

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).

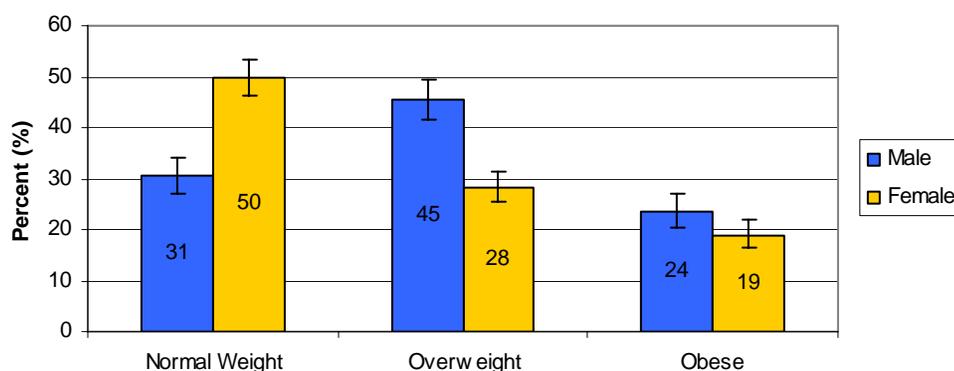
Health Units

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

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.¹

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 households²) 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

¹ 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

² 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

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

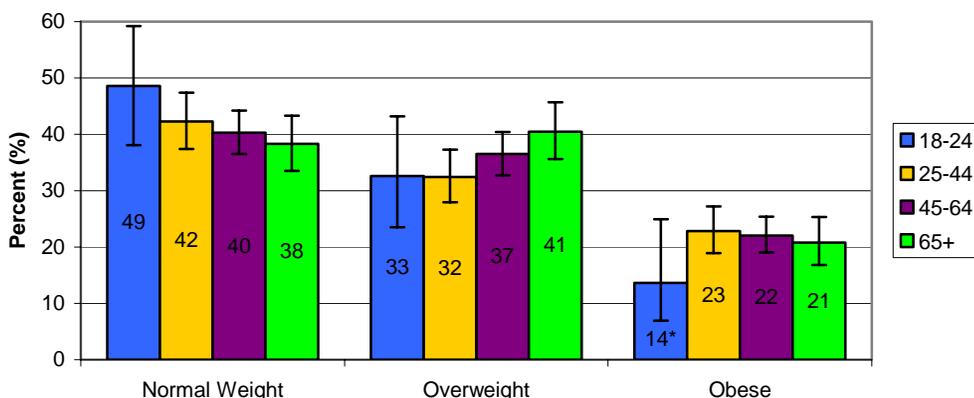


Table 3: Body Mass Index, Ontario Adults Aged 18 and Over, By Health Unit, 2011

Health Unit/Province	Underweight*		Normal Weight		Overweight		Obese	
	Percent (95% CI)	↑↓	Percent (95% CI)	↑↓	Percent (95% CI)	↑↓	Percent (95% CI)	↑↓
ONTARIO	2 (1-3)	-	41 (39-44)	-	36 (33-38)	-	21 (19-23)	-
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

