

## Appendix E: Provincial Health Indicator Reports

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The full set of health indicator reports produced from the Provincial Sample Pilot Project can be found at <http://rrfss.ca/index.php?pid=0>.

The four health indicator reports that were provided to key informants as background for the evaluation are included here as an appendix.



## A. RRFSS Provincial Sample Pilot Project (PSPP)

The RRFSS PSPP is intended to provide reliable and representative estimates for 2011 RRFSS indicators for Ontario as a whole, and in so doing:

- Provide a valid comparator for local health unit results for selected indicators;
- Allow for a reduction in RRFSS “core” content; and
- Provide a more flexible, timely system by which to collect provincially-relevant risk factor surveillance data than is currently available.

The provincial sample includes over 1800 interviews, with the number of interviews proportionate to the size of the health units' populations. Within households, the adult with the most recent birthday is selected to participate in the survey.

## B. PSPP Evaluation

The evaluation of the RRFSS PSPP is supported by Locally-Driven Collaborative Project funding through Public Health Ontario.

The purpose of the PSPP evaluation is to summarize the implementation and results of the RRFSS PSPP, documenting what worked well and why, what the challenges were, what the benefits of the PSPP were and whether or not they were worth the costs.

The information will be used to inform decisions related to future provincial sampling in RRFSS.

## C. Data Collection

January - December 2011  
(Data was collected for Ontario and for all RRFSS-participating health units during this time period)

Only RRFSS participating health units who agreed to share their data have been included in this report.

## Body Mass Index (BMI)

### PURPOSE OF MODULE

The purpose of this RRFSS module is to monitor body weight and identify weight-related health risks in populations. Health Canada's Canadian Guidelines for Body Weight Classification in Adults suggests that being underweight, overweight and obese can increase the risk of developing health problems (see Table 1 and Table 2).

### KEY FINDINGS

- In 2011, 2% (95% CI, 1-3)\* of Ontario adults aged 18 and over were underweight, 41% (95% CI, 39-44) were normal weight, 36% (95% CI, 33-38) were overweight and 21% (95% CI, 19-23) were obese (see Table 3).

### Sex

- In 2011, Ontario males were more likely to be overweight and obese than Ontario females. These differences were statistically significant for the overweight classification (see Figure 1).
- In 2011, Ontario females were significantly more likely to be normal weight than males (see Figure 1).

### Age Group

- In 2011, the proportion of normal weight adults in Ontario was highest among adults aged 18-24 and lowest among adults aged 65 and over. These differences, however, were not statistically significant (see Figure 2).
- In 2011, the proportion of overweight adults in Ontario was highest among adults aged 65 and over and lowest among adults aged 25-44. These differences, however, were not statistically significant (see Figure 2).
- In 2011, the proportion of obese adults in Ontario was highest among adults aged 25-44 and lowest among adults aged 18-24. These differences, however, were not statistically significant (see Figure 2).

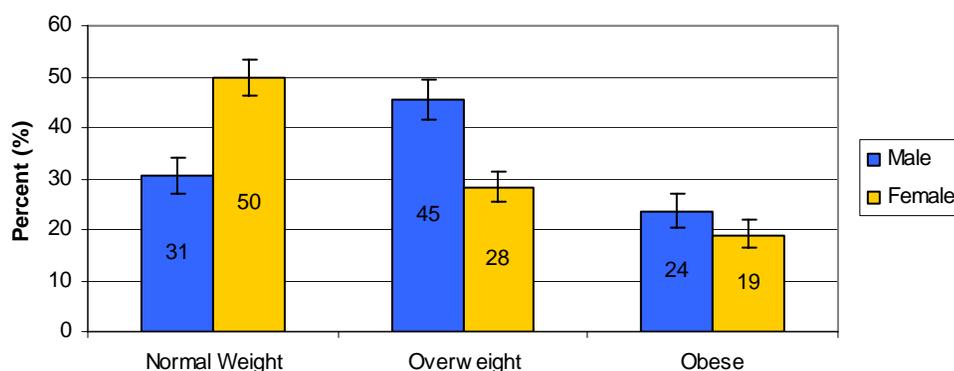
### Health Units

- In 2011, the proportion of normal weight adults in Brant, Chatham-Kent, Haldimand-Norfolk and Sudbury was significantly lower than in Ontario. The proportion of normal weight adults in York was significantly higher than in Ontario (see Table 3).
- In 2011, the proportion of overweight adults in Haldimand-Norfolk was significantly higher than in Ontario (see Table 3 and Figure 3).
- In 2011, the proportion of obese adults in Halton, Ottawa, Peel and York was significantly lower than in Ontario. The proportion of obese adults in Sudbury was significantly higher than in Ontario (see Table 3 and Figure 3).

Classification	BMI Category (kg/m <sup>2</sup> )	Risk of Health Problems
Underweight	< 18.5	Increased
Normal weight	18.5 – 24.9	Least
Overweight	25.0 – 29.9	Increased
Obese	≥ 30.0	High

Underweight	Overweight and Obesity
<ul style="list-style-type: none"> <li>• Under nutrition</li> <li>• Osteoporosis</li> <li>• Infertility</li> <li>• Impaired immunocompetence</li> </ul>	<ul style="list-style-type: none"> <li>• Type 2 diabetes</li> <li>• Dyslipidemia</li> <li>• Hypertension</li> <li>• Coronary heart disease</li> <li>• Gallbladder disease</li> <li>• Obstruction sleep apnea</li> <li>• Certain cancers</li> </ul>

Figure 1: Body Mass Index, Ontario Adults Aged 18 and Over, By Sex, 2011



**D. Definitions**

The body mass classification system is recommended for use among adults aged 18 and over, excluding pregnant, lactating women, and adults less than 3 feet tall or greater than 6 feet 11 inches.<sup>1</sup>

A 95% confidence interval (CI) refers to the range of values that has a 95% chance of including the 'true' estimate. A large CI means that there is a large amount of variability or imprecision. When CI's do not overlap, estimates are significantly different. CI's were selected as the measure of significance due to their conservative nature and transparency; there is less chance of incorrectly identifying a significant difference, which is important given the multiple tests of significance. CI's are reported in brackets or presented as  $\pm$  in the graphs. CI's for Ontario are also presented in Figure 3 using a dashed line (---).

Coefficient of variation (CV) refers to the precision of the estimate. When the CV is between 16.6 and 33.3, the estimate should be interpreted with caution because of high variability and has been marked with an asterisk (\*). Estimates with a CV of 33.3 or greater are not reportable.

**E. Limitations**

RRFSS results are self-reported and may not necessarily be recalled accurately. Individuals not living in households (such as those in prison, hospitals, or the homeless) are excluded. Similarly, individuals who live in a household without a landline telephone (about 12% of all Ontario households<sup>2</sup>) will not be reached through RRFSS. Thus the percentages may not represent the true estimates for the general population as respondents may have different characteristics than people who have not been included in the survey.

Household (HH) weights were used for any questions related to individuals. The HH weight adjusts for the fact that adults from larger HH are less likely to be selected than individuals from smaller HH. Provincial results were also weighted to account for the actual distribution of adults among health units in Ontario. Estimates were multiplied by the 2006 population for the health unit to adjust for this difference.

Don't know and refused responses were excluded from the analysis, along with responses from pregnant women and adults less than 3 feet tall or greater than 6 feet 11 inches.

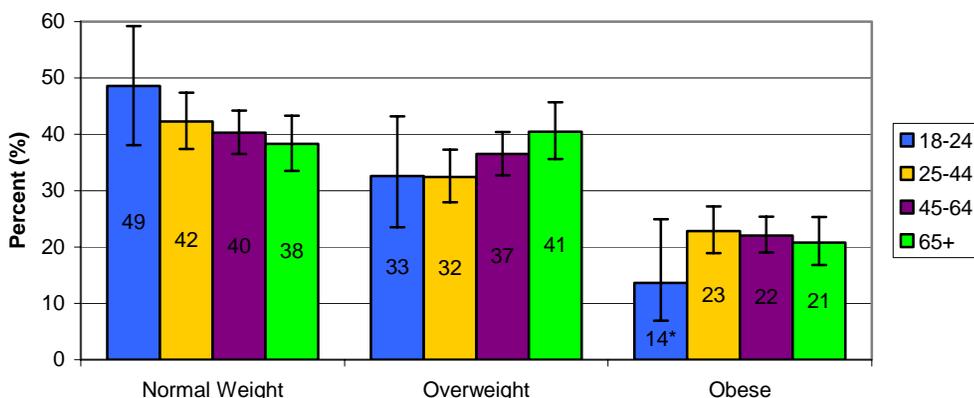
Non-rounded estimates and confidence intervals were used when determining significant differences; however, rounded numbers were used for the presentation of data, thus estimates may not total 100 and confidence intervals may appear to overlap.

**F. References**

- Health Canada (2003). Canadian Guidelines for Body Weight Classification in Adults. Retrieved May 2012, from [http://www.hc-sc.gc.ca/fn-an/alt\\_formats/hpfb-dgpsa/pdf/nutrition/cg\\_quick\\_ref-ldc\\_rapide\\_ref-eng.pdf](http://www.hc-sc.gc.ca/fn-an/alt_formats/hpfb-dgpsa/pdf/nutrition/cg_quick_ref-ldc_rapide_ref-eng.pdf)
- Ialomiteanu, A., Adlaf, E. M. (2011). CAMH Monitor 2010: Technical Guide. Retrieved May 2012 from [http://www.camh.ca/en/research/Documents/www.camh.net/Research/Areas\\_of\\_research/Population\\_Life\\_Course\\_Studies/CAMH\\_Monitor/CM2010\\_TechDoc.pdf](http://www.camh.ca/en/research/Documents/www.camh.net/Research/Areas_of_research/Population_Life_Course_Studies/CAMH_Monitor/CM2010_TechDoc.pdf)

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**Figure 2: Body Mass Index, Ontario Adults Aged 18 and Over, By Age Group, 2011**



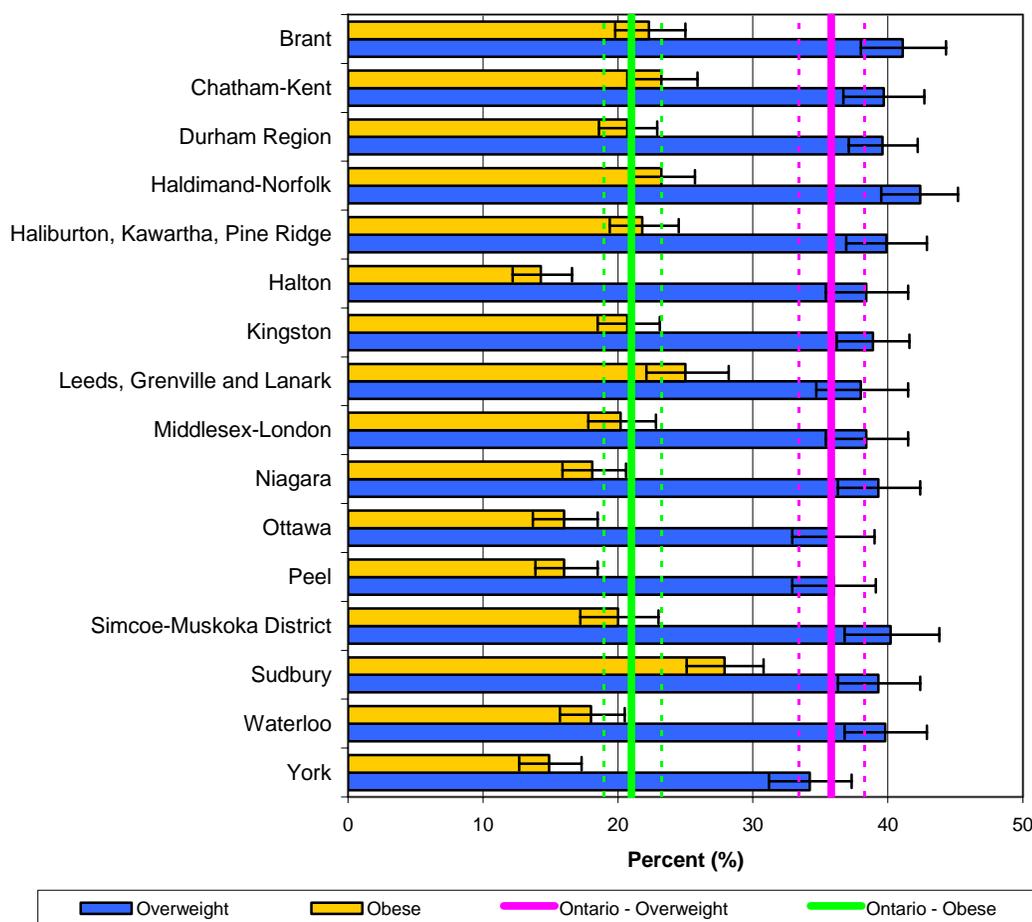
**Table 3: Body Mass Index, Ontario Adults Aged 18 and Over, By Health Unit, 2011**

Health Unit/Province	Underweight*		Normal Weight		Overweight		Obese	
	Percent (95% CI)	↑↓	Percent (95% CI)	↑↓	Percent (95% CI)	↑↓	Percent (95% CI)	↑↓
<b>ONTARIO</b>	<b>2 (1-3)</b>	-	<b>41 (39-44)</b>	-	<b>36 (33-38)</b>	-	<b>21 (19-23)</b>	-
Brant	2 (1-3)		35 (32-38)	↓	41 (38-44)		22 (20-25)	
Chatham-Kent	2 (1-3)		35 (32-38)	↓	40 (37-43)		23 (21-26)	
Durham Region	2 (2-3)		37 (35-40)		40 (37-42)		21 (19-23)	
Haldimand-Norfolk	2 (1-2)		33 (30-36)	↓	42 (40-45)	↑	23 (21-26)	
Haliburton, Kawartha, Pine Ridge	2 (1-3)		37 (34-40)		40 (37-43)		22 (19-25)	
Halton	2 (1-2)		46 (43-49)		38 (35-42)		14 (12-17)	↓
Kingston	1 (1-2)		40 (37-42)		39 (36-42)		21 (19-23)	
Leeds, Grenville and Lanark	1 (1-2)		36 (32-39)		38 (35-41)		25 (22-28)	
Middlesex-London	1 (1-2)		40 (37-43)		38 (35-42)		20 (18-23)	
Niagara	1 (1-2)		41 (38-44)		39 (36-42)		18 (16-21)	
Ottawa	2 (1-3)		46 (43-50)		36 (33-39)		16 (14-19)	↓
Peel	3 (2-4)		45 (42-48)		36 (33-39)		16 (14-19)	↓
Simcoe-Muskoka District	1 (1-3)		38 (35-42)		40 (37-44)		20 (17-23)	
Sudbury	2 (1-3)		31 (28-34)	↓	39 (36-42)		28 (25-31)	↑
Waterloo	2 (2-3)		40 (37-43)		40 (37-43)		18 (16-21)	
York	3 (2-4)		48 (45-52)	↑	34 (31-37)		15 (13-17)	↓

↓ Health Unit was significantly lower than Ontario

↑ Health Unit was significantly higher than Ontario

**Figure 3: Body Mass Index, Ontario Adults Aged 18 and Over, By Health Unit, 2011**



## Daily Fruit and Vegetable Consumption

### A. RRFSS Provincial Sample Pilot Project (PSPP)

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- Provide a valid comparator for local health unit results for selected indicators;
- Allow for a reduction in RRFSS “core” content; and
- Provide a more flexible, timely system by which to collect provincially-relevant risk factor surveillance data than is currently available.

The provincial sample includes over 1800 interviews, with the number of interviews proportionate to the size of the health units’ populations. Within households, the adult with the most recent birthday is selected to participate in the survey.

### B. PSPP Evaluation

The evaluation of the RRFSS PSPP is supported by Locally-Driven Collaborative Project funding through Public Health Ontario.

The purpose of the PSPP evaluation is to summarize the implementation and results of the RRFSS PSPP, documenting what worked well and why, what the challenges were, what the benefits of the PSPP were and whether or not they were worth the costs.

The information will be used to inform decisions related to future provincial sampling in RRFSS.

### C. Data Collection Period

January - December 2011  
(Ontario; Haliburton, Kawartha, Pine Ridge; York; Halton; Ottawa; Brant; Haldimand-Norfolk; Chatham-Kent)

January – April 2011  
(Durham Region, Middlesex-London, Sudbury, Leeds, Grenville and Lanark)

Only RRFSS participating health units who asked this module and agreed to share their data have been included in this report.

### D. Definitions

A 95% confidence interval (CI) refers to the range of values that has a 95% chance of including the ‘true’ estimate. A large CI means that there is a large amount of variability or imprecision. When CI’s do not overlap, estimates are significantly different. CI’s were selected as the measure of significance due to their conservative nature and transparency; there is less chance of incorrectly identifying a significant difference, which is important given the multiple tests of significance. CI’s are reported in brackets or presented as  $\pm$  in the graphs. CI’s for Ontario are also presented in Figure 4 using a dashed line (---).

Coefficient of variation (CV) refers to the precision of the estimate. When the CV is between 16.6 and 33.3, the estimate should be interpreted with caution because of high variability and has been marked with an asterisk (\*). Estimates with a CV of 33.3 or greater are not reportable.

### PURPOSE OF MODULE

The purpose of this RRFSS module is to monitor the proportion of the population aged 18 and over, that consume fruits and vegetables five or more times daily. Up to 30% of cancers could be prevented if Ontario adults increased their consumption of fruits and vegetables, were more physically active and maintained a healthy body weight<sup>1</sup>. Cancer Care Ontario’s 2020 target for fruit and vegetable intake is for 90% of Ontarians to consume five or more servings of vegetables and fruits daily<sup>2</sup> (see Table 1).

### KEY FINDINGS

- In 2011, 65% (95% CI, 63-67) of Ontario adults aged 18 and over reported consuming fruits or vegetables less than 5 times daily and 35% (95% CI, 33-38) reported consuming fruits or vegetables 5 or more times daily (see Figure 1 and Table 1).

#### Sex

- In 2011, the proportion of Ontario females consuming fruits or vegetables 5 or more times daily was significantly higher than the proportion of males (see Figure 2).

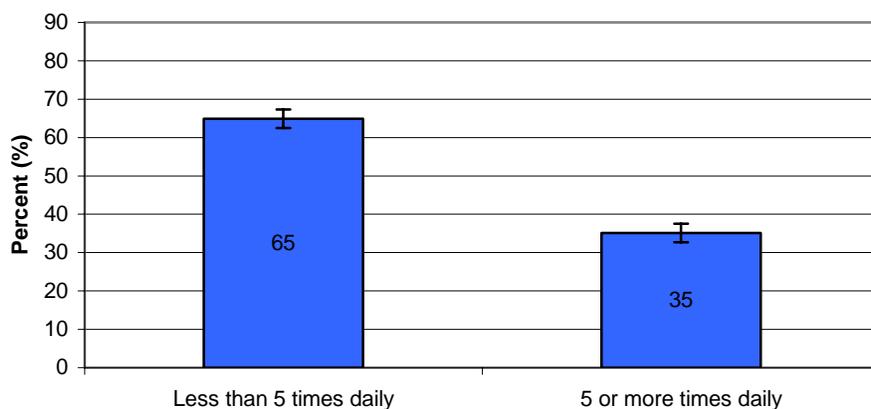
#### Age Group

- In 2011, the proportion of Ontario adults aged 18 and over consuming fruits and vegetables five or more times daily did not vary by age group (see Figure 3).

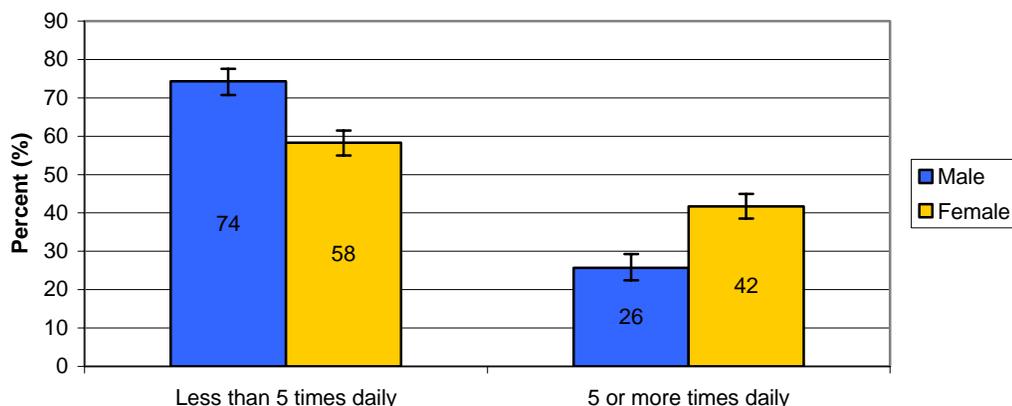
#### Health Unit

- In 2011, there were no significant differences in the proportion of adults consuming fruits and vegetables five or more times daily between the health units and Ontario (see Figure 4 and Table 1).

**Figure 1: Daily Fruit and Vegetable Consumption, Ontario Adults Aged 18 and Over, 2011**



**Figure 2: Daily Fruit and Vegetable Consumption, Ontario Adults Aged 18 and Over, By Sex, 2011**



**E. Limitations**

RRFSS results are self-reported and may not necessarily be recalled accurately. Individuals not living in households (such as those in prison, hospitals, or the homeless) are excluded. Similarly, individuals who live in a household without a landline telephone (about 12% of all Ontario households<sup>3</sup>) will not be reached through RRFSS. Thus the percentages may not represent the true estimates for the general population as respondents may have different characteristics than people who have not been included in the survey.

Household (HH) weights were used for any questions related to individuals. The HH weight adjusts for the fact that adults from larger HH are less likely to be selected than individuals from smaller HH. Provincial results were also weighted to account for the actual distribution of adults among health units in Ontario. Estimates were multiplied by the 2006 population for the health unit to adjust for this difference.

Canada's Food Guide recommendations are measured in terms of servings<sup>4</sup> while the RRFSS survey questions were reported by 'times daily.'

There is the potential for seasonal variation in fruit and vegetable consumption. This is a limitation since not all health units were surveyed over the same time period.

Don't know and refused responses were excluded from the analysis.

Non-rounded estimates and confidence intervals were used when determining significant differences; however, rounded numbers were used for the presentation of data, thus estimates may not total 100 and confidence intervals may appear to overlap.

**F. References**

<sup>1</sup> Cancer Care Ontario (2003). Insight on Cancer. Retrieved May 2012, from <https://www.cancercare.on.ca/common/pages/UserFile.aspx?fileId=33543>

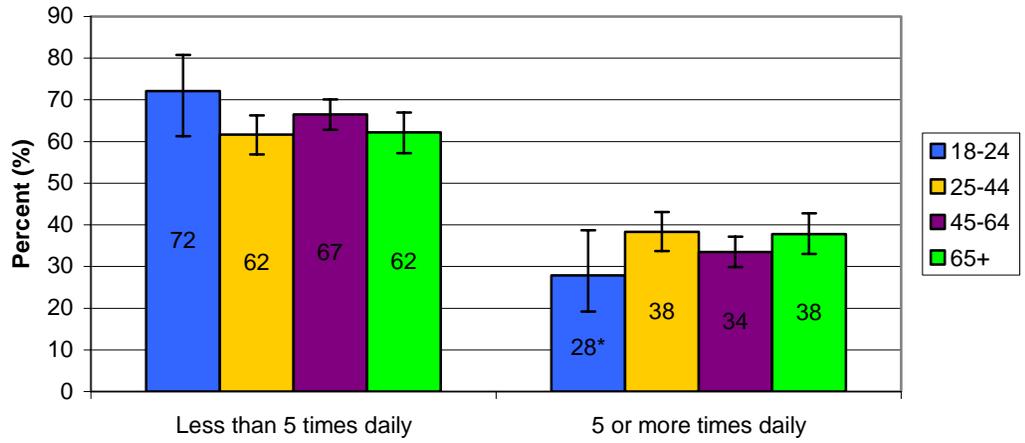
<sup>2</sup> Cancer 2020 Steering Committee (2003). Summary of Cancer 2020 Targets and Measures. Retrieved May 2012, from <https://www.cancercare.on.ca/common/pages/UserFile.aspx?fileId=13490>

<sup>3</sup> Ialomiteanu, A., Adlaf, E. M. (2011). CAMH Monitor 2010: Technical Guide. Retrieved May 2012 from [http://www.camh.ca/en/research/Documents/www.camh.net/Research/Areas\\_of\\_research/Population\\_Life\\_Course\\_Studies/CAMH\\_Monitor/CM2010\\_TechDoc.pdf](http://www.camh.ca/en/research/Documents/www.camh.net/Research/Areas_of_research/Population_Life_Course_Studies/CAMH_Monitor/CM2010_TechDoc.pdf)

<sup>4</sup> Health Canada (2007). Canada's Food Guide. Retrieved May 2012, from <http://www.hc-sc.gc.ca/fn-an/food-guide-aliment/basics-base/serving-portion-eng.php>

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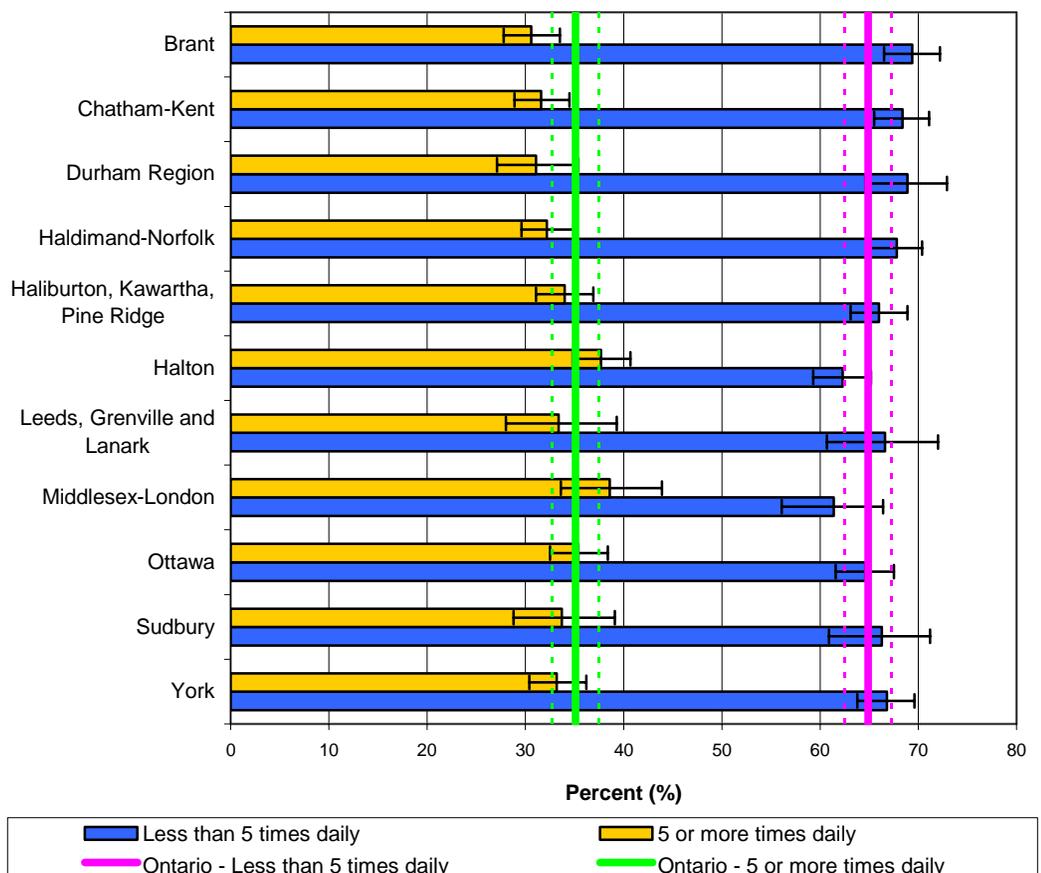
**Figure 3: Daily Fruit and Vegetable Consumption, Ontario Adults Aged 18 and Over, By Age Group, 2011**



**Table 1: Daily Fruit and Vegetable Consumption, Ontario Adults Aged 18 and Over, By Health Unit, 2011**

Health Unit/Province	Less than 5 Times Daily	More than 5 Times Daily
	Percent (95% CI)	Percent (95% CI)
<b>ONTARIO</b>	<b>65 (63-67)</b>	<b>35 (33-38)</b>
Brant	69 (67-72)	31 (28-34)
Chatham-Kent	68 (66-71)	32 (29-35)
Durham Region	69 (65-73)	31 (27-35)
Haldimand-Norfolk	68 (65-70)	32 (30-35)
Haliburton, Kawartha, Pine Ridge	66 (63-69)	34 (31-37)
Halton	62 (59-65)	38 (35-41)
Leeds, Grenville and Lanark	67 (61-72)	33 (28-39)
Middlesex-London	61 (56-66)	39 (34-44)
Ottawa	65 (62-68)	35 (33-38)
Sudbury	66 (61-71)	34 (29-39)
York	67 (64-70)	33 (30-36)

**Figure 4: Daily Fruit and Vegetable Consumption, Ontario Adults Aged 18 and Over, By Health Unit, 2011**



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### C. Data Collection Period

January - December 2011  
(Data was collected for Ontario and for all RRFSS-participating health units during this time period)

Only RRFSS participating health units who agreed to share their data have been included in this report.

### D. Definitions

Current smokers include individuals who have smoked 100 cigarettes in their lifetime and currently smoke everyday or some days. Former smokers include individuals who have smoked 100 cigarettes in their lifetime and currently do not smoke. Never smoked includes individuals who have never smoked at least 100 cigarettes in their lifetime

A 95% confidence interval (CI) refers to the range of values that has a 95% chance of including the ‘true’ estimate. A large CI means that there is a large amount of variability or imprecision. When CI’s do not overlap, estimates are significantly different. CI’s were selected as the measure of significance due to their conservative nature and transparency; there is less chance of incorrectly identifying a significant difference, which is important given the multiple tests of significance. CI’s are reported in brackets or presented as  $\pm$  in the graphs. CI’s for Ontario are also presented in Figure 3 using a dashed line (---).

## Tobacco Use

### PURPOSE OF MODULE

The purpose of this RRFSS module is to assess tobacco use among adults in the population. The government of Ontario created a Smoke-Free Ontario Strategy, ultimately intended to: help smokers quit, protect non-smokers from exposure to second-hand smoke and encourage young people to never start<sup>1</sup>. In addition, Cancer Care Ontario’s 2020 target for the proportion of current adult smokers aged 18 and over is 5%<sup>2</sup>.

### KEY FINDINGS

- In 2011, 16% (95% CI, 14-18) of adults aged 20 and over in Ontario were current smokers, 31% (95% CI, 28-33) were former smokers and 53% (95% CI, 51-56) had never smoked (see Table 1).

### Sex

- In 2011, the proportion of current and former smokers in Ontario was higher in males than in females, however, these differences were not statistically significant (see Figure 1).
- In 2011, the proportion of females who had never smoked in Ontario was significantly higher than the proportion of males who had never smoked (see Figure 1).

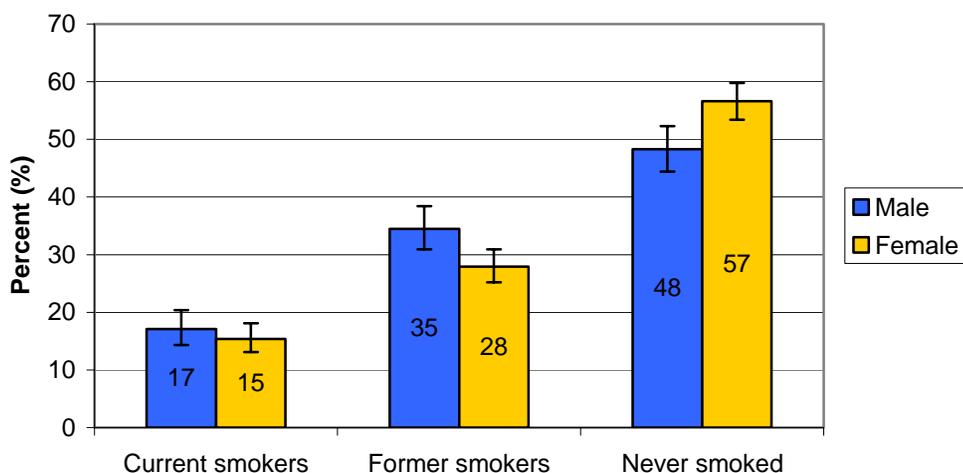
### Age Group

- In 2011, the proportion of current smokers in Ontario was lowest among adults aged 65 and over and highest among adults aged 20-44, however, these differences were not statistically significant (see Figure 2).
- In 2011, the proportion of former smokers in Ontario was lowest among adults aged 20-44 and highest among adults aged 65 and over. The differences were statistically significant between all age groups (see Figure 2).
- In 2011, the proportion of Ontario adults aged 20-44 who had never smoked was significantly higher than the proportion of Ontario adults aged 45 and over who had never smoked (see Figure 2).

### Health Unit

- In 2011, the proportion of adults who were current smokers was significantly higher in Brant, Chatham-Kent, Haldimand-Norfolk and Sudbury than in Ontario (see Table 1 and Figure 3).
- In 2011, the proportion of adults who were former smokers was significantly higher in Haliburton, Kawartha, Pine Ridge and significantly lower in Peel and York than in Ontario (see Table 1).
- In 2011, the proportion of adults who had never smoked was significantly higher in Peel and York and significantly lower in Brant, Haldimand-Norfolk, Haliburton, Kawartha, Pine Ridge and Sudbury than in Ontario (see Table 1).

Figure 1: Tobacco Use, Ontario Adults Aged 20 and Over, By Sex, 2011



**D. Definitions Continued**

Coefficient of variation (CV) refers to the precision of the estimate. When the CV is between 16.6 and 33.3, the estimate should be interpreted with caution because of high variability. Estimates with a CV of 33.3 or greater are not reportable.

**E. Limitations**

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Household (HH) weights were used for any questions related to individuals. The HH weight adjusts for the fact that adults from larger HH are less likely to be selected than individuals from smaller HH. Provincial results were also weighted to account for the actual distribution of adults among health units in Ontario. Estimates were multiplied by the 2006 population for the health unit to adjust for this difference.

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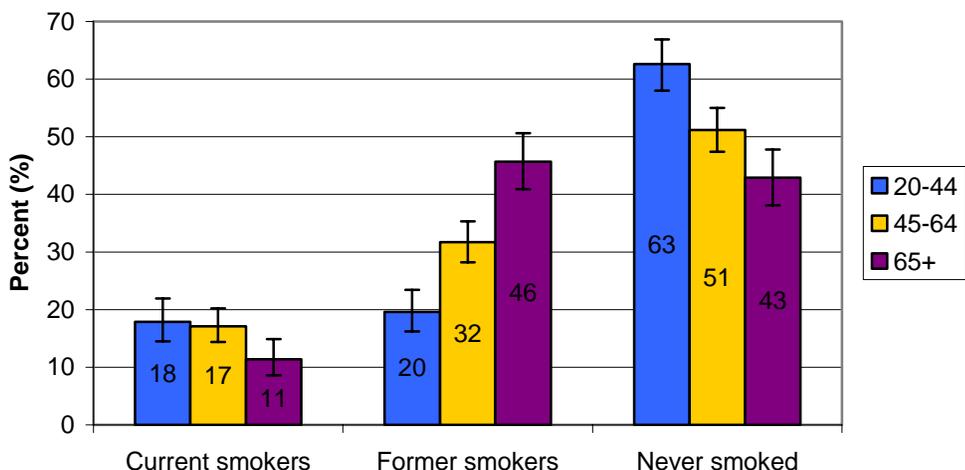
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**F. References**

- 1 Ministry of Health and Long-Term Care (2011). Smoke-Free Ontario Legislation. Retrieved May 2012, from <http://www.mhp.gov.on.ca/en/smoke-free/legislation/default.asp>
- 2 Cancer 2020 Steering Committee (2003). Summary of Cancer 2020 Targets and Measures. Retrieved May 2012, from <https://www.cancercare.on.ca/common/pages/UserFile.aspx?fileId=13490>
- 3 Ialomiteanu, A., Adlaf, E. M. (2011). CAMH Monitor 2010: Technical Guide. Retrieved May 2012 from [http://www.camh.ca/en/research/Documents/www.camh.net/Research/Areas\\_of\\_research/Population\\_Life\\_Course\\_Studies/CAMH\\_Monitor/CM2010\\_TechDoc.pdf](http://www.camh.ca/en/research/Documents/www.camh.net/Research/Areas_of_research/Population_Life_Course_Studies/CAMH_Monitor/CM2010_TechDoc.pdf)

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**Figure 2: Tobacco Use, Ontario Adults Aged 20 and Over, By Age Group, 2011**

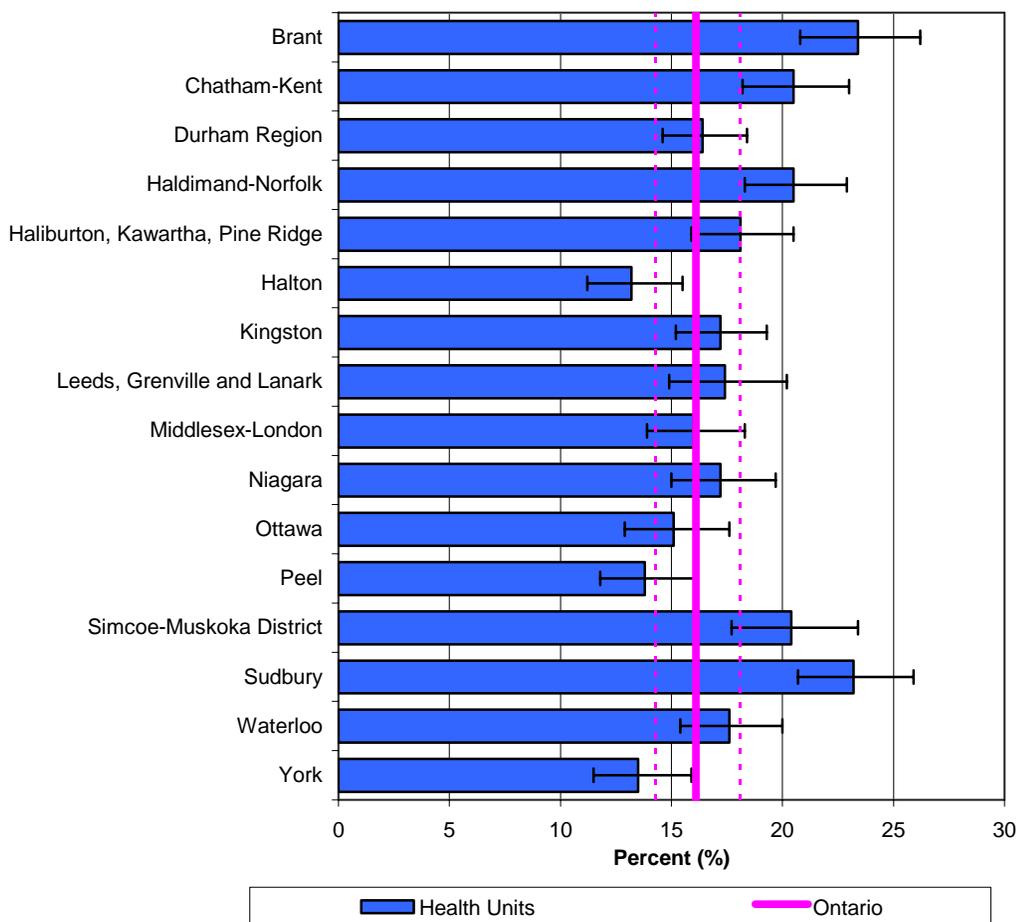


**Table 1: Tobacco Use, Ontario Adults Aged 20 and Over, By Health Unit, 2011**

Health Unit/Province	Current Smokers		Former Smokers		Never Smoked	
	Percent (CI)	↑ ↓	Percent (CI)	↑ ↓	Percent (CI)	↑ ↓
<b>ONTARIO</b>	<b>16 (14-18)</b>	-	<b>31 (28-33)</b>	-	<b>53 (51-56)</b>	-
Brant	23 (21-26)	↑	31 (29-34)		45 (42-48)	↓
Chatham-Kent	21 (18-23)	↑	30 (27-33)		50 (47-53)	
Durham Region	16 (15-18)		29 (27-32)		54 (52-57)	
Haldimand-Norfolk	21 (18-23)	↑	36 (33-38)		44 (41-47)	↓
Haliburton, Kawartha, Pine Ridge	18 (16-21)		37 (34-40)	↑	45 (42-48)	↓
Halton	13 (11-16)		32 (29-35)		55 (52-58)	
Kingston	17 (15-19)		34 (31-37)		49 (46-52)	
Leeds, Grenville and Lanark	17 (15-20)		32 (29-36)		50 (47-54)	
Middlesex-London	16 (14-18)		29 (26-31)		56 (53-59)	
Niagara	17 (15-20)		31 (28-34)		52 (49-55)	
Ottawa	15 (13-18)		33 (30-36)		52 (49-55)	
Peel	14 (12-16)		22 (20-25)	↓	64 (61-67)	↑
Simcoe-Muskoka District	20 (18-23)		31 (28-34)		49 (46-53)	
Sudbury	23 (21-26)	↑	32 (29-35)		45 (42-48)	↓
Waterloo	18 (15-20)		27 (24-30)		56 (53-59)	
York	14 (12-16)		22 (20-25)	↓	64 (61-67)	↑

↓ Health Unit was significantly lower than Ontario      ↑ Health Unit was significantly higher than Ontario

**Figure 3: Current Smokers, Ontario Adults Aged 20 and Over, By Health Unit, 2011**



**A. RRFSS Provincial Sample Pilot Project (PSPP)**

The RRFSS PSPP is intended to provide reliable and representative estimates for 2011 RRFSS indicators for Ontario as a whole, and in so doing:

- Provide a valid comparator for local health unit results for selected indicators;
- Allow for a reduction in RRFSS "core" content; and
- Provide a more flexible, timely system by which to collect provincially-relevant risk factor surveillance data than is currently available.

The provincial sample includes over 1800 interviews, with the number of interviews proportionate to the size of the health units' populations. Within households, the adult with the most recent birthday is selected to participate in the survey.

**B. PSPP Evaluation**

The evaluation of the RRFSS PSPP is supported by Locally-Driven Collaborative Project funding through Public Health Ontario.

The purpose of the PSPP evaluation is to summarize the implementation and results of the RRFSS PSPP, documenting what worked well and why, what the challenges were, what the benefits of the PSPP were and whether or not they were worth the costs.

The information will be used to inform decisions related to future provincial sampling in RRFSS.

**C. Data Collection Period**

January – December 2011  
(Simcoe Muskoka District; Niagara; Peel; Halton; Leeds, Grenville and Lanark)

January – April 2011  
(York)

May – August 2011  
(Middlesex-London)

January – August 2011  
(Haliburton, Kawartha, Pine Ridge)

May – December 2011  
(Ontario; Durham Region)

Only RRFSS participating health units who asked this module and agreed to share their data have been included in this report.

**Water Fluoridation**

**PURPOSE OF MODULE**

The purpose of this RRFSS module is to monitor public opinion about the addition of fluoride to public drinking water when the natural amount is too low to help prevent tooth decay. In 2007, approximately 45% of Canada and 76% of Ontario had fluoridated water<sup>1</sup>.

**KEY FINDINGS**

- In 2011, 56% (95% CI, 53-59) of adults aged 18 and over supported the fluoridation of public drinking water, 23% (95% CI, 20-26) opposed the fluoridation of public drinking water and 21% (95% CI, 18-23) indicated they did not know whether they supported or opposed the fluoridation of public drinking water (see Figure 1).

**Sex**

- In 2011, there was no significant difference between the proportion of Ontario males and females who supported and opposed the fluoridation of public drinking water (see Figure 2).

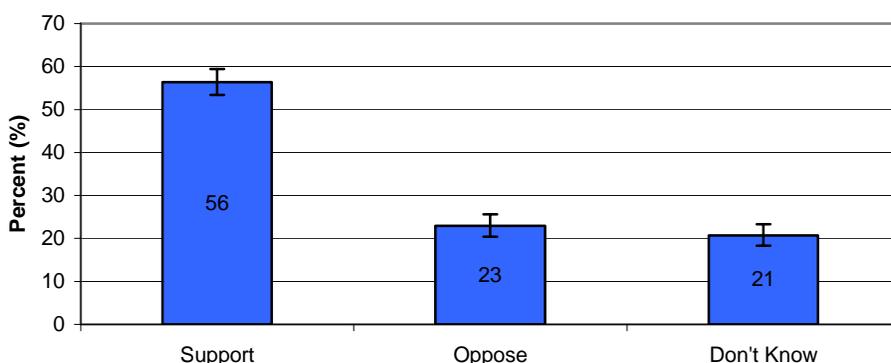
**Age Group**

- In 2011, Ontario adults aged 18-24 were least likely to support the fluoridation of public drinking water. This age group also had the highest proportion of adults indicate that they did not know whether they supported or opposed the fluoridation of public drinking water. These differences, however, were not statistically significant (see Figure 3).

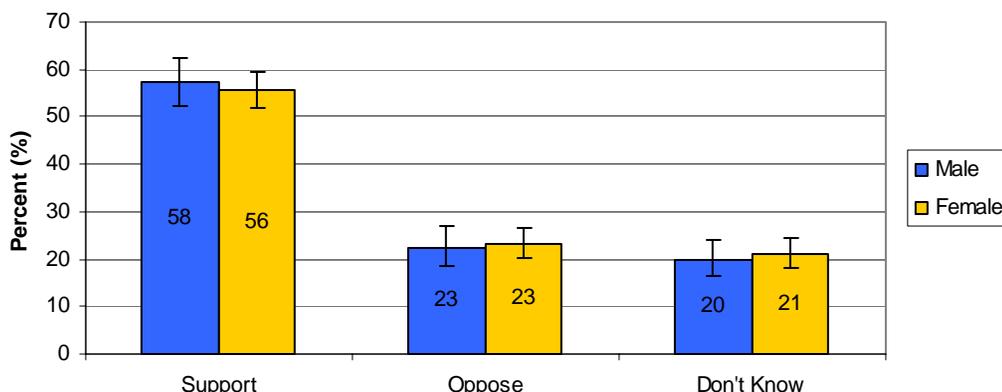
**Health Unit**

- In 2011, the proportion of adults who supported the fluoridation of public drinking water was significantly higher in Durham Region and Halton than in Ontario (see Table 1 and Figure 4).
- In 2011, the proportion of adults who opposed the fluoridation of public drinking water was significantly higher in Leeds, Grenville and Lanark than in Ontario (see Table 1 and Figure 4).
- In 2011, the proportion of adults who did not know whether they supported or opposed the fluoridation of public drinking water was significantly lower in Halton than in Ontario (see Table 1).

**Figure 1: Support and Opposition to the Fluoridation of Public Drinking Water, Ontario Adults Aged 18 and Over, 2011**



**Figure 2: Support and Opposition to the Fluoridation of Public Drinking Water, Ontario Adults Aged 18 and Over, By Sex, 2011**



**D. Definitions**

A 95% confidence interval (CI) refers to the range of values that has a 95% chance of including the 'true' estimate. A large CI means that there is a large amount of variability or imprecision. When CI's do not overlap, estimates are significantly different. CI's were selected as the measure of significance due to their conservative nature and transparency; there is less chance of incorrectly identifying a significant difference, which is important given the multiple tests of significance. CI's are reported in brackets or presented as  $\pm$  in the graphs. CI's for Ontario are also presented in Figure 4 using a dashed line (---).

Coefficient of variation (CV) refers to the precision of the estimate. When the CV is between 16.6 and 33.3, the estimate should be interpreted with caution because of high variability and has been marked with an asterisk (\*). Estimates with a CV of 33.3 or greater are not reportable.

**E. Limitations**

RRFSS results are self-reported and may not necessarily be recalled accurately. Individuals not living in households (such as those in prison, hospitals, or the homeless) are excluded. Similarly, individuals who live in a household without a landline telephone (about 12% of all Ontario households<sup>2</sup>) will not be reached through RRFSS. Thus the percentages may not represent the true estimates for the general population as respondents may have different characteristics than people who have not been included in the survey.

Household (HH) weights were used for any questions related to individuals. The HH weight adjusts for the fact that adults from larger HH are less likely to be selected than individuals from smaller HH. Provincial results were also weighted to account for the actual distribution of adults among health units in Ontario. Estimates were multiplied by the 2006 population for the health unit to adjust for this difference.

Don't know and refused responses were excluded from the analysis.

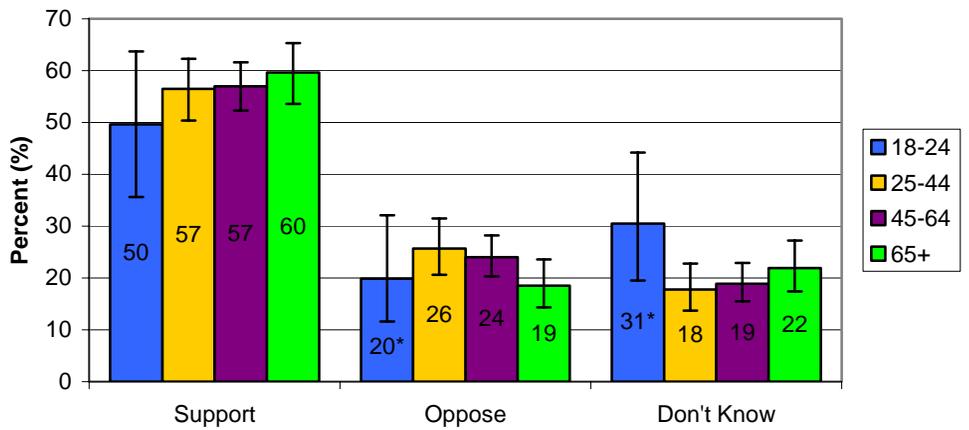
Non-rounded estimates and confidence intervals were used when determining significant differences; however, rounded numbers were used for the presentation of data, thus estimates may not total 100 and confidence intervals may appear to overlap.

**F. References**

- Rabb-Waytowich, D. (2009). Water Fluoridation in Canada: Past and Present. *Professional Issues*, 75(6). Retrieved May 2012, from <http://www.cda-adc.ca/jcda/vol-75/issue-6/451.pdf>
- Ialomiteanu, A., Adlaf, E. M. (2011). CAMH Monitor 2010: Technical Guide. Retrieved May 2012 from [http://www.camh.ca/en/research/Documents/www.camh.net/Research/Areas\\_of\\_research/Population\\_Life\\_Course\\_Studies/CAMH\\_Monitor/CM2010\\_TechDoc.pdf](http://www.camh.ca/en/research/Documents/www.camh.net/Research/Areas_of_research/Population_Life_Course_Studies/CAMH_Monitor/CM2010_TechDoc.pdf)

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**Figure 3: Support and Opposition to the Fluoridation of Public Drinking Water, Ontario Adults Aged 18 and Over, By Age Group, 2011**



**Table 1: Support and Opposition to the Fluoridation of Public Drinking Water, Ontario Adults Aged 18 and Over, By Health Unit, 2011**

Health Unit/Province	Support		Oppose		Don't Know	
	Percent (CI)	↑ ↓	Percent (CI)	↑ ↓	Percent (CI)	↑ ↓
<b>ONTARIO</b>	<b>56 (53-59)</b>	-	<b>23 (20-26)</b>	-	<b>21 (18-23)</b>	-
Durham Region	65 (62-68)	↑	19 (17-22)		16 (14-19)	
Haliburton, Kawartha, Pine Ridge	57 (54-61)		24 (21-27)		19 (16-22)	
Halton	66 (64-69)	↑	19 (17-21)		15 (13-17)	↓
Leeds, Grenville and Lanark	52 (48-55)		30 (27-33)	↑	19 (16-22)	
Middlesex-London	62 (57-67)		20 (16-24)		18 (15-23)	
Niagara	57 (54-60)		24 (21-26)		19 (17-22)	
Peel	55 (52-58)		21 (19-24)		24 (22-27)	
Simcoe Muskoka District	56 (52-59)		25 (22-28)		19 (16-22)	
York	61 (56-66)		21 (17-25)		18 (14-23)	

**Figure 4: Support and Opposition to the Fluoridation of Public Drinking Water, Ontario Adults Aged 18 and Over, By Health Unit, 2011**

