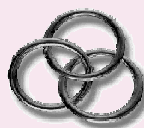


# Healthy Weights:

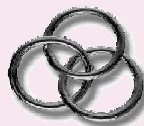
## Results for Sudbury and Districts from the Canadian Community Health Survey

December 2004

Public Health Research, Education and Development (PHRED) Program  
Sudbury & District Health Unit



**PHRED**  
Public Health Research, Education  
& Development Program



**REDSP**  
Programme de recherche,  
d'éducation et de développement  
en santé publique



Sudbury & District

**Health Unit**

Service de  
santé publique

**Prepared by:**

Darshaka Malaviarachchi, Epidemiologist  
Leah Chytil, Research Assistant

**Contributors:**

Alissa Palangio, Data Analyst  
Andre Cotterall, Research Assistant

**Acknowledgements:**

Thank you to Susan Snelling for sharing her knowledge and taking the time to review the report.

A special thank you to Megan Doniec and Carole Ouellette for their assistance in formatting the report.

**For further information contact:**

Darshaka Malaviarachchi, Epidemiologist  
Public Health Research, Education and Development (PHRED) Program  
Resources, Research, Evaluation, and Development (RRED) Division  
Sudbury & District Health Unit  
1300 Paris Street  
Sudbury, ON P3E 3A3  
(705) 522-9200, ext. 256  
E-mail: [malaviarachchid@sdhu.com](mailto:malaviarachchid@sdhu.com)

*Reproduction, in part, or in whole of this document should acknowledge the Public Health Research, Education and Development (PHRED) Program, Sudbury & District Health Unit as the source.*

## TABLE OF CONTENTS

Executive Summary .....	i
1.0 Introduction .....	1
2.0 Background of the Canadian Community Health Survey .....	1
3.0 Methods .....	2
4.0 Results .....	2
4.1 Body mass index (BMI) .....	2
4.1.1 Weight Categories for Ontario and Sudbury .....	2
4.1.2 Weight Categories for Ontario and Sudbury by Gender .....	3
4.1.3 Weight Categories for Ontario and Sudbury by Age Group .....	4
4.1.4 Weight Categories for Ontario and Sudbury by Income and by Education .....	5
4.1.5 Weight Categories for Ontario and Sudbury, by Self-Rated Health .....	5
4.2 Physical Activity .....	7
4.2.1 Activity Levels for Ontario and Sudbury .....	7
4.2.2 Activity Levels for Ontario and Sudbury by Gender, Education and Age Group ..	8
4.3 Nutrition .....	9
4.3.1 Fruit and Vegetable Consumption for Ontario and Sudbury and by Gender .....	9
4.3.2 Fruit and Vegetable Consumption for Ontario and Sudbury by Age Group .....	10
4.3.3 Fruit and Vegetable Consumption for Ontario and Sudbury by Income Category .....	11
5.0 Conclusion .....	12
6.0 Appendix A .....	13

## TABLE OF FIGURES

Figure 1:	Weight Categories for Ontario and Sudbury, Ages 20-64, 2000/01 .....	3
Figure 2:	Weight Categories for Sudbury, by Gender, Ages 20-64, 2000/01 .....	4
Figure 3:	Weight Categories for Sudbury, by Age Group, Ages 20-64, 2000/01 .....	4
Figure 4:	Overweight Category for Ontario and Sudbury by Income Category, 2000/01 .....	5
Figure 5:	Acceptable Weight Category by Self-Rated Health for Ontario and Sudbury, 2000/016	
Figure 6:	Overweight Category by Self-Rated Health for Ontario and Sudbury, 2000/01.....	6
Figure 7:	Activity Levels for Ontario and Sudbury, Ages 12 and Over, 2000/01 .....	7
Figure 8:	Activity Levels for Sudbury, 1996/97 compared to 2000/01, Ages 12 and Over.....	8
Figure 9:	Inactive Category by Education Level for Ontario and Sudbury, 2000/01 .....	9
Figure 10:	Fruit and Vegetable Consumption Per Day for Ontario and Sudbury, 2000/01 .....	10
Figure 11:	Fruit and Vegetable Consumption Per Day for Sudbury, by Gender, 2000/01 .....	10
Figure 12:	Fruit and Vegetable Consumption Per Day Category for Sudbury by Age Group, Ages 20-64, 2000/01 .....	11
Figure 13:	Fruit and Vegetable Consumption, 5-10 servings per day for Ontario and Sudbury, by Income Category, 2000/01.....	11
Table 1:	Weight Categories for Ontario and Sudbury, Ages 20-64, 2000/01 .....	13
Table 2:	Weight Categories for Ontario, Ages 20-64, 1996/97 and 2000/01 .....	13
Table 3:	Weight Categories for Ontario and Sudbury, by Gender, Ages 20-64, 2000/01 .....	14
Table 4:	Weight Categories for Sudbury, by Age Group, Ages 20-64, 2000/01.....	14
Table 5:	Overweight Category for Ontario and Sudbury, by Age Group, Ages 20-64, 2000/0115	
Table 6:	Acceptable and Overweight Categories for Ontario and Sudbury, by Education Level, Ages 20-64, 2000/01 .....	15
Table 7:	Acceptable and Overweight Categories for Ontario and Sudbury, by Income Category, Ages 20-64, 2000/01 .....	16
Table 8:	Self-Rated Health for Ontario and Sudbury, Ages 20-64, 2000/01 .....	16
Table 9:	Weight Categories for Sudbury, by Excellent, Good and Poor Self-Rated Health, Ages 20-64, 2000/01 .....	17
Table 10:	Activity Level Categories for Ontario and Sudbury, Ages 12 and Over, 2000/01....	17

<b>Table 11:</b>	<b>Activity Level Categories for Ontario and Sudbury, Ages 12 and Over, 1996/97 and 2000/01</b>	<b>18</b>
<b>Table 12:</b>	<b>Activity Level Categories for Sudbury, by Gender, Ages 12 and Over, 2000/01</b>	<b>18</b>
<b>Table 13:</b>	<b>Activity Level Categories for Sudbury, by Age Group, Ages 20-64, 2000/01</b>	<b>19</b>
<b>Table 14:</b>	<b>Inactive Category for Ontario and Sudbury, by Education Level, Ages 12 and Over, 2000/01</b>	<b>19</b>
<b>Table 15:</b>	<b>Fruit and Vegetable Consumption, for Ontario and Sudbury, Ages 20-64, 2000/01</b>	<b>20</b>
<b>Table 16:</b>	<b>Fruit and Vegetable Consumption, for Sudbury, by Gender, Ages 20-64, 2000-2001</b>	<b>20</b>
<b>Table 17:</b>	<b>Fruit and Vegetable Consumption, for Sudbury, by Age Group, Ages 20-64, 2000/01</b>	<b>21</b>
<b>Table 18:</b>	<b>Fruit and Vegetable Consumption, for Ontario and Sudbury, by Income Category, Ages 20-64, 2000/01</b>	<b>21</b>



# **HEALTHY WEIGHTS**

## **RESULTS FOR SUDBURY and DISTRICTS FROM THE CANADIAN COMMUNITY HEALTH SURVEY**

---

### ***Executive Summary***

This report focuses on important measures of healthy living in the Sudbury & District Health Unit area (SDHU). It is based on information collected through the 2000/01 Canadian Community Health Survey (CCHS). The results were compiled into this focused report for the purpose of assisting community service providers in health promotion and protection with the development of policies and prevention programs relating to the rising incidence of obesity and unhealthy weights.

The Sudbury & District Health Unit (SDHU) area was compared to Ontario throughout this report, to determine differences and similarities between Ontario and the SDHU area, referred to as Sudbury in this report. Listed below are key findings for the SDHU area, categorized by Body Mass Index (BMI), Physical Activity, and Nutrition.

### **Key Findings on Healthy Weights**

#### **Body Mass Index**

- Obesity significantly increased in Ontario from 1996/97 to 2000/01.
- The proportion of “acceptable weight” residents in Sudbury was significantly lower than Ontario in 2000/01.
- In 2000/01, 18% of the Sudbury population was considered obese.
- In 2000/01, 39% of the population in Sudbury was overweight, compared to 33% in Ontario.
- There was a higher percentage of males in both Ontario and Sudbury who were overweight compared to females.

#### **Physical Activity**

- There was a trend that physical activity levels amongst residents in Sudbury have slightly increased from 21% in 1996/97 to 26% in 2000/01.
- In Sudbury, physical activity rates were significantly higher than Ontario.
- In Sudbury, females were significantly less active than males, and there was a trend that physical activity decreases with age.

## **Nutrition**

- The proportion of the population that consumed the recommended servings of 5-10 fruits and vegetables per day was significantly lower for Sudbury compared to Ontario. Thirty five percent of the Ontario population consumed 5-10 servings of fruits and vegetables per day, compared to only 28% of the Sudbury population.
- Males in Sudbury were significantly less likely than females to consume the recommended servings of 5-10 fruits and vegetables per day.
- Almost three quarters of Sudbury residents with less than a high school education consumed less than 5 servings of fruits and vegetables per day.
- In Sudbury, a significantly lower percentage of low-income group residents consumed the recommended servings of 5-10 fruits and vegetables per day compared to those in mid-to-high income groups.

## **Conclusion**

This report illustrates the need for healthy weights, nutrition and physical activity initiatives that address gender differences. Increased emphasis should be placed on programs such as: Healthy Measures, Nutrition Expedition, and Take 5: 5-10 a Day, and various related media campaigns.

# **HEALTHY WEIGHTS**

## **RESULTS FOR SUDBURY and DISTRICTS FROM THE CANADIAN COMMUNITY HEALTH SURVEY**

---

### **1.0 Introduction**

Obesity is a rising concern in Canada affecting citizens' health and quality of life. The proportion of Canadian adults that are overweight and obese has increased over time, contributing to a rise in weight-related health risks. The increased health risk problems of being overweight or obese include type 2 diabetes, hypertension, coronary heart disease, gall bladder disease, sleep apnea and specific cancers<sup>1</sup>.

This report focuses on important measures of healthy living in the Sudbury & District Health Unit area (SDHU). It is based on information collected through the 2000/01 Canadian Community Health Survey (CCHS). The results were compiled into this focused report for the purpose of assisting community service providers in health promotion and protection with the development of policies and prevention programs relating to the rising incidence of obesity and unhealthy weights.

### **2.0 Background of the Canadian Community Health Survey**

The Canadian Community Health Survey (CCHS) was developed by Statistics Canada with the goal to provide data about Canadians' health status, risk factors, and use of health care services. The survey is conducted at a national level involving 136 health regions from across the country. The survey provides consistent and timely cross-sectional estimates of health determinants, health status and health system utilization by health regions. This report is based on data from the CCHS Cycle 1.1, collected in 2000/01.

The CCHS is comprised of a total provincial sample size of 37,681 for Ontario, of which 961 were Sudbury and area residents. The method of data collection for the CCHS cycles is computer assisted personal and telephone interviews. The CCHS target population includes household residents in all provinces and territories, with the principal exclusion of individuals on Indian Reserves, Canadian Forces Bases, some remote areas, those living in institutions or collective dwellings, homeless persons and those without access to a telephone. The sample consists of a random selection of one respondent per household, however, an over-sampling of youths may result in a second member of certain households being interviewed. The CCHS Cycle 1.1 data collection eligibility only included those 12 years of age and over.<sup>2</sup>

---

<sup>1</sup> Health Canada, *Canadian Guidelines for Body Weight Classification in Adults*, (Ottawa: Health Canada Publications Centre, 2003)

<sup>2</sup> Statistics Canada, "Canadian Community Health Survey (CCHS): Cycle 1.1: Extending the Wealth of Health in Canada," [document on-line]; available from <http://www.statcan.ca/english/concepts/health/cchsinfo.htm>; accessed June 2004.

### **3.0 Methods**

Information for this report was gathered through the use of several tools, including Statistics Canada's CANSIM tables, Northern Health Information Partnership's (NHIP's) Interactive Survey Tool, and the CCHS (2000/01) and OHS (1996/97) data sets analyzed using SPSS Version 11.5 statistical software package. A technique called bootstrapping<sup>3</sup> was also used in conducting the analysis. Unweighted estimates were calculated for each response to the survey questions, and the cell sizes were reviewed to ensure accurate inferences about the data. The data were then analyzed using weighted estimates for sample sizes of over 10. The under 10 samples were still included in the analysis, but were suppressed from the results section. The coefficient of variation (CV) was then determined, and results were released under Statistics Canada guidelines.<sup>4</sup>

Sudbury data were compared to Ontario in this report to detect potential differences. Data for Ontario include Sudbury in the denominator. Analyses of demographic variables were also used to examine differences and trends among subgroups. Variables included gender, age group, income category, and education level.

### **4.0 Results**

This report on Healthy Weights is a combination of analyses from the CCHS Cycle 1.1 and 1996/97 OHS data. The three main indicators reported on are BMI, Physical Activity and Nutrition. Differences in estimates that were not statistically significant are reported as trends.

#### **4.1 Body mass index (BMI)**

The calculation for BMI is weight in kilograms divided by height in metres squared. It is calculated for those aged 20 to 64, excluding pregnant women ages 15-49, and persons less than 3 feet tall or greater than 6 feet 11 inches. The International standard for BMI has been used for analysis of the results. The International standard for BMI is as follows: under 18.5 (underweight), 18.5-24.9 (acceptable weight), 25.0-29.9 (overweight) and 30.0 or higher (obese).

##### **4.11 Weight Categories for Ontario and Sudbury**

- Obesity rates increased in Ontario from 12% in 1996/97 to 15% in 2000/01, a statistically significant difference. (Appendix A, Table 2)
- In 2000/01, 38% of the population in Sudbury had acceptable weights, 39% were overweight and 18% were considered obese with a BMI of over 30. (Figure 1 and Appendix A, Table 1)

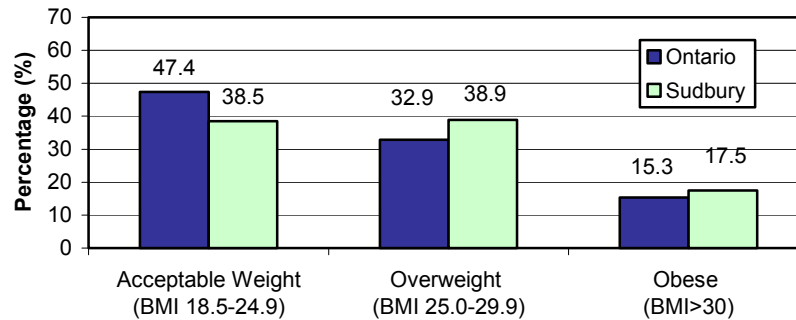
---

<sup>3</sup> Bootstrapping is a general re-sampling technique for assessing uncertainty in estimation procedures in which a computer simulation through repeated re-sampling from the original data set replaces mathematical analysis. Statistics Canada, *Estimation of the Variance Using Bootstrap Weights User's Guide for the BOOTVARE\_20.SPS Program*, Version 2.0 (Software and Manual: 2002)

<sup>4</sup> Acceptable (CV 0.0%-16.5%) - Estimates can be considered for general unrestricted release. Marginal (CV 16.6%-33.3%) - Estimates can be considered for general unrestricted release but should be accompanied by a warning cautioning of high sampling variability. Unacceptable (CV greater than 33.3%) - Statistics Canada highly recommends not releasing estimates of unacceptable quality. Statistics Canada, "Canadian Community Health Survey (CCHS) Cycle 1.1 (2000-2001), Public Use Microdata File Documentation

- The proportion of residents with acceptable weight in 2000/01 was significantly lower for Sudbury (38% compared to Ontario 47%). (Figure 1 and Appendix A, Table 1)
- Thirty-three percent of the Ontario population was considered overweight in 2000/01 compared to 39% in Sudbury, which is a statistically significant difference. (Figure 1 and Appendix A, Table 1)

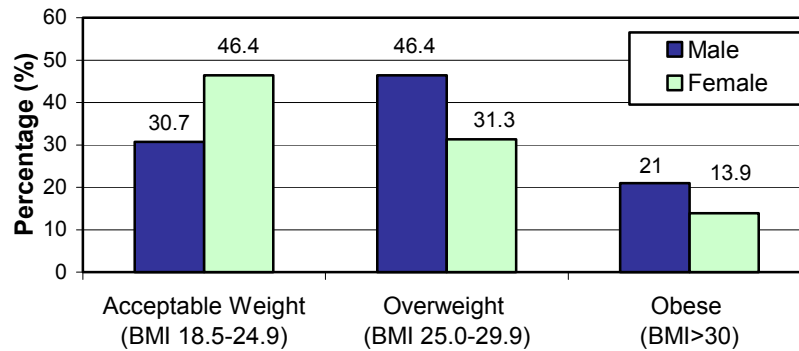
**Figure 1: Weight Categories for Ontario and Sudbury, Ages 20-64, 2000/01**



#### **4.1.2 Weight Categories for Ontario and Sudbury by Gender**

- There was a significantly higher proportion of males in Ontario that were overweight (40%) compared to females (26%). (Appendix A, Table 3)
- There was a significantly higher proportion of males who were overweight (46%) compared to females (31%) in Sudbury. (Figure 2 and Appendix A, Table 3)
- There was a statistically significant difference between the proportion of males and females with acceptable weight in Ontario. Fifty-three percent of females in Ontario compared to 42% of males had acceptable weights. In Sudbury, 46% of females had acceptable weights compared to 31% of the males. (Appendix A, Table 3)
- There was a trend that the percentage of obese males in Sudbury (21%) was higher than Ontario (17%). (Figure 2 and Appendix A, Table 3)
- There was a trend that a lower percentage of females in Sudbury (46%) had acceptable weights by comparison to Ontario (53%). (Figure 2 and Appendix A, Table 3)

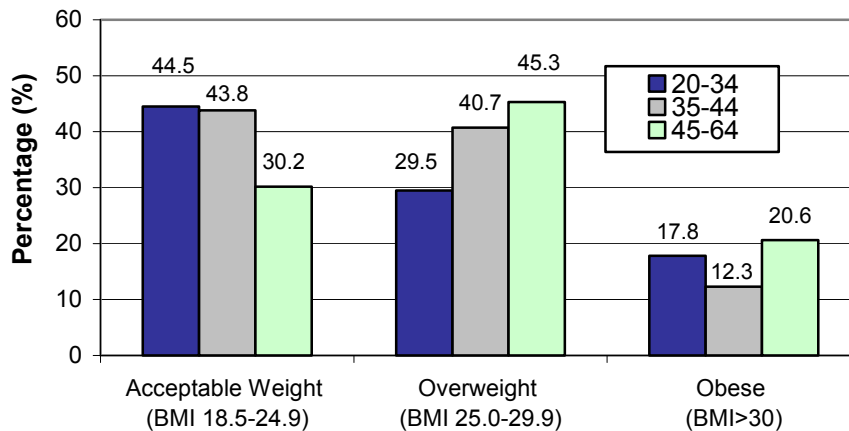
**Figure 2: Weight Categories for Sudbury, by Gender, Ages 20-64, 2000/01**



**4.1.3 Weight Categories for Ontario and Sudbury by Age Group**

- There was a trend in Sudbury that the proportion of overweight residents slightly increased by age group. (Figure 3 and Appendix A, Table 4)
- A significantly lower percentage of the population aged 45-64 in Sudbury had acceptable weights than did those among younger age groups. (Figure 3 and Appendix A, Table 4)

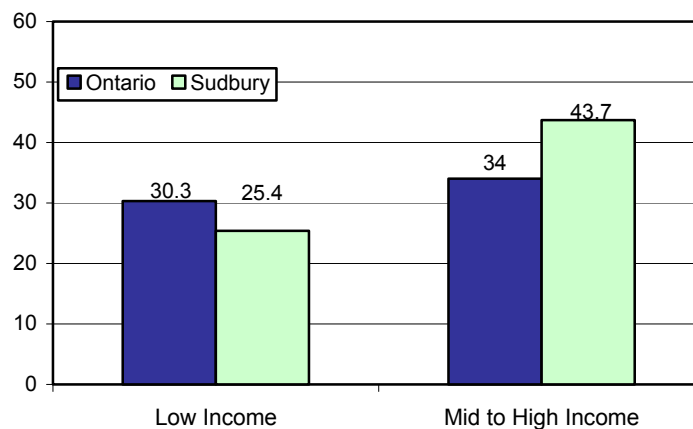
**Figure 3: Weight Categories for Sudbury, by Age Group, Ages 20-64, 2000/01**



#### 4.1.4 Weight Categories for Ontario and Sudbury by Income and by Education

- There was a statistically significant difference between the percentages of overweight residents in the mid to high-income group in Sudbury compared to Ontario in 2000/01. Forty-four percent of the middle to high-income group population in Sudbury was considered overweight, whereas only 34% of this income group in Ontario were overweight. (Figure 4 and Appendix A, Table 7)
- Forty-two percent of the population in Sudbury who had completed a post-secondary education were overweight, compared to only 34% in Ontario, and this difference is statistically significant. (Appendix A, Table 6)
- In Ontario there was a significantly higher percentage of residents with post-secondary education with acceptable weight (50%), compared to those with less than high school education (39%). (Appendix A, Table 6)

Figure 4: Overweight Category for Ontario and Sudbury by Income Category, 2000/01



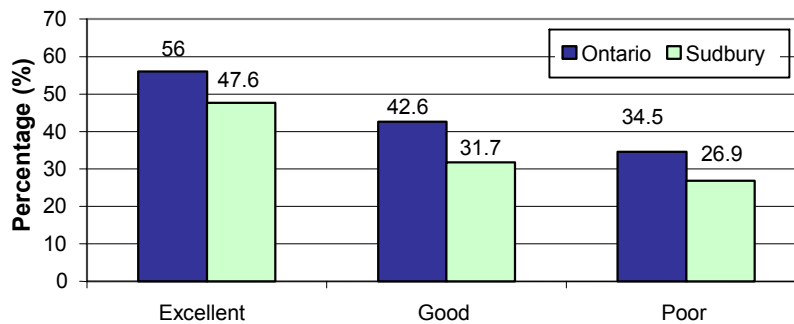
#### 4.1.5 Weight Categories for Ontario and Sudbury, by Self-Rated Health

- Sixty percent of the population in Sudbury rated their health<sup>5</sup> to be either excellent or very good. (Appendix A, Table 8)
- Seventeen percent of the Sudbury population rated their health as fair/poor, which was significantly higher than Ontario (12%). (Appendix A, Table 8)

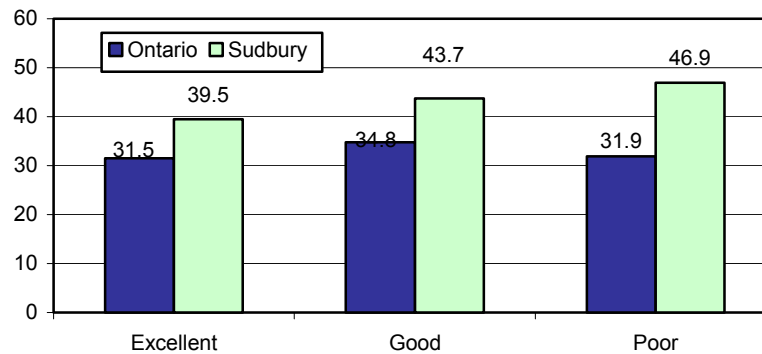
<sup>5</sup> “Non-proxy” data was used for this question of self-rated health, meaning that where data were missing they recorded alternative respondents’ information. The respondents usually have similar characteristics, and in this case the “nearest neighbours” answers were recorded.

- Although not statistically significant, 44% of the overweight population in Sudbury rated their health to be good, compared to 35% in Ontario. (Appendix A, Table 9)
- Although not statistically significant, 48% of the population in Sudbury and 56% in Ontario with acceptable weight rated their health as excellent. By contrast, 40% of the population who are overweight in Sudbury and 32% in Ontario rated their health as excellent. (Figure 5 and Figure 6 and Appendix A, Table 9)
- Although the above differences are not statistically significant, there does appear to be a trend that as weight increases self-rated health decreases. (Figure 5 and Figure 6 and Appendix A, Table 9)

**Figure 5: Acceptable Weight Category by Self-Rated Health for Ontario and Sudbury, 2000/01**



**Figure 6: Overweight Category by Self-Rated Health for Ontario and Sudbury, 2000/01**



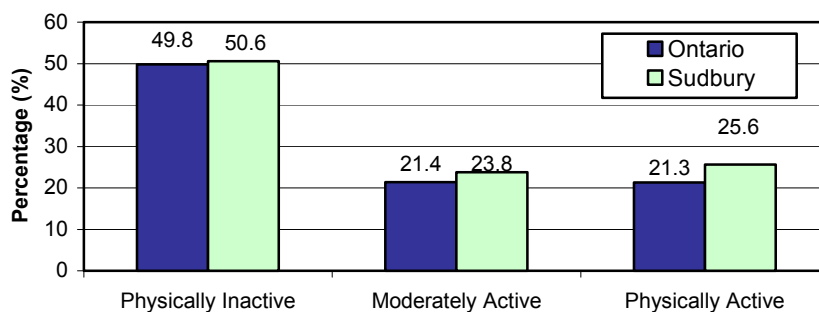
## 4.2 Physical Activity

Analysis and interpretation of physical activity rates can assist with implementation of healthy living and healthy weight programs and services. The CCHS Cycle 1.1 included a physical activity index to determine residents' levels of physical activity. The physical activity index categories are Active, Moderately Active and Inactive.<sup>6</sup> These categories are derived from responses about frequency, duration and intensity of the respondents' participation in leisure-time physical activity.

### 4.2.1 Activity Levels for Ontario and Sudbury

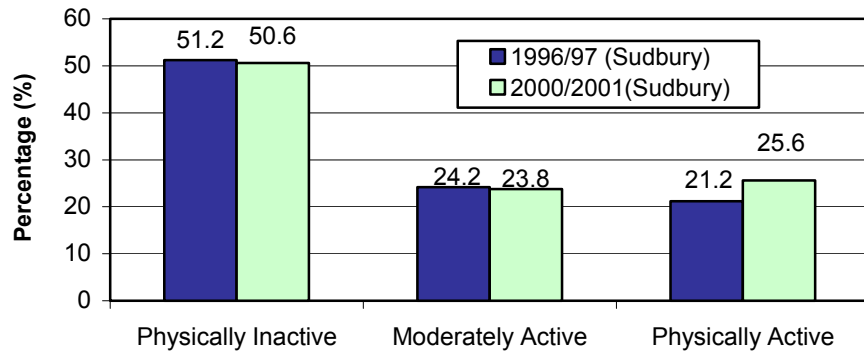
- The percentage of Sudbury residents who were physically active was significantly higher statistically than Ontario. Twenty-six percent of Sudbury residents were considered physically active compared to only 21% in Ontario. (Figure 7 and Appendix A, Table 10)
- The percentage of inactive residents was very similar for Ontario and Sudbury. Fifty percent of the Ontario population was inactive compared to 51% in Sudbury. (Figure 7 and Appendix A, Table 10)
- In comparing physical activity from 1996/97 to 2000/01 data, there appears to be a trend that activity levels are increasing in both Ontario and Sudbury. Twenty-one percent of Sudbury residents in 1996/97 were physically active compared to 26% in 2000/01. In Ontario in 1996/97, 20% of the population was physically active compared to 21% in 2000/01. (Figure 8 and Appendix A, Table 11)

**Figure 7: Activity Levels for Ontario and Sudbury, Ages 12 and Over, 2000/01**



<sup>6</sup> The categories are defined as "Active": an energy expenditure value of 3.0 kcal/kg/day or higher, "Moderately Active": an energy expenditure value of 1.5-2.9 kcal/kg/day, and "Inactive": an energy expenditure value of 1.5 kcal/kg/day

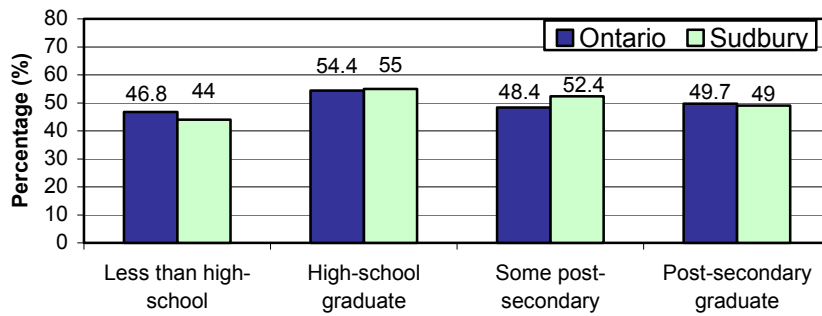
**Figure 8: Activity Levels for Sudbury, 1996/97 compared to 2000/01, Ages 12 and Over**



#### **4.2.2 Activity Levels for Ontario and Sudbury by Gender, Education and Age Group**

- There was a significantly higher percentage of males who were physically active compared to females in Sudbury. Thirty percent of males were considered physically active compared to only 19% of females. (Appendix A, Table 12)
- A higher percentage of males in Sudbury (30%) were physically active compared to Ontario males (24%). (Appendix A, Table 12)
- There was no statistically significant relationship between education levels and activity levels in both Ontario and Sudbury. There was a trend that a higher percentage of residents with a secondary education or more were physically inactive, compared to those with less than high-school education. (Figure 9 and Appendix A, Table 14)
- Forty-four percent of residents in Sudbury with less than a high-school education and 49% with a post-secondary education were physically inactive. (Figure 9 and Appendix A, Table 14)
- There was a trend in Ontario and Sudbury that as age increased, physical activity levels decreased. In Sudbury, 26% of residents aged 20-34 were physically active, while only 18% of residents aged 45-64 were physically active. (Appendix A, Table 13)

**Figure 9: Inactive Category by Education Level for Ontario and Sudbury, 2000/01**



### 4.3 Nutrition

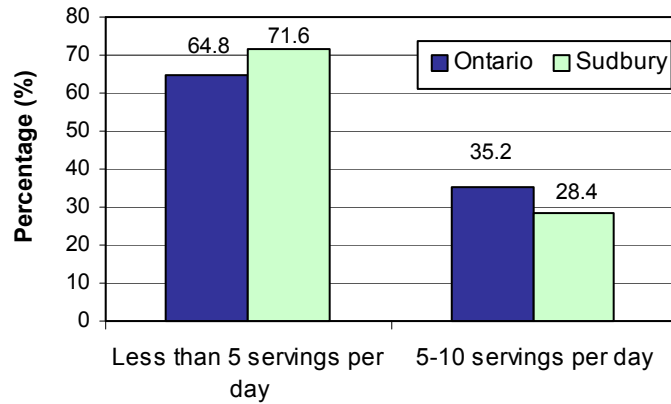
Nutrition is a large part of healthy living and maintaining a healthy weight. Canada's Food Guide to Healthy Eating recommends 5-10 servings of fruits and vegetables per day, and the CCHS explores to what extent Canadians in different health regions follow these recommendations.

The CCHS first introduced the "dietary practices" variable in the 2000/01 surveys. Therefore, data prior to 2000 is not available, as it had not been created for the previous Ontario Health Survey (OHS) in 1996/97. Dietary practice is defined by the average number of times per day that residents consume fruits and vegetables.

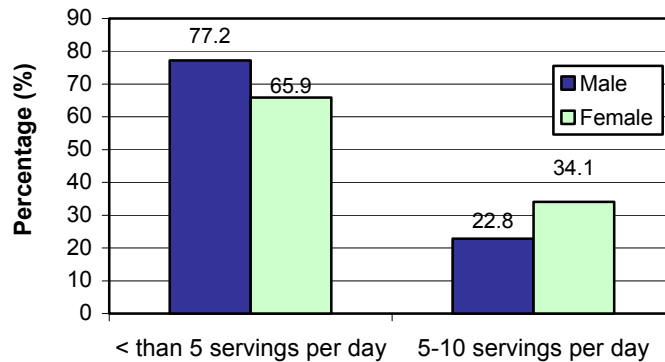
#### 4.3.1 Fruit and Vegetable Consumption for Ontario and Sudbury and by Gender

- Compared to Ontario there was a lower percentage of the Sudbury population that consumed the recommended servings of 5-10 fruits and vegetables per day, and this difference is statistically significant. Thirty-five percent of the Ontario population consumed 5-10 servings of fruits and vegetables per day, compared to only 28% of the Sudbury population. (Figure 10 and Appendix A, Table 15)
- A lower percentage of males (23%) consumed the recommended 5-10 servings of fruits and vegetables per day compared to females in Sudbury (34%), and this difference was statistically significant. (Figure 11 and Appendix A, Table 16)

**Figure 10: Fruit and Vegetable Consumption Per Day for Ontario and Sudbury, 2000/01**



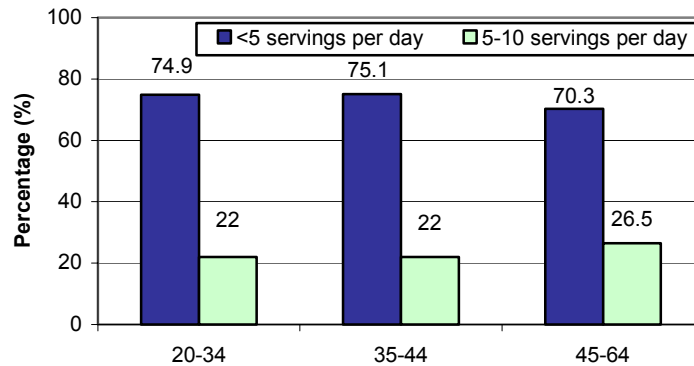
**Figure 11: Fruit and Vegetable Consumption Per Day for Sudbury, by Gender, 2000/01**



#### **4.3.2 Fruit and Vegetable Consumption for Ontario and Sudbury by Age Group**

- In Sudbury, the differences between age groups and daily consumption of fruits and vegetables was not statistically significant. (Figure 12 and Appendix A, Table 17)
- In Sudbury, the proportion of the population who consumed the recommended servings of 5-10 fruits and vegetables per day was the highest for those aged 45-64, among all of the age categories. Although not statistically significant, 26% of the 45-64 age group in Sudbury consumed the recommended 5-10 servings of fruits and vegetables per day, compared to only 22% of 35-44 and 20-34 age populations. (Figure 12 and Appendix A, Table 17)

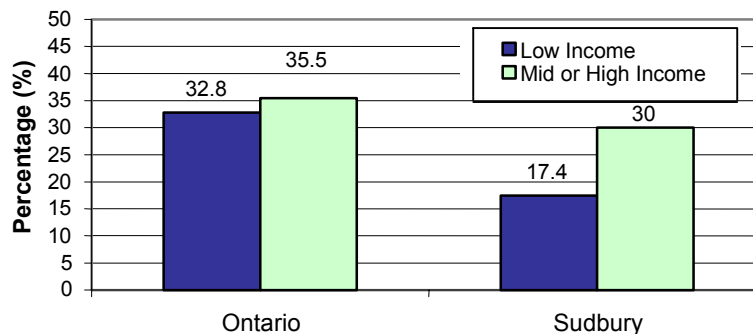
**Figure 12: Fruit and Vegetable Consumption Per Day Category for Sudbury by Age Group, Ages 20-64, 2000/01**



**4.3.3 Fruit and Vegetable Consumption for Ontario and Sudbury by Income Category**

- In comparison to Ontario, a significantly lower percentage of the low-income group in Sudbury consumed the recommended 5-10 servings of fruits and vegetables per day. Thirty-three percent of low-income group residents in Ontario consumed 5-10 servings of fruits and vegetables per day, compared to only 17 % in Sudbury. (Figure 13 and Appendix A, Table 18)
- Thirty percent of the mid-to-high income group in Sudbury consumed the recommended servings of 5-10 fruits and vegetables per day, which was significantly higher than the percentage of low-income group residents who did the same (17%). (Figure 13 and Appendix A, Table 18)

**Figure 13: Fruit and Vegetable Consumption, 5-10 servings per day for Ontario and Sudbury, by Income Category, 2000/01**



## **5.0 Conclusion**

The results indicate that a higher proportion of the population in Sudbury & District Health Unit area is overweight/obese, and consume less than 5 servings of fruit and vegetable per day when compared to Ontario. In addition, half of the population in Ontario and Sudbury aged 12 and over are physically inactive. There are significant differences between males and females for weight, nutrition, and physical activity indicators. Current and future programming need to address the gaps, barriers and facilitators in knowledge, attitudes and beliefs of healthy weights, nutrition, and physical activity.

Program messages within the Sudbury & District Health Unit (SDHU) should continue to focus on healthy eating and physical activity to promote healthy weights among the population. This is currently being done within SDHU by the delivery of programs such as: Healthy Measures, Nutrition Expedition, Eat Smart!, Child Health Carousel, Take 5: 5-10 a Day and various media campaigns.

Areas where programming could be enhanced within SDHU include: increased promotion of the Take 5: 5-10 a Day program and Nutrition Expedition, grocery store tours, and ongoing promotion of physical activity opportunities.

Considering these factors in future research and program development will enhance the health of Sudbury & Districts residents.

## 6.0 Appendix A

**Table 1: Weight Categories for Ontario and Sudbury, Ages 20-64, 2000/01**

<b>Body Mass Index</b>	<b>Ontario</b>	<b>Sudbury</b>
Underweight (BMI under 18.5)	2.8% (2.4-3.1)	2.0% * (0.7-3.3)
Acceptable Weight (BMI 18.5-24.9)	47.4% (46.5-48.3)	38.5% (35.1-41.9)
Overweight (BMI 25.0-29.9)	32.9% (32.1-33.7)	38.9% (35.5-42.4)
Obese (BMI 30.0 or higher)	15.3% (14.7-15.9)	17.5% (14.3-20.7)

*Source: Canadian Community Health Survey, 2000/01*

*Figures in brackets '( )' represent confidence intervals*

*\* Use with caution due to high coefficient of variation (16.6%-33.3%)*

**Table 2: Weight Categories for Ontario, Ages 20-64, 1996/97 and 2000/01**

<b>Body Mass Index</b>	<b>Ontario 1996/97</b>	<b>Ontario 2000/01</b>
Underweight (BMI under 18.5)	2.2% (2.0-2.4)	2.8% (2.4-3.1)
Acceptable Weight (BMI 18.5-24.9)	48.2% (47.5-48.9)	47.4% (46.5-48.3)
Overweight (BMI 25.0-29.9)	33.1% (32.4-33.8)	32.9% (32.1-33.7)
Obese (BMI 30.0 or higher)	12.0% (11.5-12.5)	15.3% (14.7-15.9)

*Source: Canadian Community Health Survey, 2000/01*

*Figures in brackets '( )' represent confidence intervals*

**Table 3: Weight Categories for Ontario and Sudbury, by Gender, Ages 20-64, 2000/01**

<b>Body Mass Index</b>	<b>Ontario Male</b>	<b>Ontario Female</b>	<b>Sudbury Male</b>	<b>Sudbury Female</b>
Underweight (BMI under 18.5)	1.4% (1.0-1.8)	4.2% (3.6-5.8)	-- ①	-- ①
Acceptable Weight (BMI 18.5-24.9)	41.5% (40.2-42.8)	53.3% (52.1-54.6)	30.7% (25.2-36.1)	46.4% (40.4-52.5)
Overweight (BMI 25.0-29.9)	39.8% (38.5-41.0)	25.9% (24.9-27.0)	46.4% (40.1-52.8)	31.3% (26.4-36.3)
Obese (BMI 30.0 or higher)	16.6% (15.7-17.5)	13.9% (13.1-14.8)	21% (16.2-25.8)	13.9% * (9.3-18.5)

Source: Canadian Community Health Survey, 2000/01

Figures in brackets '( )' represent confidence intervals

\* Use with caution due to high coefficient of variation (16.6%-33.3%)

① Estimates based on sample size less than 10, or have a coefficient variation of above 33.3% are suppressed and represented by a dash (--)

**Table 4: Weight Categories for Sudbury, by Age Group, Ages 20-64, 2000/01**

<b>Age Group</b>	<b>Underweight Population (BMI under 18.5)</b>	<b>Acceptable Weight Population (BMI 18.5-24.9)</b>	<b>Overweight Population (BMI 25.0-29.9)</b>	<b>Obese Population (BMI 30.0 or higher)</b>
20-34	-- ①	44.5% (36.8-52.3)	29.5% (21.6-37.5)	17.8% * (11-24.5)
35-44	-- ①	43.8% (36.9-50.7)	40.7% (32.8-48.5)	12.3% * (6.6-18.1)
45-64	-- ①	30.2% (24.5-35.8)	45.3% (38.9-51.7)	20.6% (15.5-25.7)

Source: Canadian Community Health Survey, 2000/01

Figures in brackets '( )' represent confidence intervals

\* Use with caution due to high coefficient of variation (16.6%-33.3%)

① Estimates based on sample size less than 10, or have a coefficient variation of above 33.3% are suppressed and represented by a dash (--)

**Table 5: Overweight Category for Ontario and Sudbury, by Age Group, Ages 20-64, 2000/01**

Age Group	Ontario Overweight Population	Sudbury Overweight Population
20-34	26.4% (24.9-27.8)	29.5% (21.6-37.5)
35-44	33.5% (31.9-35)	40.7% (32.8-48.5)
45-64	38.1% (36.7-39.4)	45.3% (38.9-51.7)

Source: Canadian Community Health Survey, 2000/01  
 Figures in brackets '(')' represent confidence intervals

**Table 6: Acceptable and Overweight Categories for Ontario and Sudbury, by Education Level, Ages 20-64, 2000/01**

Education	Ontario Acceptable Weight	Ontario Overweight	Sudbury Acceptable Weight	Sudbury Overweight
Less than high school	38.7% (36.4-40.9)	35.8% (33.7-38.0)	35.9% (24.8-47.0)	35.4% (26.5-44.3)
High school graduate	47.1% (45.0-49.2)	33.5% (31.6-35.4)	40.4% (31.6-49.2)	38.6% (29.7-47.5)
Some post-secondary	52.2% (49.1-55.2)	30.3% (27.4-33.2)	45% (25.5-64.4)	44.5% (24.4-64.6)
Post-secondary graduate	50.1% (48.8-51.3)	33.5% (32.4-34.7)	40.1% (34.6-45.6)	41.8% (36.5-47.2)

Source: Canadian Community Health Survey, 2000/01  
 Figures in brackets '(')' represent confidence intervals

**Table 7: Acceptable and Overweight Categories for Ontario and Sudbury, by Income Category, Ages 20-64, 2000/01**

Area & Weight Category		Low Income	Mid to High Income
Ontario	Acceptable Weight (20.0<=BMI<=24.9)	47.9% (44.4-51.4)	47.9% (46.9-48.9)
	Overweight (27.1<BMI)	30.3% (27.0-33.6)	34.0% (33.0-34.9)
Sudbury	Acceptable Weight (20.0<=BMI<=24.9)	52.9% (41.6-64.2)	37.4% (33.4-41.3)
	Overweight (27.1<BMI)	25.4% (13.6-37.3)	43.7% (39.7-47.8)

Source: Canadian Community Health Survey, 2000/01

Figures in brackets '( )' represent confidence intervals

**Table 8: Self-Rated Health for Ontario and Sudbury, Ages 20-64, 2000/01**

Self-Rated Health	Ontario	Sudbury
<b>Excellent</b>	26.5% (25.8-27.1)	25.2% (22.3-28.1)
<b>Very good</b>	36.6% (35.9-37.4)	35.0% (31.5-38.5)
<b>Good</b>	24.7% (24.1-25.3)	22.9% (19.8-26.0)
<b>Fair/Poor</b>	12.2% (11.7-12.6)	16.8% (14.2-19.5)

Source: Canadian Community Health Survey, 2000/01

Figures in brackets '( )' represent confidence intervals

**Table 9: Weight Categories for Sudbury, by Excellent, Good and Poor Self-Rated Health, Ages 20-64, 2000/01**

Weight Categories	Ontario Excellent Self-Rated Health	Ontario Good Self-Rated Health	Ontario Poor Self-Rated Health	Sudbury Excellent Self-Rated Health	Sudbury Good Self-Rated Health	Sudbury Poor Self-Rated Health
Acceptable Weight	56.0% (54.2-57.9)	42.6% (40.7-44.4)	34.5% (29.6-39.4)	47.6% (40.0-55.2)	31.7% (24.0-39.3)	26.9% (9.0-44.7)
Overweight	31.5% (29.8-33.2)	34.8% (33.0-36.5)	31.9% (27.6-36.2)	39.5% (32.4-46.7)	43.7% (35.5-51.9)	46.9% (27.0-66.7)
Obese	9.8% (8.8-10.9)	19.9% (18.5-21.2)	30.3% (25.7-34.9)	11.8% (6.4-17.3)	22.3% (14.6-30.0)	25.3% (9.1-41.4)

Source: Canadian Community Health Survey, 2000/01

Figures in brackets '(')' represent confidence intervals

**Table 10: Activity Level Categories for Ontario and Sudbury, Ages 12 and Over, 2000/01**

Activity Level	Ontario	Sudbury
Physically Active	21.3% (20.7-21.9)	25.6% (22.3-28.9)
Moderately Active	21.4% (20.8-22.0)	23.8% (20.6-27.1)
Physically Inactive	49.8% (49.0-50.7)	50.6% (46.4-54.7)

Source: Canadian Community Health Survey, 2000/01

Figures in brackets '(')' represent confidence intervals

**Table 11: Activity Level Categories for Ontario and Sudbury, Ages 12 and Over, 1996/97 and 2000/01**

Activity Level	Ontario 1996/97	Sudbury 1996/97	Ontario 2000/2001	Sudbury 2000/2001
Physically Inactive	54.6% (53.9-55.2)	51.2% (48.8-53.6)	49.8% (49-50.6)	50.6% (46.4-54.7)
Moderately Active	22.5% (21.9-23)	24.2% (22.1-26.3)	21.4% (20.7-21.9)	23.8% (20.6-27.1)
Physically Active	19.9% (19.4-20.4)	21.2% (19.2-23.2)	21.3% (20.7-21.9)	25.6% (22.3-28.9)

Source: Canadian Community Health Survey, 2000/01  
 Figures in brackets '( )' represent confidence intervals

**Table 12: Activity Level Categories for Sudbury, by Gender, Ages 12 and Over, 2000/01**

Activity Levels	Sudbury Males	Sudbury Females	Ontario Males	Ontario Females
Physically Active	30.2% (25.1-35.3)	19.2% (15.1-23.2)	24.0% (23.2-24.9)	18.7% (18.0-19.4)
Moderately Active	19.4% (15.4-23.4)	26.3% (21.8-30.9)	21.2% (20.4-22.0)	21.6% (20.8-22.4)
Physically Inactive	44.4% (38.7-50.1)	52.6% (46.9-58.4)	44.9% (43.8-46.1)	54.6% (53.5-55.6)

Source: Canadian Community Health Survey, 2000/01  
 Figures in brackets '( )' represent confidence intervals

**Table 13: Activity Level Categories for Sudbury, by Age Group, Ages 20-64, 2000/01**

Activity Levels	20-34	35-44	45-64
Physically Active	25.7% (18.3-33)	20.0% (14-25.9)	18.3% (13.4-23.2)
Moderately Active	22.6% (15.7-29.5)	23.6% (16.5-30.8)	22.6% (17.1-28.1)
Physically Inactive	48.8% (39.7-58)	52.3% (44.7-60)	56.6% (48.6-64.7)

Source: Canadian Community Health Survey, 2000/01

Figures in brackets '(')' represent confidence intervals

**Table 14: Inactive Category for Ontario and Sudbury, by Education Level, Ages 12 and Over, 2000/01**

Education Levels	Ontario	Sudbury
Less than high-school	46.8% (45.5-48.1)	44.0% (37.6-50.3)
High school graduate	54.4% (52.6-56.2)	55.0% (44.8-65.1)
Some post-secondary	48.4% (45.5-51.2)	52.4% (34.5-70.3)
Post-secondary graduate	49.7% (48.5-50.9)	49.0% (43.7-54.4)

Source: Canadian Community Health Survey, 2000/01

Figures in brackets '(')' represent confidence intervals

**Table 15: Fruit and Vegetable Consumption, for Ontario and Sudbury, Ages 20-64, 2000/01**

<b>Fruit and Vegetable Consumption</b>	<b>Ontario</b>	<b>Sudbury</b>
Less than 5 servings per day	64.8% (64.1-65.6)	71.6% (67.3-75.8)
5-10 servings per day	35.2% (34.4-35.9)	28.4% (24.2-32.7)

Source: Canadian Community Health Survey, 2000/01  
 Figures in brackets '( )' represent confidence intervals

**Table 16: Fruit and Vegetable Consumption, for Sudbury, by Gender, Ages 20-64, 2000-2001**

<b>Fruit and Vegetable Consumption</b>	<b>Male</b>	<b>Female</b>
Less than 5 servings per day	77.2% (72.4-82.1)	65.9% (60.4-71.5)
5-10 servings per day	22.8% (17.9-27.6)	34.1% (28.5-39.6)

Source: Canadian Community Health Survey, 2000/01  
 Figures in brackets '( )' represent confidence intervals

**Table 17: Fruit and Vegetable Consumption, for Sudbury, by Age Group, Ages 20-64, 2000/01**

<b>Fruit and Vegetable Consumption</b>	<b>20-34</b>	<b>35-44</b>	<b>45-64</b>
Less than 5 servings per day	74.9% (67.9-82)	75.1% (67.7-82.5)	70.3% (54.2-76.5)
5-10 servings per day	22.0%* (14.8-29.1)	22.0% (15-28.9)	26.5% (20.5-32.5)

Source: Canadian Community Health Survey, 2000/01

Figures in brackets '( )' represent confidence intervals

\* Use with caution due to high coefficient of variation (16.6%-33.3%)

**Table 18: Fruit and Vegetable Consumption, for Ontario and Sudbury, by Income Category, Ages 20-64, 2000/01**

<b>Daily Intake of Fruits and Vegetables</b>		<b>Low Income</b>	<b>Mid-to-High Income</b>
Ontario	Less than 5 servings per day	67.2% (64.7-69.7)	64.5% (63.7-65.3)
	5-10 servings per day	32.8% (30.3-35.3)	35.5% (34.7-36.3)
Sudbury	Less than 5 servings per day	82.6% (75.3-89.9)	70.0% (65.4-75.6)
	5-10 servings per day	17.4% (10.1-24.7)	30.0% (25.4-35.6)

Source: Canadian Community Health Survey, 2000/01

Figures in brackets '( )' represent confidence intervals