimations of the waiting times, a subsample of about 34,000 CCHS respondents was targeted in total for 2005. This subsample was allocated in two steps. First, the sample was allocated at the provincial level similarly to the HSAS 2003 counts and, within each province, the sample was allocated by health region based on a power allocation method. Within each health region, a random sample of the CCHS cases was selected to be part of the subsample (HSAS). For those persons selected in the subsample, the HSAS questionnaire modules were added to the CCHS questionnaire and they were asked at the time of the CCHS interview. This report was produced based on the first six months data of 2005, therefore the total number of respondents is only half the targeted size. Table A1 presents, for Canada and each province, the number of respondents and response rates for the first 6 months of collection. It should be noted that the CCHS aims at producing reliable estimates at the health region level, and the HSAS at the national and provincial levels.

Table A1
Sample size and response rates for the Health Services Access Survey, Canada, 2005

	Number of respondents (after 6 months of collection)	Response Rate (%)
Newfoundland and Labrador	1,433	84.0
Prince Edward Island	1,040	83.0
Nova Scotia	1,726	81.7
New Brunswick	1,708	82.5
Quebec	2,369	71.3
Ontario	2,373	68.7
Manitoba	1,661	78.0
Saskatchewan	1,660	79.8
Alberta	1,836	76.8
British Columbia	1,938	70.9
CANADA	17,744	76.3

Data source: Statistics Canada, Health Services Access Survey 2005 (first 6 months data).

Note: The response rate is equal to the “household response rate” (HRR) multiplied by the “person response rate” (PRR); where HRR is the number of respondent households over the number of eligible households, and PRR is the number of persons respondent aged 15 and over divided by the number of respondent households where the person selected is aged 15 and over.

Following the collection and processing of the data, the respondents' records were weighted in order to reflect the sampling and non-response that occurred in the HSAS. Weights were also adjusted to demographic projections by age group and province.

Analytical techniques

Weighted distributions and frequencies were produced. Weighted percentiles waiting times were calculated for specialist visits, non-emergency surgery and selected diagnostic tests. Partial or item non responses generally accounted for less than 5% of the totals in most analyses; records with item non responses were excluded from the calculations. The bootstrap technique was used to estimate the variance and confidence intervals to properly account for the complex survey design. This technique fully adjusts for the design effects of the survey. Confidence intervals were established at the level of $p = 0.05$. For counts, ratios and percentiles estimates, pairwise differences between 2003 and 2005; and each province and Canadian estimates were deemed statistically significant based on a two-tailed test with $p < 0.05$. Where multiple proportions were tested, the significance levels were adjusted using the Bonferroni method. See appendix B for more details.

Limitations

There are several limitations to the HSAS data and the analysis presented in this report. HSAS data are based on self-reported information for both service needs and difficulties accessing services over a 12-month period; as such, the information may be subject to recall bias and has not been clinically validated. To reduce reporting error due to recall bias, questions repeatedly referred to services used in the last 12 months.

Reliable estimates at the national and provincial levels could not be produced for all the variables, given that, in some cases, very few individuals may actually need services or experience difficulties at various times and the survey sample may be too small to detect sufficient cases needed to generate reliable estimates. Also, pairwise differences between each provincial and the Canadian estimates were deemed statistically significant, based on a two-tailed test with $p < 0.05$. Some provincial estimates from HSAS are based on small numbers of respondents. Consequently, the sample may not have the power necessary to detect differences between each province and the Canadian level estimates.

There are also several limitations to the HSAS data relating to estimates of waiting times for specialist services. Waiting time estimates are retrospective and included only those who completed their waiting periods and received care. The data do not reflect the waiting times of those still waiting at the time of the survey. Respondents could report waiting times in days, weeks or months and it is likely that many may have rounded their waiting times. For these reasons, direct comparisons of waiting time estimates presented in these tables with estimates based from other sources, such as waiting time registries, health administrative data and physician reports, should be made with extreme caution.

In general, direct comparisons between the results from the 2001 HSAS and the 2003 or 2005 HSAS should be made with caution because of changes in the manner in which the data were collected. Most notably, in the 2003 and 2005 HSAS, the number of visits to medical specialists and the number of people requiring routine care are based on slightly different sets of questions, which were asked in a different sequence. Also, in 2003 and 2005, the percentage of people reporting difficulties in accessing first contact services (routine care, health information or advice, and immediate care for a minor problem) at different times of the day were calculated based on the total number of individuals having required these services at any time of day; in 2001, these percentages were calculated based on the number of individuals who used the service at each specific time of day.

Data from the HSAS are cross-sectional and, therefore, no temporal or causal relationships among variables can be inferred.

Finally, the results presented in this report are preliminary based on the first 6 months of data collection for the HSAS. Estimates may change when recalculated using the full 12-months sample which will be available in the spring of 2006.

Glossary

24/7: 24 hours a day, 7 days a week.

Diagnostic test: MRI, CT scan or angiography requested by a physician to determine or confirm a diagnosis; does not include X-rays, blood test, etc.

Evenings: 5:00 p.m. to 9:00 p.m., Monday through Friday.

Family member: Individual who lives in the same dwelling as respondent, who is related to the respondent, and for whose care respondent is responsible.

First contact services: Include routine care, health information or advice, and immediate care for a minor health problem provided by a family or general physician, nurse or other health care provider, not including medical specialists.

Middle of the night: 9:00 p.m. to 9:00 a.m., Sunday through Saturday.

Minor health problem: Fever, vomiting, major headache, sprained ankle, minor burns, cuts, skin irritation, unexplained rash, etc.; non life threatening health problems or injuries resulting from a minor accident.

Non-emergency surgery: Booked or planned surgery provided on an outpatient or inpatient basis; does not refer to surgery provided through an admission to the hospital emergency room as a result of, for example, an accident or life-threatening situation.

Regular office hours: 9:00 a.m. to 5:00 p.m., Monday through Friday.

Routine or on-going care: Health care provided by a family or general practitioner, including an annual check-up, blood tests or routine care for an ongoing illness (e.g., prescription refills).

Specialized services: Services including specialist visits for a new illness or condition, non-emergency surgery other than dental surgery, and selected diagnostic tests (non-emergency MRIs, CT scans, and angiographies).

Specialist visits: Visit with a medical specialist to obtain a diagnosis for a new illness or condition; does not include specialist visits for ongoing care for a previously diagnosed condition.

Waiting times:

Specialist visit: Time between when individuals and their doctor decided that they should see a specialist and the day of the visit.

Non-emergency surgery: Time between when individuals and their surgeon decided to go ahead with the surgery and the day of surgery.

Diagnostic tests: Time between when individuals and their doctor decided to go ahead with the test and the day of the test.

Weekends: 9:00 a.m. to 5:00 p.m., Saturdays and Sundays.

Appendix A : Technical Specifications

The general convention of the data dictionary is that the first 3 letters identify the questionnaire section and that the question number is preceded by the letter “_”. For example, WTMZ_01 refers to question 1 of the Waiting Time, while ACCZ_52 refers to question 52 of the Access to Care (24/7) section of the questionnaire. The letter ‘Z’ represents subsample modules of the CCHS questionnaire. It should be noted that the waiting times could be answered in days, weeks or months, two variables were used to record the waiting time, one for the unit of time and one for the number of units waited. All waiting time have been converted in month by using 7 days in a week and 30.417 days in a month. One month was defined as 4 weeks, and 3 months as 13 weeks to take into account the conversion of data in days.

Valid skip, "don't know", refusal and other non-response are assigned specific codes for each question. Non-response has usually been excluded from the calculation of the estimates. Specific details are described for each estimate.

All estimates provided in these tables are limited to residents of the household population aged 15 and over. All estimates are weighted and their variance calculated using a bootstrapping method to properly reflect the survey design. This appendix show how estimates have been calculated. Appendix B provides the formula required to determine the statistical significance of differences between 2003 and 2005; and provincial and Canadian estimates. More details of the methodology of the survey will be available in the user guide as part of the main documentation of the survey (planned for release in summer 2006).

1. Required specialized services

Definition:

Number of individuals who required services; and percentage of the population who required services, in the last 12 months: a) specialist visits for a new illness or condition; b) non-emergency surgery; and c) selected diagnostic tests (non-emergency MRIs, CT scans and angiographies).

Technical Specifications

For specialist visits:

$$\begin{aligned} \text{\# of individuals} &= [\sum (\text{WTMZ_01} = 1)] / 1000 \\ \text{\% of population} &= [\sum (\text{WTMZ_01} = 1) / \text{Weighted Total Respondents}] * 100 \end{aligned}$$

For surgery:

$$\begin{aligned} \text{\# of individuals} &= [\sum (\text{WTMZ_16} = 1,2,3,4,5,6,7)] / 1000 \\ \text{\% of population} &= [\sum (\text{WTMZ_16} = 1,2,3,4,5,6,7) / \text{Weighted Total Respondents}] * 100 \end{aligned}$$

For diagnostic tests:

$$\begin{aligned} \text{\# of individuals} &= [\sum (\text{WTMZ_30} = 1,2,3)] / 1000 \\ \text{\% of population} &= [\sum (\text{WTMZ_30} = 1,2,3) / \text{Weighted Total Respondents}] * 100 \end{aligned}$$

Non-respondents are excluded from the calculation of percentages, both in numerators and denominators. For each type of service, non-response was defined as code 6 (96 for WTMZ_16) for a valid skip, 7 (97 for WTMZ_16) for "Don't know", 8 (98 for WTMZ_16) for refusal and 9 (99 for WTMZ_16) for "Not stated".

2. Accessing specialized services

Definition:

Number of individuals who accessed a service; and percentage of individuals who accessed a service of those who required the service, in the last 12 months: a) specialist visits for a new illness or condition; b) non-emergency surgery; and c) selected diagnostic tests (non-emergency MRIs, CT scans and angiographies).

Technical Specifications:

For specialist visits:

$$\begin{aligned} \text{\# of individuals} &= [\sum (\text{WTMZ_04} = 1)] / 1000 \\ \text{\% of individuals} &= [\sum (\text{WTMZ_04} = 1) / \sum (\text{WTMZ_01} = 1)] * 100 \end{aligned}$$

For surgery:

$$\begin{aligned} \text{\# of individuals} &= [\sum (\text{WTMZ_17} = 1)] / 1000 \\ \text{\% of population} &= [\sum (\text{WTMZ_17} = 1)] / \sum (\text{WTMZ_16} = 1,2,3,4,5,6,7) * 100 \end{aligned}$$

For diagnostic tests:

$$\# \text{ of individuals} = [\sum (\text{WTMZ}_{32} = 1)] / 1000$$

$$\% \text{ of population} = [\sum (\text{WTMZ}_{32} = 1) / \sum (\text{WTMZ}_{30} = 1,2,3)] * 100$$

Non-respondents are excluded from the calculation of percentages, both in numerators and denominators. For each type of service, non-response was defined as code 6 (96 for WTMZ_16) for a valid skip, 7 (97 for WTMZ_16) for "Don't know", 8 (98 for WTMZ_16) for refusal and 9 (99 for WTMZ_16) for "Not stated".

3. Waiting times for key diagnostic and treatment services

3.1 Percentiles of waiting times for specialist visits, non-emergency surgery and diagnostic tests

Definition:

For individuals having received a specialized health service in the last 12 months, the *p*th percentile of the distribution of waiting times for a) specialist visits for a new illness or condition; b) non-emergency surgery; and c) selected diagnostic tests (non-emergency MRIs, CT scans and angiographies).

Technical Specification:

For individuals having received a specialized health service in the last 12 months, all waiting times are ranked in ascending order, with cumulative percentages. The first observation of waiting time having a cumulative percentage of *p* or over is the *p*th. WTMZDSO, WTMZDCO, and WTMZDTO are used for specialist visits, non-emergency surgery and diagnostic tests, respectively. For each type of service, non-response is defined as code 9996 for a valid skip, 9997 for "Don't know", 9998 for refusal and 9999 for "Not stated".

3.2 Distribution of waiting times for selected services among those requiring these services

Definition:

Of those having received a specialized health service in the last 12 months, the percentage that reported a wait length in one of the three following categories: i) less than 1 month; ii) 1 to 3 months; and iii) more than 3 months for a) specialist visits for a new illness or condition; b) non-emergency surgery; and c) selected diagnostic tests (non-emergency MRIs, CT scans and angiographies).

Technical Specifications:

For specialist visits:

$$\% \text{ who waited less than 1 month} = [\sum (\text{WTMZDSO} < 4 \text{ weeks}) / \sum (\text{WTMZ}_{04} = 1)] * 100$$

$$\% \text{ who waited 1 to 3 months} = [\sum (4 \text{ weeks} \leq \text{WTMZDSO} \leq 13 \text{ weeks}) / \sum (\text{WTMZ}_{04} = 1)] * 100$$

$$\% \text{ who waited more than 3 months} = [\sum (13 \text{ weeks} < \text{WTMZDSO}) / \sum (\text{WTMZ}_{04} = 1)] * 100$$

For surgery:

$$\% \text{ who waited less than 1 month} = [\sum (\text{WTMZDCO} < 4 \text{ weeks}) / \sum (\text{WTMZ}_{17} = 1)] * 100$$

$$\% \text{ who waited 1 to 3 months} = [\sum (4 \text{ weeks} \leq \text{WTMZDCO} \leq 13 \text{ weeks}) / \sum (\text{WTMZ}_{17} = 1)] * 100$$

$$\% \text{ who waited more than 3 months} = [\sum (13 \text{ weeks} < \text{WTMZDCO}) / \sum (\text{WTMZ}_{17} = 1)] * 100$$

For diagnostic tests:

$$\% \text{ who waited less than 1 month} = [\sum (\text{WTMZDTO} < 4 \text{ weeks}) / \sum (\text{WTMZ}_{32} = 1)] * 100$$

$$\% \text{ who waited 1 to 3 months} = [\sum (4 \text{ weeks} \leq \text{WTMZDTO} \leq 13 \text{ weeks}) / \sum (\text{WTMZ}_{32} = 1)] * 100$$

$$\% \text{ who waited more than 3 months} = [\sum (13 \text{ weeks} < \text{WTMZDTO}) / \sum (\text{WTMZ}_{32} = 1)] * 100$$

Non-respondents are excluded from the calculation of percentages, both in numerators and denominators. For each type of service, non-response was defined as code 9996 for a valid skip, 9997 for "Don't know", 9998 for refusal and 9999 for "Not stated". One month was defined as 4 weeks, and 3 months as 13 weeks to take into account the conversion of the data into days.

3.3 Waiting for Care: Views of Canadians (only in the Statistics Canada's preliminary report)

3.3.1 Percentage of Canadians affected by waiting time for specialized services

Definition:

Percentage of Canadians who reported being affected by waiting times of those who accessed these services in the last 12 months: a) specialist visits for a new illness or condition; b) non-emergency surgery; and c) selected diagnostic tests (non-emergency MRIs, CT scans and angiographies).

Technical Specifications:

For specialist visits:

$$\% \text{ of population} = [\sum (\text{WTMZ}_{14} = 1) / \sum (\text{WTMZ}_{04} = 1)] * 100$$

For surgery:

$$\% \text{ of population} = [\sum (\text{WTMZ}_{28} = 1) / \sum (\text{WTMZ}_{17} = 1)] * 100$$

For diagnostic tests:

$$\% \text{ of population} = [\sum (\text{WTMZ}_{44} = 1) / \sum (\text{WTMZ}_{32} = 1)] * 100$$

Non-respondents are excluded from the calculation of percentages, both in numerators and denominators. For each type of service, non-response was defined as code 6 for a valid skip, 7 for "Don't know", 8 for refusal and 9 for "Not stated".

3.3.2 Effects of waiting times

Definition:

Percentage of individuals who reported how waited for care affected their lives of those who where affected by waiting times: a) specialist visits for a new illness or condition; b) non-emergency surgery; and c) selected diagnostic tests (non-emergency MRIs, CT scans and angiographies).

Technical Specifications:

For specialist visits:

$$\% \text{ of individual} = [\sum (\text{WTMZ}_{15X} = 1) / \sum (\text{WTMZ}_{04} = 1 \text{ and } \text{WTMZ}_{14} = 1)] * 100$$

For surgery:

$$\% \text{ of individual} = [\sum (\text{WTMZ}_{29X} = 1) / \sum (\text{WTMZ}_{17} = 1 \text{ and } \text{WTMZ}_{28} = 1)] * 100$$

For diagnostic tests:

$$\% \text{ of individual} = [\sum (\text{WTMZ}_{45X} = 1) / \sum (\text{WTMZ}_{32} = 1 \text{ and } \text{WTMZ}_{44} = 1)] * 100$$

where X = A, B, C, ..., L;

Non-respondents are excluded from the calculation of percentages, both in numerators and denominators. For each type of service, non-response was defined as code 6 for a valid skip, 7 for "Don't know", 8 for refusal and 9 for "Not stated".

3.4 Acceptability of waiting times (only in the Statistics Canada's preliminary report)

3.4.1 Percentage of Canadians who considered waiting time for specialized services unacceptable

Definition:

Percentage of Canadians who considered waiting times unacceptable of those who accessed these services in the last 12 months: a) specialist visits for a new illness or condition; b) non-emergency surgery; and c) selected diagnostic tests (non-emergency MRIs, CT scans and angiographies).

Technical Specifications:

For specialist visits:

$$\% \text{ of population} = [\sum (\text{WTMZ}_{10} = 1) / \sum (\text{WTMZ}_{04} = 1)] * 100$$

For surgery:

$$\% \text{ of population} = [\sum (\text{WTMZ}_{24} = 1) / \sum (\text{WTMZ}_{17} = 1)] * 100$$

For diagnostic tests:

$$\% \text{ of population} = [\sum (\text{WTMZ}_{40} = 1) / \sum (\text{WTMZ}_{32} = 1)] * 100$$

Non-respondents are excluded from the calculation of percentages, both in numerators and denominators. For each type of service, non-response was defined as code 6 for a valid skip, 7 for "Don't know", 8 for refusal and 9 for "Not stated".

3.4.2 Waiting experiences of those reported waiting times for specialized services as acceptable or not acceptable

Definition:

For individuals having received a specialized health service in the last 12 months and who reported waiting time as acceptable or not acceptable, the 50th percentile of the distribution of waiting times for a) specialist visits for a new illness or condition; b) non-emergency surgery; and c) selected diagnostic tests (non-emergency MRIs, CT scans and angiographies).

Technical Specification:

For individuals having received a specialized health service in the last 12 months and who reported waiting time as acceptable or not acceptable, in each of these categories ("acceptable", "not acceptable"), all waiting times are ranked in ascending order, with cumulative percentages. The first observation of waiting time having a cumulative percentage of 50 or over is the 50th. WTMZDSO, WTMZDCO, and WTMZDTO are used for specialist visits, non-emergency surgery and diagnostic tests, respectively. For each type of service, non-response is defined as code 9996 for a valid skip, 9997 for "Don't know", 9998 for refusal and 9999 for "Not stated".

4. Difficulties accessing specialized services

4.1 Experiencing difficulties accessing specialized services

Definition:

Number of individuals who experienced difficulties accessing these services; and percentage of individuals experiencing difficulties accessing these services of those who accessed them, in the last 12 months: a) specialist visits for a new illness or condition; b) non-emergency surgery; and c) selected diagnostic tests (non-emergency MRIs, CT scans and angiographies).

Technical Specifications:

For specialist visits:

$$\# \text{ of individuals} = [\sum (\text{WTMZ}_{05} = 1)] / 1000$$

$$\% \text{ of individual} = [\sum (\text{WTMZ}_{05} = 1) / \sum (\text{WTMZ}_{04} = 1)] * 100$$

For surgery:

$$\# \text{ of individuals} = [\sum (\text{WTMZ}_{19} = 1)] / 1000$$

$$\% \text{ of individual} = [\sum (\text{WTMZ}_{19} = 1) / \sum (\text{WTMZ}_{17} = 1)] * 100$$

For diagnostic tests:

$$\# \text{ of individuals} = [\sum (\text{WTMZ}_{36} = 1)] / 1000$$

$$\% \text{ of individual} = [\sum (\text{WTMZ}_{36} = 1) / \sum (\text{WTMZ}_{32} = 1)] * 100$$

Non-respondents are excluded from the calculation of percentages, both in numerators and denominators. For each type of service, non-response was defined as code 6 for a valid skip, 7 for "Don't know", 8 for refusal and 9 for "Not stated".

4.2 Reasons (Barriers) for experienced difficulties

Definition:

Percentage of individuals who reported reasons for experiencing difficulties accessing these services in the last 12 months of those who experienced difficulties: a) specialist visits for a new illness or condition; b) non-emergency surgery; and c) selected diagnostic tests (non-emergency MRIs, CT scans and angiographies).

Technical Specifications:

For specialist visits:

$$\% \text{ of individual} = [\sum (\text{WTMZ_06X} = 1) / \sum (\text{WTMZ_05} = 1)] * 100$$

For surgery:

$$\% \text{ of individual} = [\sum (\text{WTMZ_20X} = 1) / \sum (\text{WTMZ_19} = 1)] * 100$$

For diagnostic tests:

$$\% \text{ of individual} = [\sum (\text{WTMZ_37X} = 1) / \sum (\text{WTMZ_36} = 1)] * 100$$

where X = A, B, C, ..., M;

Non-respondents are excluded from the calculation of percentages, both in numerators and denominators. For each type of service, non-response was defined as code 6 for a valid skip, 7 for "Don't know", 8 for refusal and 9 for "Not stated".

5. Accessing routine care or on-going care services

5.1 Difficulties accessing routine care or on-going care services

Definition:

Number and percentage of Canadians who reported difficulties accessing routine care services or on-going care in the last 12 months, among those who required first contact services.

Technical Specifications:

$$\# \text{ of individuals} = [\sum (\text{ACCZ_51} = 1)] / 1000$$

$$\% \text{ of population} = [\sum (\text{ACCZ_51} = 1) / \sum (\text{ACCZ_50} = 1)] * 100$$

Non-respondents are excluded from the calculation of percentages, both in numerators and denominators. For each type of service, non-response was defined as code 6 for a valid skip, 7 for "Don't know", 8 for refusal and 9 for "Not stated".

5.2 Barriers (number and percentage) to receive routine or on-going care

Definition:

In the past 12 months, number of individual who reported these barriers to receive routine or on-going care for self or a family member and who reported difficulties obtaining these services; and percentage of individual who reported these barriers to receive routine or on-going care for self or a family member of those who reported difficulties obtaining these services: (a) regardless of time of day; or (b) during regular hours (9:00 a.m.-5:00 p.m. Mon to Fri.); or (c) during evenings and weekends (5:00 p.m.-9:00 p.m. Mon to Fri, or Sat and Sun).

Technical Specifications:

Regardless of time of day:

$$\# \text{ of individual reported barriers} = [(\sum (\text{ACCZ_53X} = 1) + \sum (\text{ACCZ_55X} = 1)) - \text{inter1}] / 1000$$

$$\% \text{ who reported difficulties} = [((\sum (\text{ACCZ_53X} = 1) + \sum (\text{ACCZ_55X} = 1)) - \text{inter1}) / ((\sum (\text{ACCZ_52} = 1) + \sum (\text{ACCZ_54} = 1)) - \text{inter2})] * 100$$

where

$$\text{inter1} = \sum (\text{ACCZ_53X} = 1 \text{ and } \text{ACCZ_55X} = 1)$$

$$\text{inter2} = \sum (\text{ACCZ_52} = 1 \text{ and } \text{ACCZ_54} = 1)$$

During regular hours:

$$\begin{aligned} \# \text{ of individual reported barriers} &= [\sum(\text{ACCZ_53X} = 1)] / 1000 \\ \% \text{ who reported difficulties} &= [\sum(\text{ACCZ_53X} = 1) / \sum(\text{ACCZ_52} = 1)] * 100 \end{aligned}$$

During evenings and weekends:

$$\begin{aligned} \# \text{ of individual reported barriers} &= [\sum(\text{ACCZ_55X} = 1)] / 1000 \\ \% \text{ who reported difficulties} &= [\sum(\text{ACCZ_55X} = 1) / \sum(\text{ACCZ_54} = 1)] * 100 \end{aligned}$$

where X = A, B, C, ..., M;

Non-respondents are excluded from the calculation of percentages, both in numerators and denominators. For each type of service, non-response was defined as code 6 for a valid skip, 7 for "Don't know", 8 for refusal and 9 for "Not stated".

6. Barriers (number and percentage) to receive immediate care for minor health problem

Definition:

In the past 12 months, number of individual who reported these barriers to receive immediate care for minor health problem for self or a family member and who reported difficulties obtaining these services; and percentage of individual who reported these barriers to receive immediate care for minor health problem for self or a family member of those who reported difficulties obtaining these services: (a) regardless of time of day; or (b) during regular hours (9:00 a.m.-5:00 p.m. Mon to Fri.); or (c) during evenings and weekends (5:00 p.m.-9:00 p.m. Mon to Fri, or Sat and Sun); or (d) during middle of the night.

Technical Specifications:

Regardless of time of day:

$$\begin{aligned} \# \text{ of individual reported barriers} &= \\ & [(\sum(\text{ACCZ_63X} = 1) + (\sum(\text{ACCZ_65X} = 1) + \sum(\text{ACCZ_67X} = 1)) - \text{inter1})] / 1000 \\ \% \text{ who reported difficulties} &= \\ & [((\sum(\text{ACCZ_63X} = 1) + \sum(\text{ACCZ_65X} = 1) + \sum(\text{ACCZ_67X} = 1)) - \text{inter1}) / \\ & ((\sum(\text{ACCZ_62} = 1) + \sum(\text{ACCZ_64} = 1) + \sum(\text{ACCZ_66} = 1)) - \text{inter2})] * 100 \end{aligned}$$

where

$$\begin{aligned} \text{inter1} &= \sum(\text{ACCZ_63X} = 1 \text{ and } \text{ACCZ_65X} = 1) + \sum(\text{ACCZ_63X} = 1 \text{ and } \text{ACCZ_67X} = 1) \\ &+ \sum(\text{ACCZ_65X} = 1 \text{ and } \text{ACCZ_67X} = 1) \\ &- \sum(\text{ACCZ_63X} = 1 \text{ and } \text{ACCZ_65X} = 1 \text{ and } \text{ACCZ_67X} = 1) \end{aligned}$$

$$\begin{aligned} \text{inter2} &= \sum(\text{ACCZ_62} = 1 \text{ and } \text{ACCZ_64} = 1) + \sum(\text{ACCZ_62} = 1 \text{ and } \text{ACCZ_66} = 1) + \\ &\sum(\text{ACCZ_64} = 1 \text{ and } \text{ACCZ_66} = 1) - \sum(\text{ACCZ_62} = 1 \text{ and } \text{ACCZ_64} = 1 \text{ and } \text{ACCZ_66} = 1) \end{aligned}$$

During regular hours:

$$\begin{aligned} \# \text{ of individual reported barriers} &= [\sum(\text{ACCZ_63X} = 1)] / 1000 \\ \% \text{ who reported difficulties} &= [\sum(\text{ACCZ_63X} = 1) / \sum(\text{ACCZ_62} = 1)] * 100 \end{aligned}$$

During evenings and weekends:

$$\begin{aligned} \# \text{ of individual reported barriers} &= [\sum(\text{ACCZ_65X} = 1)] / 1000 \\ \% \text{ who reported difficulties} &= [\sum(\text{ACCZ_65X} = 1) / \sum(\text{ACCZ_64} = 1)] * 100 \end{aligned}$$

During the middle of the night:

$$\begin{aligned} \# \text{ of individual reported barriers} &= [\sum(\text{ACCZ_67X} = 1)] / 1000 \\ \% \text{ who reported difficulties} &= [\sum(\text{ACCZ_67X} = 1) / \sum(\text{ACCZ_66} = 1)] * 100 \end{aligned}$$

where X = A, B, C, ..., M

Non-respondents are excluded from the calculation of percentages, both in numerators and denominators. For each type of service, non-response was defined as code 6 for a valid skip, 7 for "Don't know", 8 for refusal and 9 for "Not stated".

Appendix B : Determining statistically significant differences between 2003 and 2005 estimates

If Year A has an estimate \hat{a} with a lower confidence interval limit CIL95a and an upper confidence interval limit CUL95a and Year E has an estimate \hat{e} with CIL95e and CUL95e then we calculate:

1. Difference between estimates, $\text{diff} = \hat{a} - \hat{e}$
2. Variance of the estimated difference = the square of $(\text{CUL95a} - \text{CIL95a} / (2 * 1.96))$ plus the square of $(\text{CUL95e} - \text{CIL95e} / (2 * 1.96))$
3. Standard error of the difference = $\text{stediff} = \text{square root of variance (step 2)}$
4. $\text{CIL95dif} = (\text{diff} - 1.96 * \text{stediff})$
5. $\text{CUL95dif} = (\text{diff} + 1.96 * \text{stediff})$
6. If 0 is included in the interval $[\text{CIL95dif}, \text{CUL95dif}]$, then the difference is NOT significant.
7. If 0 is not in the interval $[\text{CIL95dif}, \text{CUL95dif}]$, then the difference IS significant.