Leeds, Grenville & Lanark District HEALTH UNIT
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Fruit and Vegetable Consumption & Food Security Summary Report: LGLDHU, 2017

Methodology

The following report used indicators from the 2017 Canadian Community Health Survey (CCHS) which collects health and behaviour-related data on Canadians annually. The 2014 CCHS was used for the food security and fruit and vegetable consumption cross-analysis as that year was the most recent data available for both indicators having been surveyed concurrently. Specifically, the report examined both daily fruit and vegetable consumption and food insecurity separately and how these two indicators were associated with each other. As well, the relationships between both of these indicators and age, sex and socio-economic status, using education as a proxy, were examined. Finally, comparisons between the population of Leeds, Grenville and Lanark Counties (LGL) and the population of Ontario overall were examined. The indicators analyzed were:

- Fruit & vegetable consumption: This question classified the respondent based on the total number of times per day he/she ate fruits and vegetables but not the amount consumed. This indicator was used as a proxy for a healthy diet, which is related to the risk for chronic disease.
- Food insecurity: Means not having enough money to buy healthy food. This indicator was based on a set of 18 questions and described the food security situation of the household in the previous 12 months. It captured three kinds of situations: 1) Food secure: No, or one, indication of difficulty with income-related food access. 2) Moderately food insecure: Indication of compromise in quality and/or quantity of food consumed. 3) Severely food insecure: Indication of reduced food intake and disrupted eating patterns.
- Age: Age was categorized to address two different concerns with the data. First, three different age groups were created to allow for appropriate analysis given the limitations caused by the relatively small CCHS sample size for LGL, and to best capture the life stages of the population. These life stages included: teen to young adult (ages 12-24 years), working age adult (ages 25-64 years) and seniors (ages 65+ years).
- Sex: Categorized as men and women as per the survey question.
- Education: Categorized as those having a post-secondary education and those not.

All written and graphical statistics presented were accompanied by confidence intervals. A confidence interval (also referred to as a margin of error) is a range of values that is normally used to describe the uncertainty, or alternately, the precision around a point estimate (e.g. percentage) created from survey data. Confidence intervals used to describe health data are usually calculated with a stated probability of 95%; we say that there is a 95% chance that the confidence interval would cover the true population value if it were known.

Confidence intervals can also be used as tests of statistical significance. When comparing percentages or rates from sampled data to determine if they are statistically significantly different beyond what would be expected by sampling error (chance) alone, we use confidence intervals. For example, if two percentages or rates from the same overall population have confidence limits that overlap then they are said to be not statistically significantly different. However, if two confidence intervals do not overlap, a comparable statistical test would always indicate a statistically significant difference between them (see Figure 1 as an example of confidence intervals that do not overlap for both LGL and Ontario (significant) and Figure 2 for those that do overlap (not significant)).

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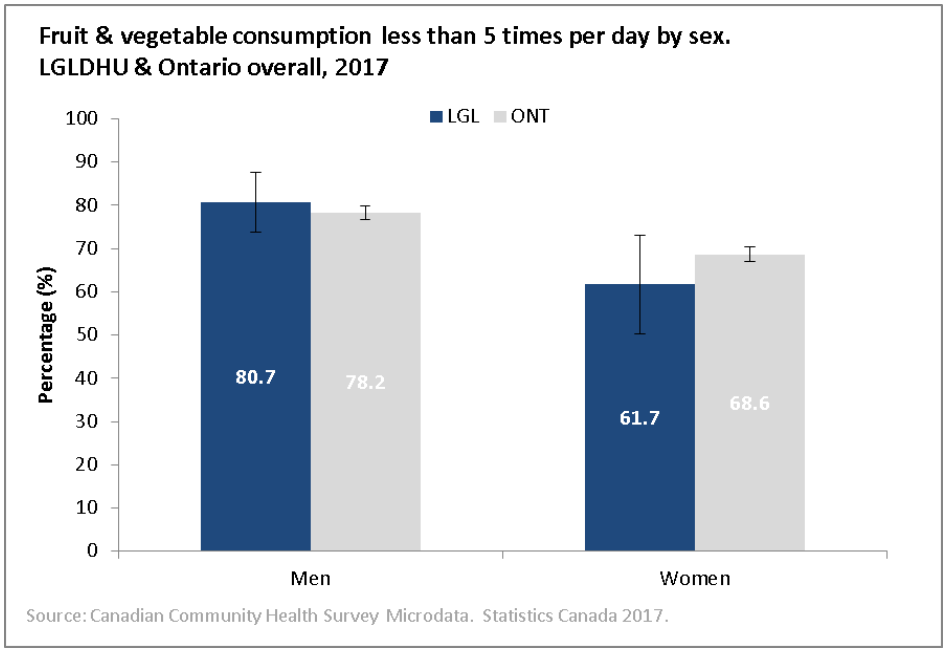
Daily Fruit & Vegetable Consumption

In 2017, 70.9% (± 6.8%) of residents of Leeds, Grenville & Lanark Counties (LGL) aged 12 and older (roughly 137,000 people) reported that they had consumed fruits and vegetables less than the recommended rate of five or more times per day[1,2]. This rate is lower than Ontario overall at 73.2% (± 1.2%).

Men in LGL were more likely to report consuming fruits and vegetables less than five times per day at 80.7% (±7.0%) than women at 61.7% (±11. 7%). The difference in consumption rates between men and women was statistically significant in LGL and Ontario overall. A similar pattern existed for Ontario overall. However, the differences were not as pronounced and higher proportions of women in Ontario reported consuming fruits and vegetables less than five times per day than in LGL (Figure 1).

Figure 1: Daily fruit & vegetable consumption by sex (2017).

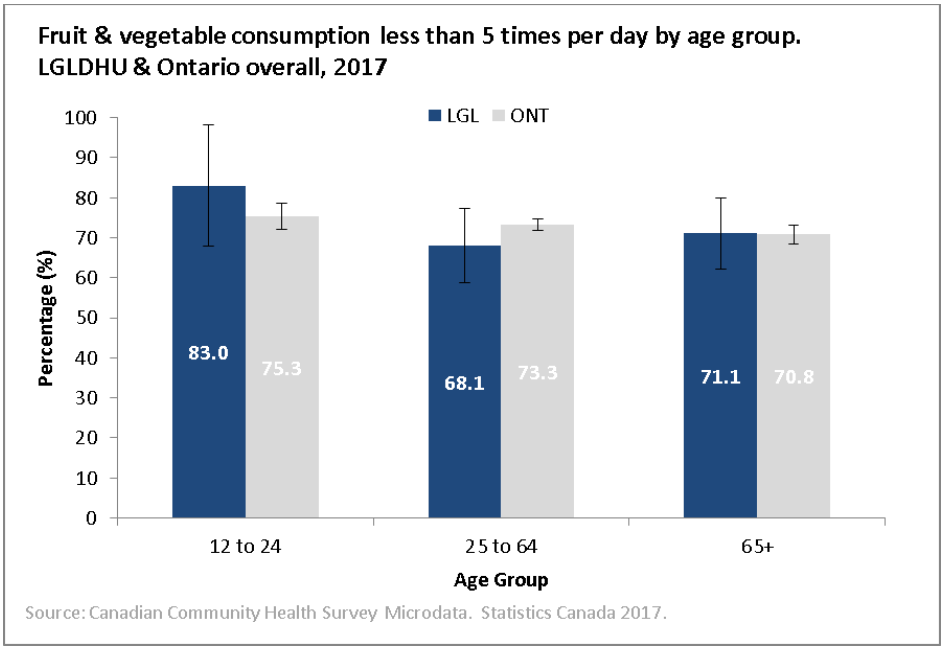


Note 1: The CCHS measures the number of times (frequency) for daily fruit and vegetable consumption, not the amount consumed. Respondents reported their daily frequency for the month prior to the survey interview.

Note 2: The majority of the data was distributed towards those who responded that they consumed less than the daily recommended rate of fruits and vegetables. Consequently, to give statistical power to the analysis, particularly when cross-referencing with age group, sex, etc., this indicator was analyzed from the perspective of consuming less than the daily recommended rate.

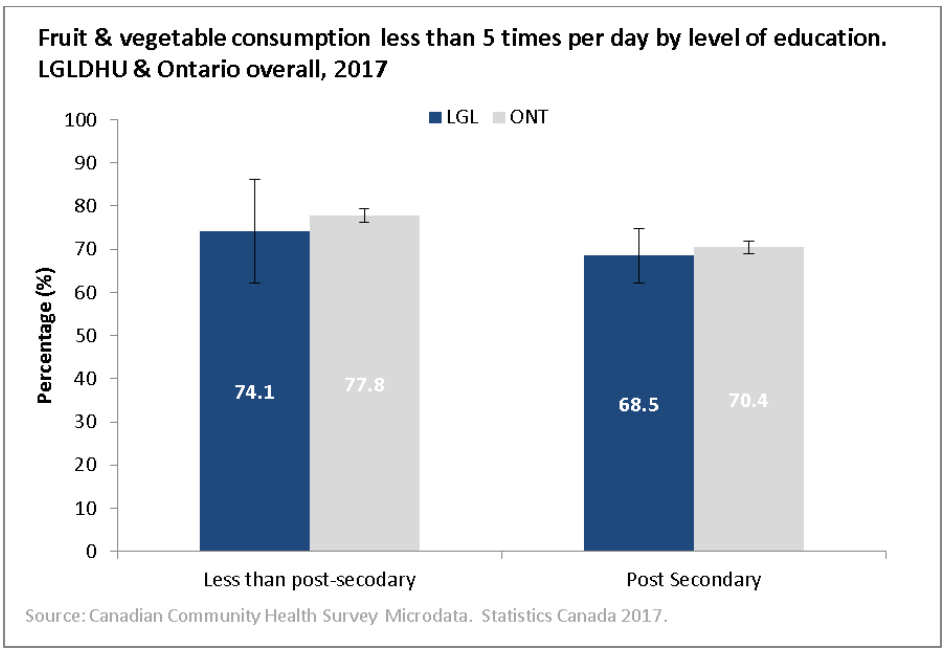
In 2017, the daily rate of fruit and vegetable consumption less than five times per day was highest among the 12 to 24 year age group at 83.0% (± 15.2%) in LGL. Daily consumption of fruits and vegetables less than five times per day was lower in both the 25 to 64 and 65+ year age groups compared to the 12 to 24 year age group. A similar pattern existed in Ontario overall. There were no statistically significant differences within and between age groups and between LGL and Ontario overall (Figure 2).

Figure 2: Daily fruit & vegetable consumption by age group (2017).



In 2017, those who consumed fruit and vegetables less than five times per day were more likely to report less than a post-secondary level of education at 74.1% (± 12.0%) in LGL. Daily consumption of fruits and vegetables less than five times per day was lower for respondents reporting having post-secondary levels of education. A similar pattern was seen in Ontario overall. There were statistically significant differences between education groups in Ontario overall but not between education groups in LGL (Figure 3).

Figure 3: Daily fruit & vegetable consumption by education level (2017).

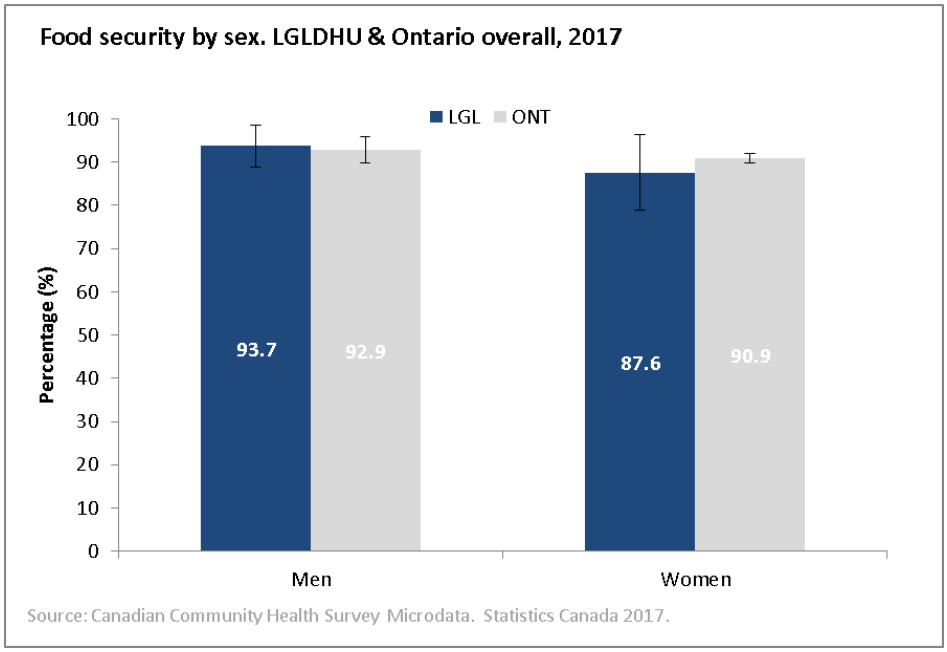


Food Security

In 2017, 90.6% (± 4.9%) of residents of Leeds, Grenville & Lanark Counties (LGL) aged 12 and older reported that their income-related food access situation was secure[3]. This rate is slightly lower than Ontario overall at 91.9% (± 0.7%), but the differences were not statistically significant.

Men in LGL were more likely to report being food secure at 93.7% (±4.9%) than women at 87.6% (± 8.8%). The difference in proportions of men and women reporting food security was not statistically significant in LGL. A similar pattern existed for Ontario overall. However, the differences were not as pronounced. Higher proportions of women in Ontario reported being food secure than in LGL but these differences were not statistically significant (Figure 4).

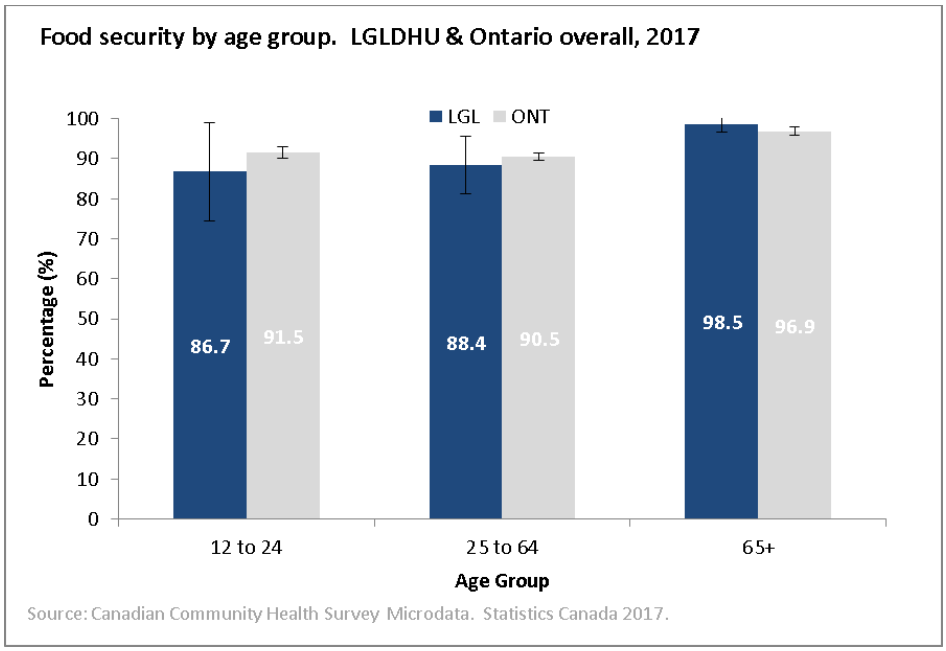
Figure 4: Food security by sex (2017).



Note 3: Analyzing this indicator from the perspective of being food secure was done to give statistical power to the analysis, particularly where cross-referencing with age group, sex, etc., as the majority of the data was distributed towards those who responded that they were in a food secure situation.

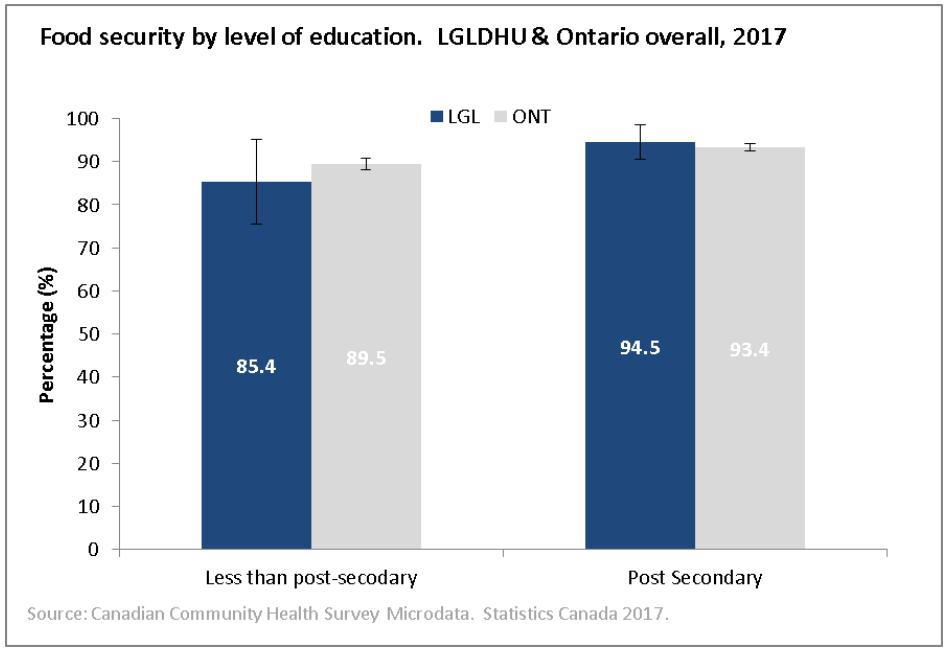
In 2017, reported food security was lowest among the 12 to 24 year age group at 86.7% (± 12.3%) in LGL. Food security was higher in both the 25 to 64 and 65+ year age groups compared to the 12 to 24 year age group. A similar pattern was seen in Ontario overall. In Ontario, food security proportions were significantly higher for the 65+ year age group compared to the 12 to 24 and 25 to 64 year age groups. In LGL, reported food security in the 65+ year age group was statistically significantly higher than the 25 to 64 year age group (Figure 5).

Figure 5: Food security by age group (2017).



In 2017, reported food security was highest among respondents who reported having more than a post-secondary level of education at 94.5% (± 4.0%) in LGL compared to 85.4% (± 9.8%) for those reporting having less than a post-secondary level of education. A similar pattern was seen in Ontario overall. There were statistically significant differences between education groups in Ontario overall but not in LGL (Figure 6).

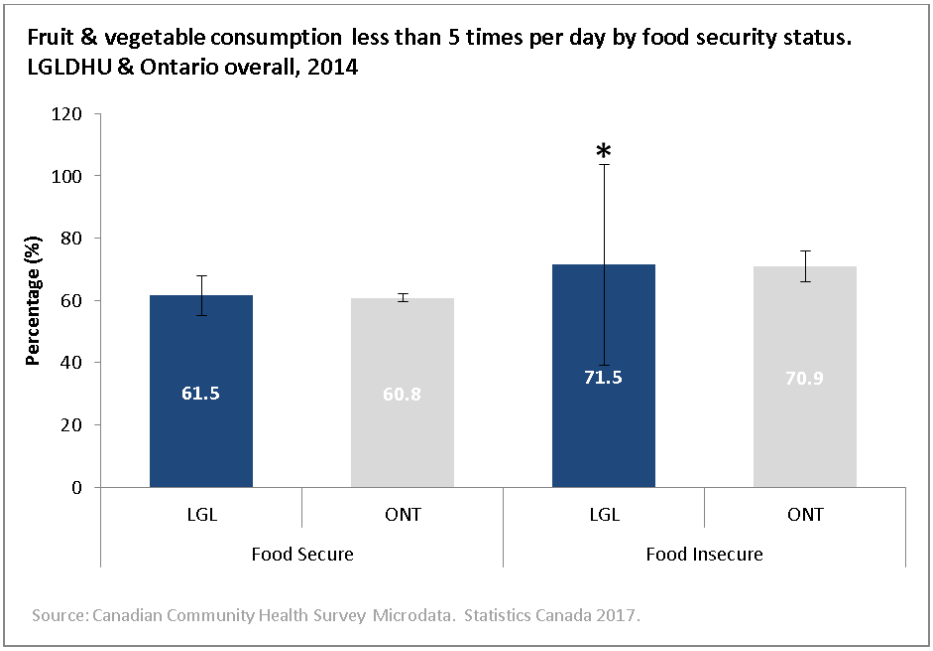
Figure 6: Food security by education level (2017).



Daily Fruit & Vegetable Consumption and Food Security

In 2014[4], residents of LGL who reported living in food secure households were less likely to report consuming fruit and vegetables less than five times per day at 61.5% (±6.5%) than those in moderately or severely food insecure households at 71.5% (± 32.3%)[5]. Similar patterns were observed for Ontario overall. However, in Ontario overall the differences between daily consumption of fruits and vegetables and food security status was statistically significant with those reporting being food insecure consuming fruit and vegetables less than five times per day at a higher proportion than those being food secure (Figure 7)[6].

Figure 7: Daily fruit & vegetable consumption by food security status (2014).



Note 4: The 2014 CCHS was used for the food security and fruit and vegetable consumption analysis as that year was the most recent data available for both indicators having been surveyed concurrently.

Note 5: An asterisk (*) indicates that the statistic should be interpreted with caution due to high levels of response variability. This is likely a result of a relatively small number of respondents to the survey question.

Note 6: In depth analysis of the effects of food insecurity on health can be found here: https://proof.utoronto.ca/resources/fact-sheets/#health. As well, an overview of fruit and vegetable consumption in Canada that refers to food insecurity can be found here: https://www150.statcan.gc.ca/n1/en/pub/82-625-x/2019001/article/00004-eng.pdf?st=w4YnatdN