Canadian Obesity Network

ACTIVE LIVING AND HEALTHY EATING IN WINDSOR AND ESSEX COUNTY

REPORT

WINDSOR-ESSEX COUNTY
HEALTH UNIT

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WINDSOR-ESSEX COUNTY HEALTH unit
Bureau de santé de Windsor-comté d'Essex

WINDSOR AND ESSEX COUNTY

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Executive Summary

The Windsor-Essex County Health Unit is responsible for promoting and protecting public health, which includes monitoring the health and well-being of the population. This health status report on ***Active Living and Healthy Eating in Windsor and Essex County*** was prepared by the Health Unit with the goal of describing local statistics, emerging trends, and at-risk populations as it relates to active living, healthy eating, and healthy weights within Windsor-Essex County. The key findings of the report are summarized below:

Active Living

- Less than 30% of residents from Windsor-Essex County are active during leisure time.
- There were active living inequities related to gender and household income. For example, 14.8% of females from low-income households report being physically active during leisure time which is 3-times lower than males from high income households (45.2%).
- It is recommended to limit screen time activities (TV, computer) to less than 15 hours per week; 2 in 3 residents (64.1%) of Windsor-Essex County exceed this recommendation.

Healthy Eating

- Consumption of vegetables and fruit is low in general; locally, just over a third (34.9%) of the population consumes vegetables and fruit five or more times per day.
- Households spend more on 'junk food' than they do on fresh vegetables and fruit.
- Healthy eating was linked to marital status, education, and household income. For example, among adults 45-64 years old, the consumption of vegetables and fruit five or more times per day was 3.7-times lower for those from low-income households (14.8%) when compared to those from high income households (54.7%).
- Consumption of sugar sweetened beverages is prevalent; over 2 in 5 (42.5%) adults 25-44 years old reported consuming sugar sweetened beverages every day. Further, more than half (52.8%) of local residents did not know that sugar sweetened beverages were linked to obesity/overweight.
- Locally, the weekly cost for healthy foods for a family of four was $203.03 for 2016, which is a 28.4% increase since 2009. That is, a family of four will have to spend an additional $2,334 this year (2016) on healthy food compared to 7 years ago (2009).

Healthy Weights

- Locally, 2 in 5 (42.0%) children, over a quarter (26.1%) of youth, and two-thirds (66.5%) of adults are overweight or obese.
- Males and adults 45-64 years old are more likely to be overweight or obese; in fact, 4 out of 5 (80.1%) adults in this age range are overweight or obese which is significantly greater than the provincial average (71.5%) for this same age group.
- There are significant data gaps for healthy weights. Local surveillance data on children is lacking and small local sample sizes for youth does not allow for comprehensive analysis.

The findings of this report were used to form recommendations that will help to inform and optimize the direction of public health programs and activities mandated by the Ontario Public Health Standards. These recommendations are stated below.

Recommendations

- In addition to universal programming, initiatives involving active living and healthy eating should target populations with the greatest needs:
    - Active living programs in Windsor-Essex County should target females and individuals from low income households.
    - Healthy eating programs in Windsor-Essex County should target males, individuals who are not married/common-law, and individuals from households with low income or lower educational attainment.
- The social determinants of health are a driver of health inequities related to active living and healthy eating. Public health can play a role in supporting and advocating for improved societal changes to address the root causes of these health inequities.
- Promote healthy food environments and support policies that reduce barriers to healthy eating, particularly as it relates to accessibility and affordability of healthy foods in Windsor-Essex County.
- Work towards improved assessment and surveillance of children and youth, both provincially and locally, in the areas of active living, healthy eating, and healthy weights.
- Due to the complex and dynamic nature of active living, healthy eating, and healthy weights, public health initiatives in these areas should continuously ensure that their programming is supported by current research, evidence, and/or best practices. These programs should regularly be re-examined for relevance and evaluated for effectiveness.

The findings and recommendations of this report will help to inform and optimize the planning, direction, and provision of public health programs and services in Windsor-Essex County. Active living, healthy eating, and healthy weights are complex, though universally important, public health topics that are linked to multiple facets of everyday life and overall well-being. Working towards improving health in these areas will require a dedicated, comprehensive approach and collaboration across sectors.

Introduction

Why is weight an important component of health and well-being?

Reaching and maintaining a healthy body weight is important for overall health and well-being. Overweight and obesity can increase an individual's risk for developing chronic diseases, such as diabetes, hypertension, cardiovascular disease, stroke, osteoarthritis, and certain cancers (The Standing Senate Committee on Social Affairs, Science, and Technology 2016). Beyond these dangerous conditions however, overweight and obesity has been also associated with mental health issues such as depression, and an overall lower health-related quality of life (Dietitians of Canada 2014) Although the relationship by which weight is associated with the risk of developing chronic diseases is very complex, it has been found that particular improvements in metabolic health indicators for obese individuals (i.e., insulin sensitivity, blood lipid profiles, and blood pressure) can be achieved by behavioural changes and small amounts of weight loss even without reaching an "ideal" weight (Wellmeier, et al. 2013).

Overweight/Obesity can increase your risk of:

- **Diabetes**
- **High Blood Pressure**
- **Heart Disease**
- **Stroke**
- **Arthritis**
- **Cancer**
- **Depression**

Body Mass Index (BMI) is a measure of weight and height (kg/m^2) that is used in practice to classify underweight, normal weight, overweight, and obesity in adults (see **Table 1**). Along with other measures including waist circumference (WC), BMI is used to assess a person's risk of developing health problems. An individual's risk for developing chronic diseases increases as they deviate from the 'Normal Weight' category, with the highest risk being attributed to the 'Obese' category.

Table 1. Classification of Body Mass Index (BMI) and its association with the risk of developing various health problems.

Classification	BMI Category (kg/m^2)	Risk of developing health problems
Underweight	< 18.5	Increased risk
Normal Weight	18.5 – 24.9	Lowest risk
Overweight	25.0 – 29.9	Increased risk
Obese		
Class I	30.0 – 34.9	High risk
Class II	35.0 – 39.9	Very high risk
Class III	≥ 40.0	Extremely high risk

Source: Canadian Guidelines for Body Weight Classification in Adults. Adapted from: World Health Organization (2000). Obesity: Preventing and Managing the Global Epidemic: Report of a WHO Consultation on Obesity.

What factors contribute to a healthy weight?

There are a number of factors that contribute to a healthy weight, some are inherent and unmodifiable (e.g., genetics), some are related to individual choice (e.g., healthy behaviours), and others are modifiable but mainly outside of an individual's control (e.g., the social and physical environment). These factors do not work in isolation; rather their effects are combined to influence an individual's weight and overall health. To reach and maintain a healthy weight, these modifiable and external risk factors need to be addressed in order to support individuals in practicing healthy eating and physical activity.

Modifiable Lifestyle Factors

- ***Diet:*** Traditionally, weight-related issues have been attributed to an energy imbalance between energy in (calories consumed) and energy out (calories expended). However, self-reported food intake would suggest that the amount of calories consumed by normal weight adults, and overweight/obese adults tend to be similar (Dietitians of Canada 2014). Instead, the difference lies in the nutritional quality of those calories consumed. A diet which centres on whole foods, freshly-prepared foods (preferably at home), and foods that require minimal processing can promote and support health and well-being. In particular, the adequate consumption of vegetables and fruit are indicators of a good diet and represent calories that have high nutritional quality.

  Overall, nutritional quality (or the lack there of) has played a key role in Canadians' increasing obesity rates given that dietary patterns have changed significantly over the past 40 years. Diets that are highly reliant on ultra-processed and ready-to-eat foods (e.g., sugar drinks, salty snacks) have slowly been replacing more nutritious traditional diets that are rich in vegetables and fruit, resulting in a wide array of negative health outcomes across the population.

- ***Physical Activity:*** In combination with healthy eating, being physically active can help individuals to achieve and maintain a healthy weight and improve overall well-being. Most Canadians, including both children and adults, are not meeting the requirements for physical activity as outlined by the Canadian Society for Exercise Physiology. In addition, factors such as total screen time, decreased physical activity during leisure time, and less opportunities for active transportation have made our society more sedentary.

External Environment Factors

- ***The Physical Environment:*** The term "obesogenic environment" has been coined to describe changes in the environment which have negatively impacted health behaviours and have led to a rise in weight-related issues. These changes refer mainly to changes in the food environment, as well as diminished physical activity demands.

  In recent decades, the food environment has changed drastically. Changes in the global food supply in combination with the increased availability of ready-to-eat processed foods have influenced eating habits. In addition, there has been a steady erosion of the "food culture" in which entire generations lack essential food knowledge and skills. All these factors combined with the decreased energy demands stemming from activities of daily

living have resulted in an environment that promotes poor dietary choices and sedentary lifestyles (The Standing Senate Committee on Social Affairs, Science, and Technology 2016).

- ***The Social Environment:*** An individual's social and financial situation can affect their health status through their ability to access healthy foods and opportunities for recreation. Food insecurity results from an individual with low income and restricts an individual's ability to access an adequate supply of healthy foods. Additionally, education and employment have been mentioned as other determinants of health which can lead to weight-related issues (The Standing Senate Committee on Social Affairs, Science, and Technology 2016).

What are the current programs and policies that are addressing weight-related issues?

There are a number of policies and programs that aim to address weight-related issues. Some of these policies and programs focus on the physical environment (e.g., increasing availability and accessibility to healthy foods) while others focus on the individual risk factors (e.g., skill building).

Provincial Programs and Policies

- ***Ministry of Education's PPM 150 – School Food and Beverage Policy:*** PPM 150 promotes healthier schools that support students to learn and perform better academically by setting guidelines on the types of foods that can be sold in schools.
- ***Healthy Kids Community Challenge (HKCC):*** The HKCC is a cross-government initiative that aims to support the well-being of children. Participating communities develop programs, policies, and events based on specific themes to help create communities where children are able to lead healthier lives.
- ***Ministry of Children and Youth's Student Nutrition Program (SNP):*** The SNP provides guidelines for healthy breakfast and snacks served to students during the school day to prepare them for a full day of learning. The program increases student's access to healthy whole foods.

Local Programs and Policies

- ***Skill Building and Education Programs:*** Skill building and education programs that are designed to target different populations are being offered in schools and community organizations across Windsor-Essex.
    - ***You're the Chef:*** This program is offered in school. It educates students on making healthy food choices, and promotes food skills development.
    - ***Sip Smart!™ Ontario*:** This program will be launched in schools in the Fall. It will educate students and promote healthy beverage choices in schools and in the community.

- ***Eat4Life***: This initiative is a 5-week in class healthy lifestyle program that aims to build a foundation of healthy habits that will help participants to make healthy choices for life. This program is offered at various locations across Windsor-Essex County and was developed by the Community Primary Care and Public Health partnership of Windsor-Essex County.
- ***Come on Down Let's Make a Meal:*** The program is a train-the-trainer program that trains staff, community members or volunteers to teach a set curriculum that builds food and cooking skills in the community.

- ***Nutrition Screening Programs:*** Nutrition screening programs that assess eating habits and identify nutrition problems in children are being offered to local children across the community.
  - ***NutriStep®:*** The Nutrition Screening Tool for Every Preschooler and Toddlers is a program based on early screening of eating, physical activity and related behaviours in toddlers and preschoolers. This program helps to identify eating habits that may pose a future risk to the child's health and connects parents/caregivers with services in the community to address those risks.

- ***Supportive Environments Programs:*** These types of programs are being promoted and implemented across Windsor-Essex to address the issue of availability and accessibility of healthy food options in different settings including day cares, recreational centres, and workplaces.
  - ***Raising the Bar*** (a policy-based initiative for day cares): The Raising the Bar program is a policy program for licensed child care programs. It supports participating providers to improve the quality of child care provided to toddlers and preschoolers.
  - ***Take Charge:*** The Take Charge program for recreation centres aims to create supportive environments to promote healthy food and beverage options in recreation centres. The program encourages greater availability and accessibility to healthy, whole foods.
  - ***Meet Smart Policy Program:*** The Meet Smart Policy Program is designed for workplaces. It provides guidelines, resources, and support to normalize the availability of fresh whole foods during meetings and events.
  - ***Brightbites.ca website:*** This website is designed by the Ontario Society of Nutrition Professionals in Public Health (OSNPPH) and will be launched in schools. It will provide nine interactive programs with recognition incentives to educate students and encourage them to make healthy food and beverage choices.

- ***The Good Food Charter of Windsor-Essex County***: This charter is a community document developed by and for the residents of Windsor and Essex County. The charter outlines the community's shared values, vision and principles for their local food system and it can be used by everyone (e.g., individuals, families, organizations, municipalities, and decision-makers). The key underlying principles of the charter are celebration of food, environmental stability, social justice, and sustainable economic development. Everyone can live by the food charter by taking action:
    - Grow your own food or join a community garden.
    - Get to know your local farmers.
    - Spend at least $10 a week on local food.
    - Take a cooking class.
    - Cook from scratch.
    - Try a new vegetable or fruit each month.
    - Cook a meal with a child or youth and make your own recipe book.
    - Share a meal with a neighbour.
    - Compost.
    - Ask elected officials if they support the Good Food Charter of Windsor-Essex County.

What is public health's role in healthy weights?

Public health is responsible for promoting and protecting the overall health and well-being of the population. The metropolitan area of Windsor and the surrounding Essex County are serviced by the Windsor-Essex County Health Unit which is one of the 36 Public Health Units (PHUs) in Ontario. The Windsor-Essex County Health Unit provides public health services to 402,000 residents across 9 jurisdictions (Windsor, Tecumseh, Lakeshore, LaSalle, Amherstburg, Essex, Kingsville, Leamington, and Pelee). The region is the southernmost PHU district in Ontario.

The Windsor-Essex County Health Unit, along with all other PHUs in Ontario, offers health-related programs in accordance with the Ontario Public Health Standards (OPHS). Ontario PHUs are governed by these standards which outline the programs and services the board of health is responsible to offer the community (OMHLTC 2016).

One of the areas covered by the OPHS is chronic disease prevention which tasks the board of health with the goal of reducing the burden of preventable chronic diseases of public health importance (OMHLTC 2016). To work towards this goal, the board of health is assigned specific

duties related to assessment and surveillance, health promotion and policy development, and health protection in the areas of:

- Healthy Eating
- Healthy Weights
- Comprehensive Tobacco Control
- Physical Activity
- Alcohol Use
- Exposure to Ultraviolet Radiation

This report will focus on the assessment and surveillance of physical activity, healthy eating, and healthy weights in the Windsor-Essex County population. The report will also briefly summarize some local health promotion programs and healthy policies. It is anticipated that the findings of this report will be used to plan and influence the course of current and future local programs related to physical activity, healthy eating, and healthy weights.

What are the objectives of this report?

This report will focus on describing key epidemiological findings from the analysis of surveillance data as required by the OPHS. Therefore, the objectives of this report are:

1. To identify population health trends in Windsor-Essex County related to physical activity, healthy eating, and healthy weights.

2. To identify priority populations in Windsor-Essex County that have disproportionate outcomes for physical activity, healthy eating, and healthy weights.

3. To summarize the current policies and programs in Windsor-Essex County related to physical activity, healthy eating, and healthy weights.

Methods

Indicators

This health status report provides local statistics and emerging trends for various indicators related to active living, healthy eating, and healthy weights. Most of the indicators used in this report were developed and defined by the Association of Public Health Epidemiologists in Ontario (APHEO) based on available data from secondary sources (summarized in **Table 2**). When feasible, indicator estimates were compared to Ontario, compared to historical estimates (time trends), and stratified by various demographic and socio-economic factors (age, sex, location, marital status, education, and income). This report also used some additional data (e.g., household spending) to provide further context around health behaviours in the community. Effort was taken to avoid duplicating the work of other organizations; existing statistics and estimates were reported and referenced accordingly. Data analysis was completed by the Epidemiology, Planning, Evaluation, and Quality department of the Windsor-Essex County Health Unit.

Data Sources

The following data sources were used to generate local statistics for this report:

- **Canadian Community Health Survey (CCHS)**: The CCHS is an annual cross-sectional survey that collects information related to health status, health care utilization, and health determinants for non-institutionalized Canadians aged 12 years and older in all provinces and territories. The CCHS contains a core component which collects data annually and non-core components which collect data less frequently. In Windsor-Essex County, there are approximately 650 responses per year. Reliable estimates for health regions (e.g., Windsor-Essex County) can be produced by using a collated 2-year data set (e.g., 2013-2014). The estimates presented in this report adhere to the guidelines in the 2014 CCHS User Guide and were generated using bootstrapped weights. If the coefficient of variation (CV) was ≥16.6 and ≤33.3 the estimates was accompanied by a cautionary statement of high sampling variability. If the CV was >33.3 the estimate was excluded from the reported due to very high sampling variability.
- **Rapid Risk Factor Surveillance System (RRFSS):** The Institute for Social Research at York University collects data through a telephone survey of adults (≥18 years old) every cycle (4 month period). The release of data follows the same standards as Statistics Canada's CCHS. This data source is available to health units at a cost, but it does allow health units to select and customize the survey modules for their particular region.
- **National Household Survey (NHS):** Voluntary survey of socio-economic information of Canadian households. Questionnaires were sent to 4.5 million households; 67.6% (unweighted) of households from Ontario responded to the survey.
- **Survey of Household Spending (SHS):** Voluntary questionnaire administered by Statistics Canada to collect annual information on household expenditures and the data is used in the calculation of gross domestic product (GDP). The 2014 survey collected information from 17,109 respondents (67% response rate). The SHS data used in this report was analyzed by Environics Analytics and distributed by Esri Canada (accessed via ArcGIS Online).

Table 2. List of indicators used to report on active living, healthy eating, and healthy weights in Windsor-Essex County.

Indicator	Definition	Data Source
Leisure Time Physical Activity	Percentage of the population aged 12 and over who were active during leisure time.	CCHS 2003-2014
Active Transportation	Percentage of the population that walked or biked for reasons other than recreation or fitness in the past 12 months.	RRFSS 2015
	Total employed population aged 15 years and over by main mode of transportation to work.	NHS 2011
Screen Time	Percentage of the population aged 12 and over who are frequent (≥15 hour per week) screen time users (computer and television).	CCHS 2011-2012
Vegetable and fruit Consumption	Percentage of the population aged 12 and over that consumes vegetables and fruit 5 or more times per day.	CCHS 2003-2014
Sugar Sweetened Beverages	Consumption of sugar sweetened beverages in the last 7 days.	RRFSS 2015
Hydration	Percentage of the population that consumed water in the previous day.	CCHS 2004
Affordability of Healthy Food	Weekly cost to feed a family of four according to the National Nutritious Food Basket costing tool.	WECHU 2009-2016
Body Mass Index	Percentage of the population aged 12 years and over that is overweight or obese.	CCHS 2003-2014

Limitations

One of the limitations of the health behaviour and BMI data in this report is that it is self-reported (primarily for CCHS and RRFSS data). Self-reported or self-perceived data are prone to biases. For example, respondents may provide responses that will please the researcher or the respondent may not be able to accurately recall information. Self-reported data may be adjusted using various techniques to make the estimates better reflect the actual situation (such is the case with the correction method used for self-reported adult BMI).

Most of the data in this report is collected is through telephone surveys. This can impact the representativeness of the results as telephone surveys inherently exclude individuals who cannot be reached by telephone. Further, the cultural relevance (or lack thereof) of these surveys may also be a limiting factor.

Leisure time physical activity only accounts for a fraction of daily physical activity. It does not capture the variation in energy expenditure for occupational physical activity, domestic physical activity (e.g., chores), or active transportation.

The screen time indicator includes television and computer use, but it does not include playing video games for two reasons: the CCHS (2011-2012) questionnaire only asks individuals aged 25 or less about playing video games (hence, it would unduly inflate screen time usage among adolescents and young adults), and the CCHS (2011-2012) questionnaire does not differentiate between active and passive video games (only passive video games are included under the Canadian Sedentary Behaviour Guidelines).

Vegetable and fruit consumption is not a measure of servings consumed; rather, it is a measure of the frequency of vegetable and fruit consumption. In other words, CCHS data on vegetable and fruit consumption cannot be used to assess whether individuals are consuming the recommended number of servings or to assess nutrient in-take from vegetables and fruit. However, research has demonstrated that this food frequency measure is a good proxy for actual vegetable and fruit in-take (Traynor, et al. 2006).

Due to surveillance gaps, there is limited data on active living, healthy eating, and healthy weights for children (<12 years old). Furthermore, local sample sizes for health behaviour estimates (for adolescents and adults) are often low which can contribute to fluctuation in the estimates. This fluctuation makes it difficult to determine trends over time.

Active Living

Leisure Time Physical Activity

Physical activity is measured by self-reported frequency of participation in various types of activities during leisure time (excludes work and school) in the previous three-month period. The types of activities included under this measure include walking for exercise, jogging or running, bicycling, home exercises, gardening, and various recreational sports. These data are then used to estimate the energy expenditure of respondents and each respondent is categorized as active, moderately active, or inactive:

Active – beneficial to cardiovascular health (≥3.0 kcal/kg/day).

Moderately Active – minor benefit to cardiovascular health (1.5-2.9 kcal/kg/day).

Inactive – no benefit to cardiovascular health (1.5 kcal/kg/day).

The percentage (%) of the population (≥12 years old) that is active, moderately active, and inactive during leisure time is summarized in **Table 3** for the populations of Windsor-Essex County and Ontario. In Windsor-Essex County, according to 2013-2014 CCHS data, it is estimated that 29.8% of the population (≥12 years old) is active during leisure time which is similar to the Ontario average (30.4%). In other words, 7 in 10 residents in Windsor-Essex County are not active enough during their leisure time for there to be any significant benefits to cardiovascular health. Out of the 36 health unit regions in Ontario, Windsor-Essex County ranked 30th for being active during leisure time. Furthermore, 23.2% of the Windsor-Essex County population reported being moderately active during leisure time and 47.0% reported being inactive during leisure time in 2013-2014 (these estimates were similar to the equivalent provincial averages). Windsor-Essex County ranks 8 out of 36 Ontario Public Health Unit regions for being inactive during leisure time.

Table 3. The age-standardized percentage (%) of the population (≥12 years old) that is active, moderately active, and inactive during leisure time in Windsor-Essex County and Ontario (2013-2014).

Physical Activity During Leisure Time	Windsor-Essex County	Ontario
Active (%)	29.8	30.4
Moderately Active (%)	23.2	24.3
Inactive (%)	47.0	45.3

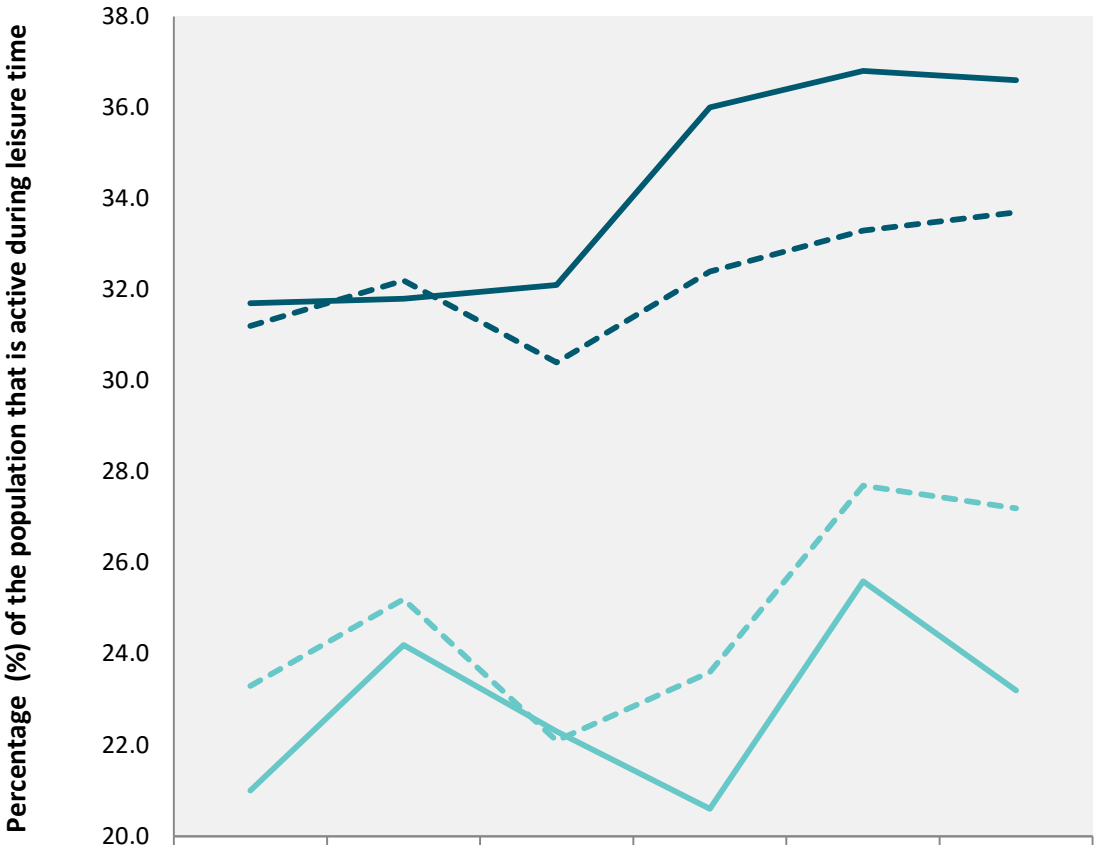
Source: Public Health Ontario. Snapshots: WECHU: Self-reported rate of being active, moderately active, or inactive during leisure time 2013-14. Toronto, ON: Ontario Agency for Health Protection and Promotion; 2016 Feb 1 [cited 2016 Aug 3].

Note:

- There were no statistically significant differences between the Windsor-Essex County and Ontario estimates.

The percentage of the males and females that are active during leisure time is reported in **Figure 1** for Windsor-Essex County and Ontario. Males reported being more physically active than females; in Windsor-Essex County (2013-2014), 36.6% of males reported being physically active during leisure time compared to 23.2% of females (statistically significant difference). Since 2003, there has been an increase in self-reported active living among Windsor-Essex County males. The equivalent estimates for Windsor-Essex County females fluctuated more over the same time period. Local estimates for males and females did not differ significantly from their provincial counterparts.

Figure 1. The age-standardized percentage (%) of the population (≥12 years old) that is active during leisure time in Windsor-Essex County and Ontario (2003-2014) by sex.

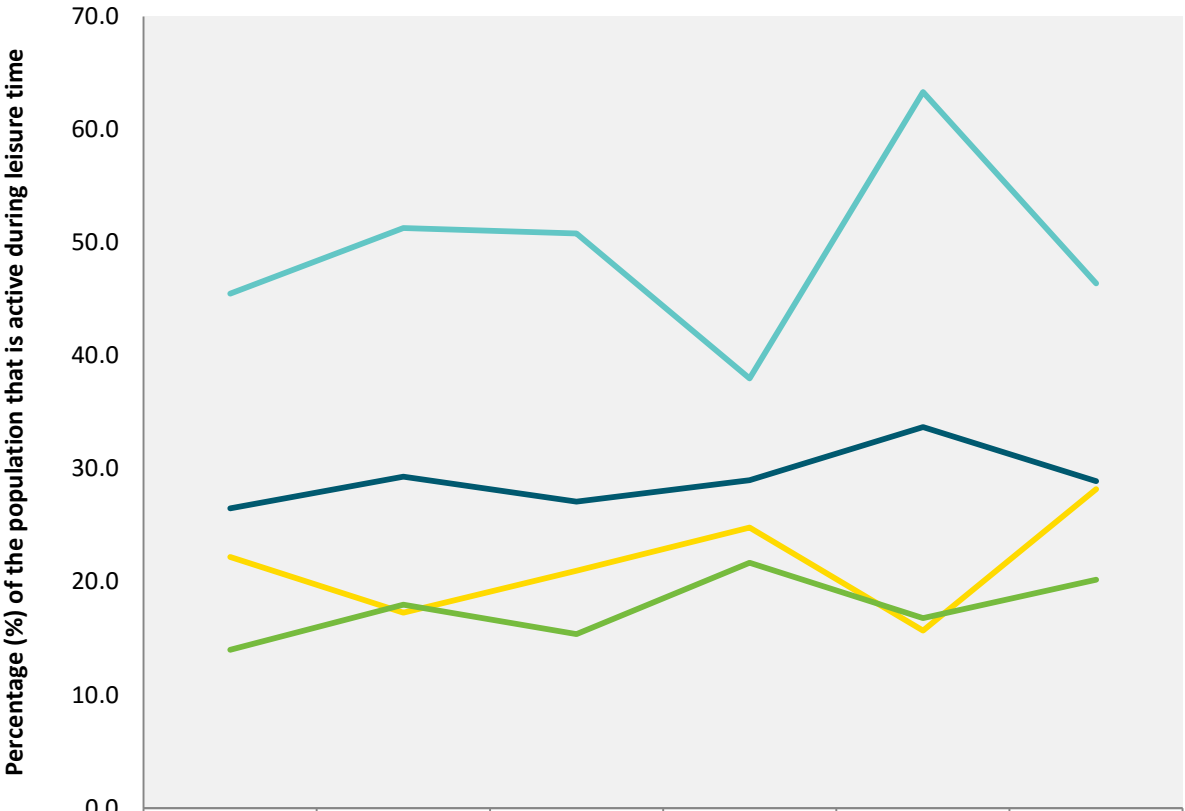


	2003	2005	2007-08	2009-10	2011-12	2013-14
Males (WEC)	31.7	31.8	32.1	36.0	36.8	36.6
Males (ON)	31.2	32.2	30.4	32.4	33.3	33.7
Females (WEC)	21.0	24.2	22.3	20.6	25.6	23.2
Females (ON)	23.3	25.2	22.1	23.6	27.7	27.2

Source: Public Health Ontario. Snapshots: WECHU: Self-reported rate of being active during leisure time 2003-14. Toronto, ON: Ontario Agency for Health Protection and Promotion; 2016 Feb 1 [cited 2016 Aug 3].

The age-specific percentage of the population that is active during leisure time is reported in **Figure 2** for Windsor-Essex County and Ontario. Youth (12-19 years old) reported the highest levels of physically active during leisure time; in 2013-2014, 46.4% of youth reported being active during leisure time which was significantly greater than all other age groups. The level of participation in physical activity during leisure time decreased with age. In Windsor-Essex County, 7 out of 10 adults (20-64 years old) and 4 out of 5 seniors (≥65 years old) were not active during leisure time in 2013-2014. The substantial year-to-year variation in the estimates makes it difficult to determine trends, particularly for health behaviours such as active living.

Figure 2. The age-specific percentage (%) of the population (≥12 years old) that is active during leisure time in Windsor-Essex County (2003-2014).



	2003	2005	2007-08	2009-10	2011-12	2013-14
12-19	45.5	51.3	50.8	38.0	63.3	46.4
20-44	26.5	29.3	27.1	29.0	33.7	28.9
45-64	22.2	17.3	21.0	24.8	15.7	28.2
65+	14.0	18.0	15.4	21.7	16.8	20.2

Source: Public Health Ontario. Snapshots: WECHU: Self-reported rate of being active during leisure time 2003-14. Toronto, ON: Ontario Agency for Health Protection and Promotion; 2016 Feb 1 [cited 2016 Aug 3].

The percentage of Windsor-Essex County residents who self-report being active during leisure time is reported in **Table 4** according to age categories which are stratified by sex, highest household education, and household income. The key findings from this analysis include:

- Twice as many male youth reported being active during leisure time compared to female youth.
- Individuals with a post-secondary education tended to report being more physically active. For example, adults (45-64 years old) with a post-secondary education reported being physically active 2.3-fold more than adults without a post-secondary education.
- Individuals from high income households reported being active during leisure time 2.2-times more compared to individuals from low income households.
- Only 14.8% of females from low-income households report being physically active during leisure time. This is lower than the local estimate for seniors (20.2%) and 3-times lower than males from high income households (45.2%).

These findings reiterate the important association between the social determinants and active living, and identify local groups that have the greatest need for active living interventions.

Table 4. Percentage (%) of Windsor-Essex County residents (≥12 years old) who self-report being active during leisure time stratified by age, sex, highest household education, and household income (2013/2014).

Determinant of Health	12 to 19 years old	20 to 44 years old	45 to 64 years old	≥65 years old	Total
Sex					
Males	62.6	33.3[E]	31.8	20.0[E]	**35.3**
Females	31.0[E]	23.0[E]	24.5[E]	18.4[E]	**23.3**
Household Education‡					
High school or less	31.9[E]	22.5[E]	14.8[E]	23.6[E]	**22.1**
Post-secondary ed.	54.1	28.4	34.2	15.7[E]	**31.2**
Household Income					
<$30,000	NR	23.8[E]	9.3[E]	14.5[E]	**18.8**
$30,000-$99,999	43.6	29.4[E]	27.5	18.2[E]	**28.5**
≥$100,000	61.8	26.3[E]	47.0	50.4[E]	**41.0**

Source: Canadian Community Health Survey [2013-2014], Statistics Canada, Public Use Microdata File, Statistics Canada.

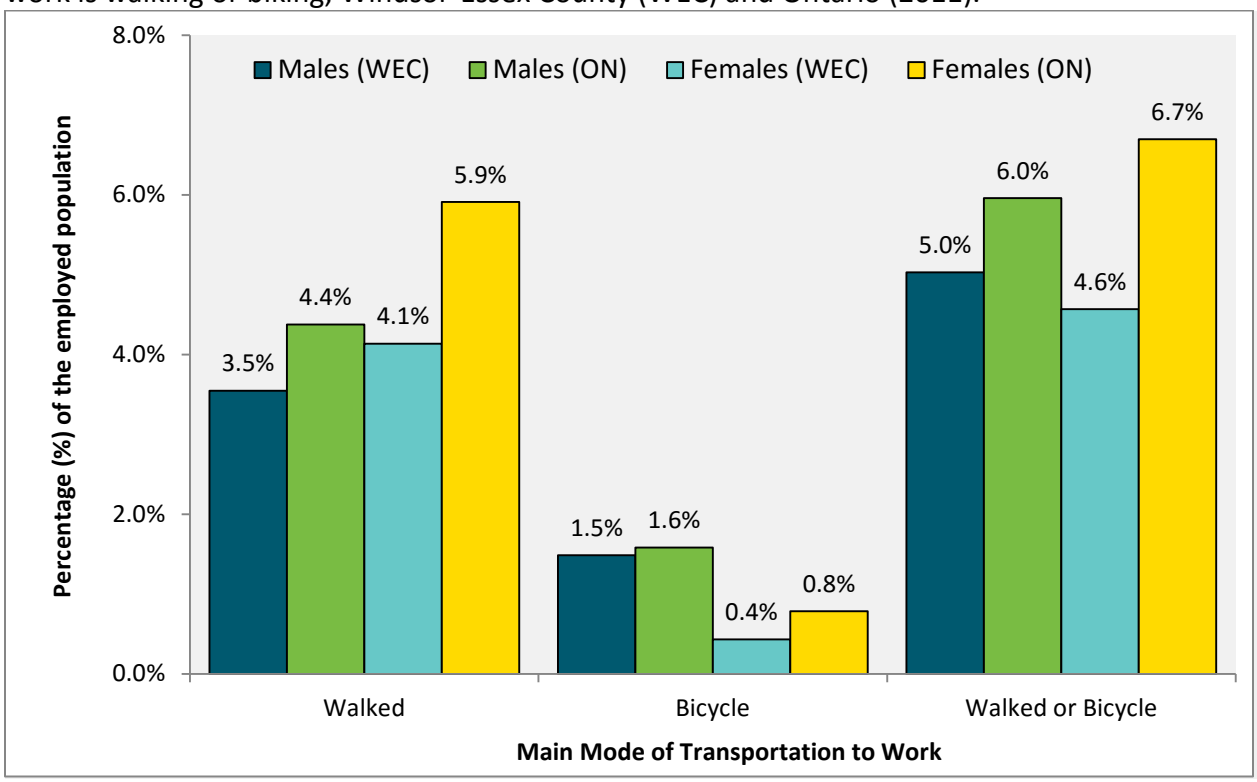
Notes:

- ‡ – The highest level of education in the household.
- E – The estimate should be used with caution due to high sampling variability.
- NR – The estimate is not reportable due to very high sampling variability.

Active Transportation and Recreation

Active transportation refers to any mode of transportation that is powered by physical activity (e.g., walking, biking, in-line skating). Engaging in active transportation is beneficial to health as it gives individuals the opportunity to be physically active, but there are other social, economic, and environmental benefits as well (PHAC 2014). The 2011 National Household Survey asked employed Canadians (≥15 years old) about their main mode of transportation to work. Among workers in Windsor-Essex County, 91.8% indicated that their main mode of transportation to work was a private motor vehicle (e.g., car, truck, van) and 2.5% of workers used public transportation (e.g., public bus route). The percentage of the employed population whose main mode of transportation is walking or biking is reported in **Figure 3** for Windsor-Essex County and Ontario. In general, females reported walking more than males, but males reported biking more than females. Overall, Windsor-Essex County males reported walking or biking to work more than Windsor-Essex County females (this result is the opposite of Ontario). Both males and females from Windsor-Essex County reported using less active transportation compared to the equivalent provincial averages. In fact, if the local estimates were at par with the provincial estimates, there would be 2,333 additional residents using active transportation to commute to work in Windsor-Essex County.

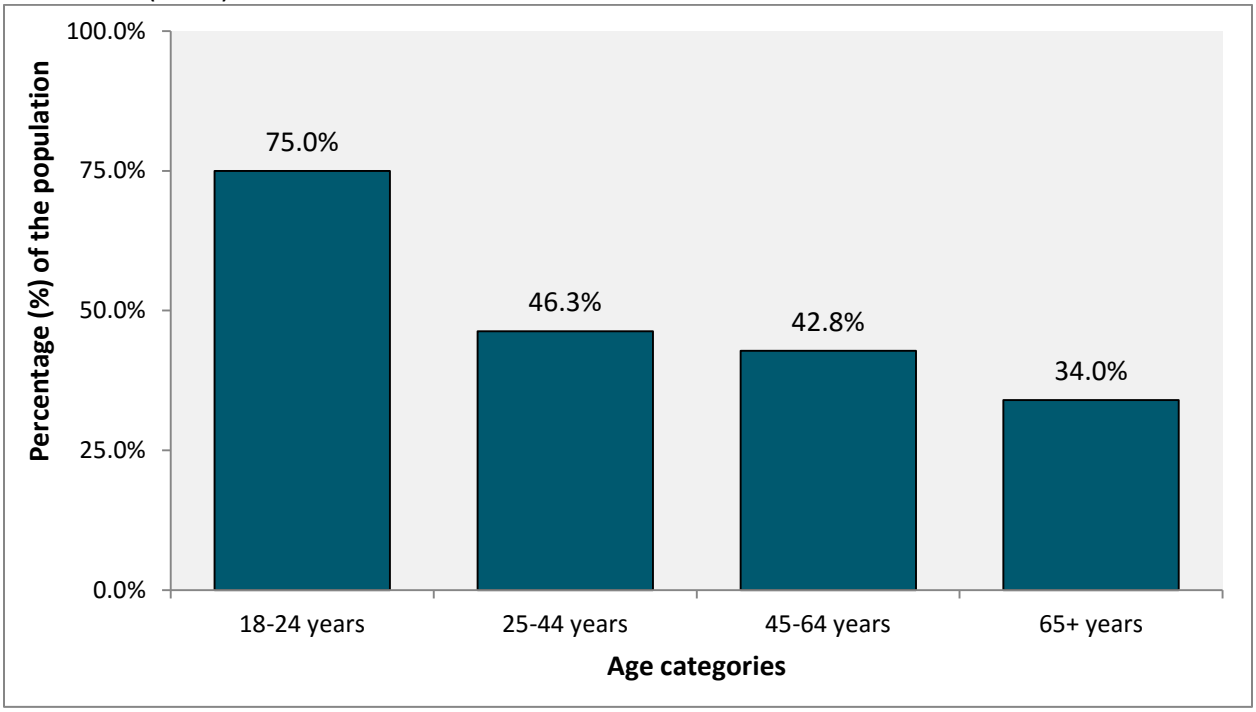
Figure 3. Percentage (%) of the employed population whose main mode of transportation to work is walking or biking, Windsor-Essex County (WEC) and Ontario (2011).



Source: Statistics Canada. 2013. Windsor-Essex County Health Unit (Health Region), Ontario and Ontario (table). Health Profile. 2011 National Household Survey. Statistics Canada Catalogue no. 82-228-XWE. Ottawa. Released December 12, 2013.

Another measure of active transportation, from the RRFSS, is whether adults in Windsor-Essex County report biking or walking in the past 12 months for reasons other than fitness or recreation. Forty-three (42.9%) percent of Windsor-Essex County adults reported biking or walking in the past 12 months for reasons other than fitness or recreation. More males (48.2%) reported using active transportation in the past year compared to females (38.7%). Furthermore, this measure is reported by age categories in **Figure 4**. The use of active transportation decreased with age; 3 in 4 adults (18-24 years old) reported using active transportation in the past year while just over 1 in 3 seniors (≥65 years old) reported using active transportation in the past year. Overall, females and seniors were the least likely to use active transportation in Windsor-Essex County.

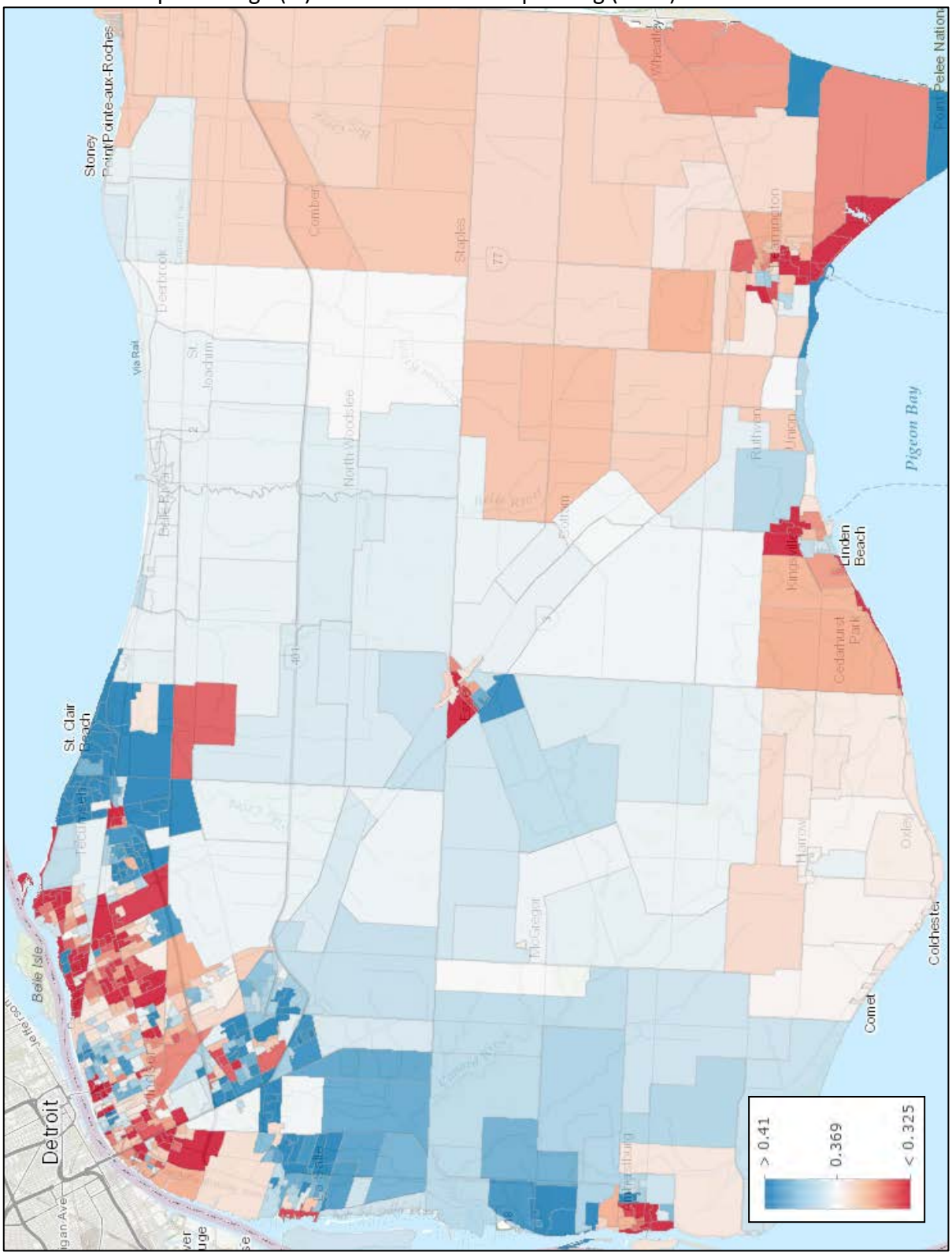
Figure 4. The age-specific percentage (%) of the Windsor-Essex County population (≥18 years old) who self-reported biking or walking in the past 12 months for reasons other than fitness or recreation (2015).



Source: Rapid Risk Factor Surveillance System [May, 2015 – August, 2015], Extracted: [August, 2016].

The percentage of household spending on fees (membership or one-time) related to sports and recreation as a percentage of total household spending is mapped in **Figure 5** by dissemination areas in Windsor-Essex County. This is used as an indicator of household engagement in organized recreation and sport activities. On average, Windsor-Essex County households spent 0.37% of their total household expenditures on fees for recreation and sports. South Windsor, Tecumseh, LaSalle, and one area in Amherstburg spent above average on recreation and sports fees. On the other hand, areas of East and West Windsor, Essex, Leamington, Kingsville, and a cluster in Amherstburg spent below average on recreation and sports fees.

Figure 5. Household spending on fees (membership or one-time) related to sports and recreation as a percentage (%) of total household spending (2015).

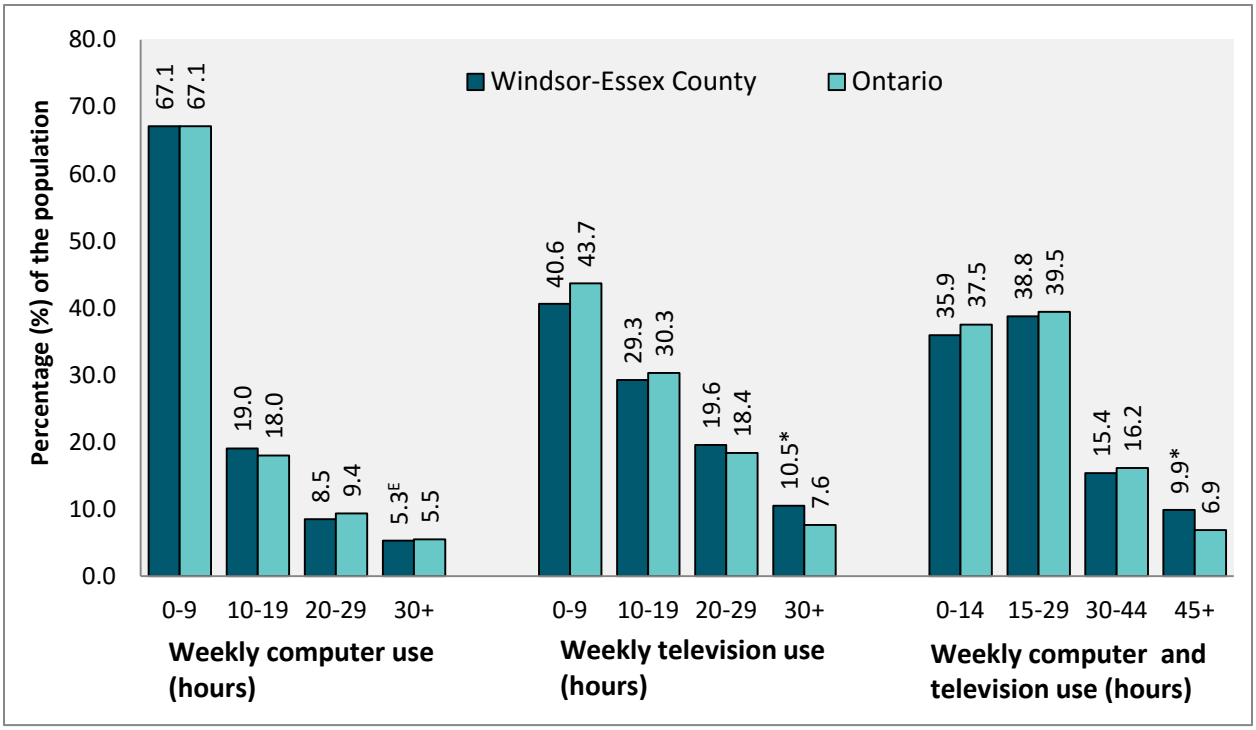


Source: Environics Analytics (2015); Statistics Canada, Survey of Household Spending.

Screen Time

Measuring the amount of time an individual spends watching television and using the computer is one way to assess sedentary behaviour. The screen time indicator is a self-reported measure of the number of hours in a typical week that an individual spends watching television or using the computer during leisure time (excludes use during work or school time). Screen time activities (e.g., watching television, using the computer) can compete with time for physical activity and studies have found that screen time activities are associated with overweight and obesity among children (Andersen, et al. 1998; Crespo, et al. 2001; Wong and Leatherdale 2009). The Canadian Sedentary Behaviour Guidelines and the Canadian Paediatric Society recommend no more than 2 hours of leisure screen time activities per day for children (Canadian Paediatric Society 2003; Canadian Society for Exercise Physiology 2011). Hence, engaging in screen time activities for 15 hours or more per week is used as a threshold for defining frequent users.

Figure 6. Weekly computer and television use among residents (≥12 years old) of Windsor-Essex County and Ontario (2011/2012).



Source: Canadian Community Health Survey [2011-2012], Statistics Canada, Public Use Microdata File, Statistics Canada.

Notes:

- (*) – Statistically significant difference between the equivalent estimates for Windsor-Essex County and Ontario.
- E – The estimate should be used with caution due to high sampling variability.

The frequency of television and computer use is reported in **Figure 6** for residents of Windsor-Essex County and Ontario. Television use has more frequent users than computer use in Windsor-Essex County; in fact, the percent of very frequent television users (10.5% report watching television for 30 hours or more per week) is nearly twice that of very frequent computer users (5.3% report using the computer for 30 hours or more per week). Furthermore, the percentage of very frequent television users (30+ hours per week) in Windsor-Essex County is significantly greater than the Ontario average (7.6%).

When looking at overall screen time (television and computer use), nearly 2 in 3 residents (64.1%) of Windsor-Essex County exceed the recommended threshold of 15 hours per week of engaging in screen time activities (similar to Ontario). However, nearly 1 in 10 residents (9.9%) of Windsor-Essex County engage in screen time activities for 45 hours or more per week (6.5 hours per day) which is significantly greater than the Ontario average (6.9%) (see **Figure 6**).

Frequent screen time users in Windsor-Essex County are reported in **Table 5** according to age categories which are broken down by sex, marital status, highest household education, and household income. The statistically significant findings from this analysis include:

- 78.1% of female seniors (65+ years old) were frequent screen time users. This demographic engages in more screen time activities than any other group in Windsor-Essex County (significantly different from regional average of 64.1%).
- Seniors (65+ years old), in general, are prolific screen time users (72.5% are frequent users) and individuals aged 20-44 years old engage in the least amount of screen time activities (54.9% are frequent users); this difference is statistically significant.
- Middle income households have a greater percentage of frequent screen time users when compared to high income households (statistically significant difference).
- There were no major differences between sexes, marital status, or highest level of household education.

The percentage of frequent screen time users are also reported in **Figure 7** for each municipality in Windsor-Essex County. The estimates for Essex, Lakeshore, Amherstburg, LaSalle, and Windsor tended to be greater than the local and provincial averages. The estimates for Leamington, Kingsville, and Tecumseh tended to be lower than the local and provincial averages. However, these observed tendencies are not supported by statistics due to wide sampling variability from low sample size.

Table 5. Percentage (%) of Windsor-Essex County residents (≥12 years old) who frequently use the computer and television (≥15 hours per week) by age, sex, marital status, highest household education, and household income (2011/2012).

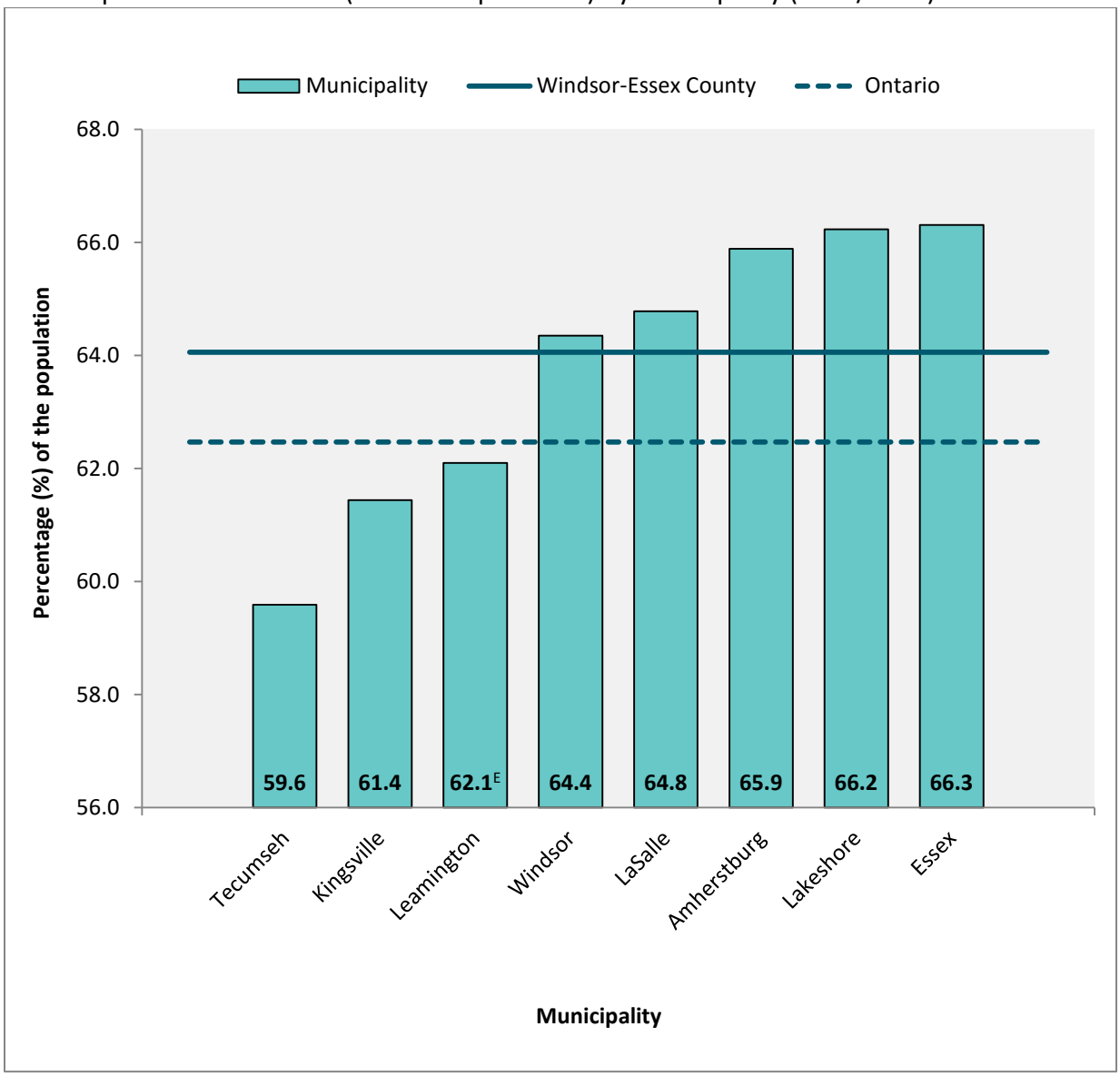
Determinant of Health	12 to 19 years old	20 to 44 years old	45 to 64 years old	≥65 years old	Total
Sex					
Males	66.9	50.8	68.0	65.3	**61.3**
Females	57.2	58.3	69.0	78.1	**66.1**
Marital Status					
Married or Common-Law	NR	52.9	65.4	71.5	**62.2**
Single, Separated, Divorced, or Widowed	61.5	57.4	73.0	73.7	**65.8**
Household Education‡					
High school or less	NR	55.3[E]	72.9	76.5	**66.0**
Post-secondary education	70.0	55.6	67.6	69.2	**63.8**
Household Income					
<$30,000	NR	56.4	66.8	72.6	**64.3**
$30,000-$99,999	67.2	59.0	72.2	72.9	**67.9**
≥$100,000	59.0	48.0	59.2	65.5[E]	**53.7**
Total (age categories)	**61.6**	**54.9**	**68.6**	**72.5**	**64.1**

Source: Canadian Community Health Survey [2011-2012], Statistics Canada, Public Use Microdata File, Statistics Canada.

Notes:

- ‡ – The highest level of education in the household.
- E – The estimate should be used with caution due to high sampling variability.
- NR – The estimate is not reportable due to very high sampling variability.

Figure 7. Percentage (%) of Windsor-Essex County residents (≥12 years old) who frequently use the computer and television (≥15 hours per week) by municipality (2011/2012).



Source: Canadian Community Health Survey [2011-2012], Statistics Canada, Public Use Microdata File, Statistics Canada.

Notes:

- E – The estimate should be used with caution due to high sampling variability.
- The estimate for Pelee could not be reported due to inadequate sample size.
- There were no statistically significant differences between municipalities.

Summary: Active Living in Windsor-Essex County

The first section of this report provided an assessment of active living in Windsor-Essex County using currently available data. This active living data is limited to youth, adults, and seniors (there is a significant gap in active living data for children). The key local findings and statistics from this section are summarized below:

- **Females are less active compared to males.**
  - Physical activity during leisure time is 2-times lower among female youth (31.0%) compared to male youth (62.6%).
  - 38.7% of females report biking or walking in the past 12 months for reasons other than fitness or recreation; this is lower than the estimate for males (48.2%).
  - Walking or biking to work is the main mode of commuting for 4.6% of females which is lower than the same estimate for males (5.0%).
  - 66.1% of females report being frequent screen time users (television and computer) which is greater than males (61.3%).

- **There were significant income-based inequities related to physical activity.**
  - Females from low income households were one of the least physically active populations locally. Only 14.8% of females from low-income households report being physically active during leisure time which is 3-times lower than males from high income households (45.2%).
  - Sedentary behaviour (frequent screen time usage) was greater among individuals from middle income households (67.9%) compared to individuals from high income households (53.7%).

- **Active living generally decreases with age.**
  - Youth (12-19 years old) were the most active compared to all other age groups; meanwhile, 4 out of 5 seniors (≥65 years old) are not active during leisure time.
  - 75.0% of adults 18-24 years old reported using active transportation in the past year which is greater than the same estimate for seniors (34.0%).
  - Seniors are prolific screen time users (72.5% are frequent users) while individuals aged 20-44 years old are the lowest users (54.9% are frequent users).

- **Active living and sedentary behaviour were generally similar between Windsor-Essex County and Ontario.**
  - There was no significant difference between Windsor-Essex County and Ontario for self-reported physical activity during leisure time or frequent screen time usage.
  - However, Windsor-Essex County did have a greater percentage of very excessive screen time users compared to Ontario (1 in 10 residents of Windsor-Essex County engage in screen time activities for 45 hours or more per week).

Healthy Eating

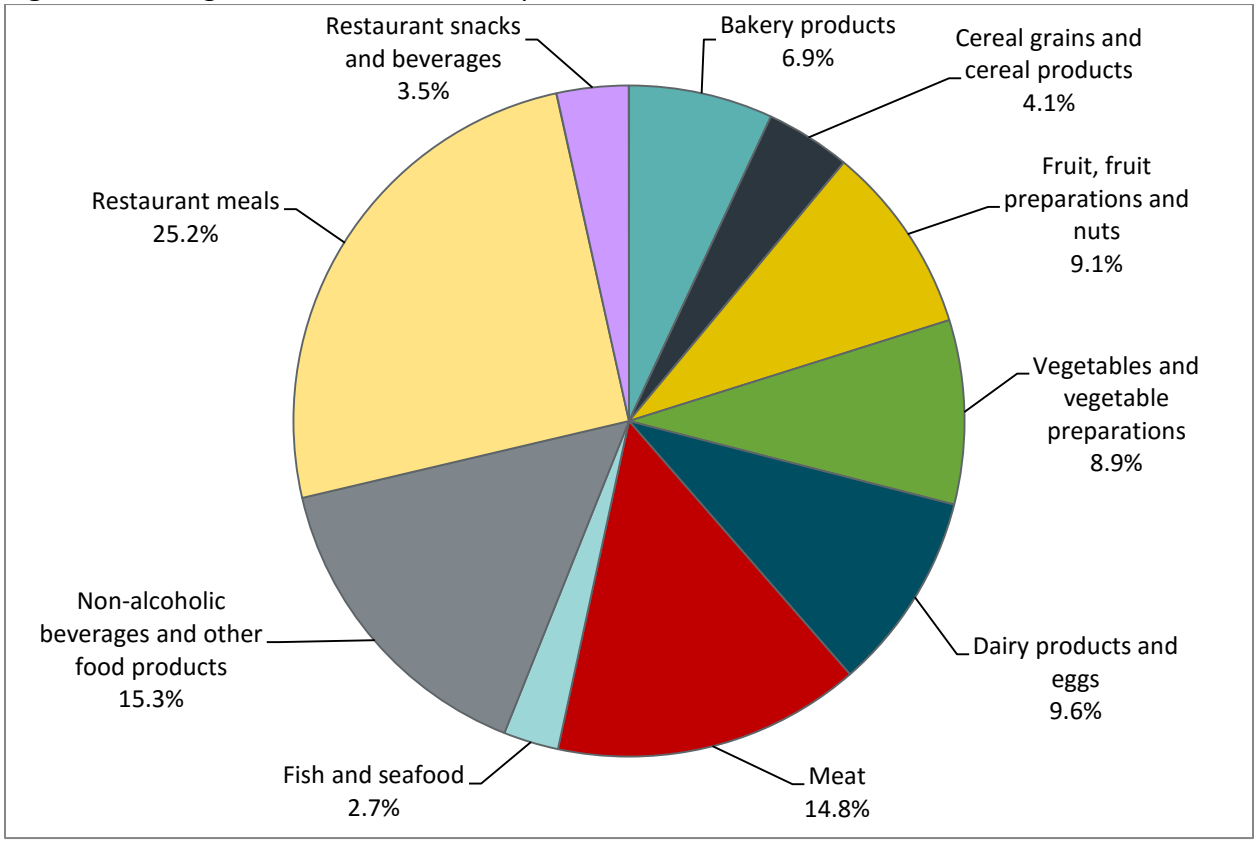
Overview of Eating Habits

The nutrition questionnaire of the 2004 CCHS was created to collect data on the food and nutrient intake of Canadians (Garriguet 2004). This survey provides the most currently available surveillance data on eating habits and is the largest and most comprehensive survey of its kind (Garriguet 2004). The results of this survey are detailed in a Statistics Canada' research paper: *Overview of Canadians' Eating Habits* (Garriguet 2004). The key findings from this research paper, as it relates to the eating habits of Canadians, are summarized below:

- Daily calorie in-take peaks in adolescence and then declines with age. Canadian males have a greater daily calorie in-take compared to Canadian females (Garriguet 2004).
- Canadians should consume a minimum of five servings of vegetables and fruit per day. However, 7 out of 10 children (4-8 years old) and half of adults do not meet this minimum (Garriguet 2004).
- Getting more than 35% of your calories from fat increases your risk of poor health events; over 1 in 4 Canadian adults (31-50 years old) exceed this threshold (Garriguet 2004).
- Adults from high income households are more likely to get ≥35% of their daily calories from fat compared to adults from low or middle income households (Garriguet 2004).
- More than 1 in 3 (37%) children (4-9 years old) do not consume the recommended two daily servings of milk products. By age 30, over 2 in 3 Canadians do not consume the minimum daily servings of milk products (Garriguet 2004).
- Carbohydrates are the main source of energy for Canadians; more than half of consumed calories are from carbohydrates, which is within the recommended range (Garriguet 2004).
- Canadians get more calories from daily snacking than they do from eating breakfast (Garriguet 2004).
- A quarter of Canadians ate from fast-food outlets in the previous day before the survey. Canadians from high income households are more likely to eat food prepared in a fast-food outlet compared to Canadians from low income households (Garriguet 2004).

Further information about average household expenditure on food is collected through Statistics Canada's Survey of Household Spending and is reported in **Figure 8** for Ontario (2014). The average Ontario household spent $8,102 on food in 2014; of this, 71.3% ($5,779) was spent on food from grocery stores and 28.7% ($2,324) was spent on food from restaurants. The largest non-restaurant expenditure was on beverages (non-alcoholic) and other food items (snacks, confectionary, condiments, miscellaneous). Excluding fruit/vegetable juices, 13.0% ($1,051) is spent on fresh vegetables and fruit, which is less than the total ($1,109) spent on 'junk foods': sugar-sweetened beverages ($413), sugar and confectionary (candies/chocolates) ($230), snack food ($63), frozen prepared food ($122), and restaurant snacks/beverages ($281).

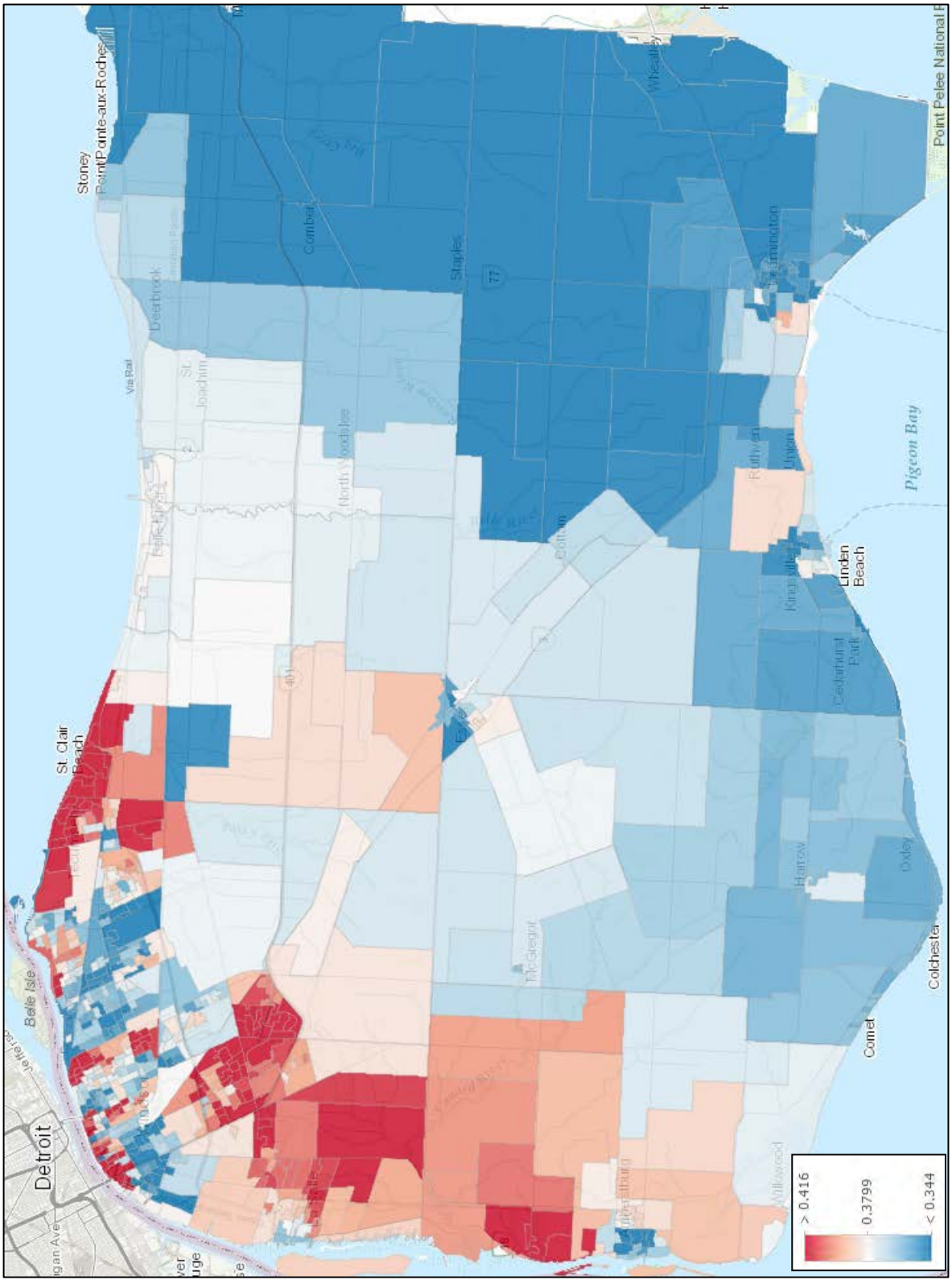
Figure 8. Average Ontario household expenditure on food from stores and restaurants in 2014.



Source: Statistics Canada, CANSIM, table 203-0028 and Catalogue no. 62F0026M. [Last modified: 2016-04-06].

The ratio of household spending on restaurant food relative to household spending on store-bought food was mapped in **Figure 9** for each dissemination area (DA) in Windsor-Essex County. In other words, this map shows the amount ($CAD) spent on restaurant food for every $1 spent on store-bought food. Restaurant foods include any prepared/served food or beverage purchased from a take-out or eat-in restaurant business. On average, DAs in Windsor-Essex County spent $0.38 on restaurant food for every $1 spent on store-bought food. Households from Tecumseh, South Windsor, Windsor's University area, LaSalle, and Amherstburg spent above average on restaurant food relative to their spending on store-bought food (indicated in red). Seven of the top 10 above-average DAs fell within the top quintile for material deprivation (least deprived areas). Households from East Windsor, West Windsor, Essex, Kingsville, and Leamington spent below average on restaurant food relative to their spending on store-bought food (indicated in blue). All of the top 10 below-average DAs fell within the bottom quintile for material deprivation (most deprived deprived areas). Hence, the least deprived neighbourhoods (high income areas) spent above average on restaurant food relative to their spending on store-bought food. This is consistent with Statistics Canada's findings that show that Canadians from high income households are more likely to eat at fast food outlets compared to Canadians from low income households (Garriguet 2004).

Figure 9. Ratio of household spending on restaurant food relative to household spending on store-bought food by dissemination areas in Windsor-Essex County, 2015.



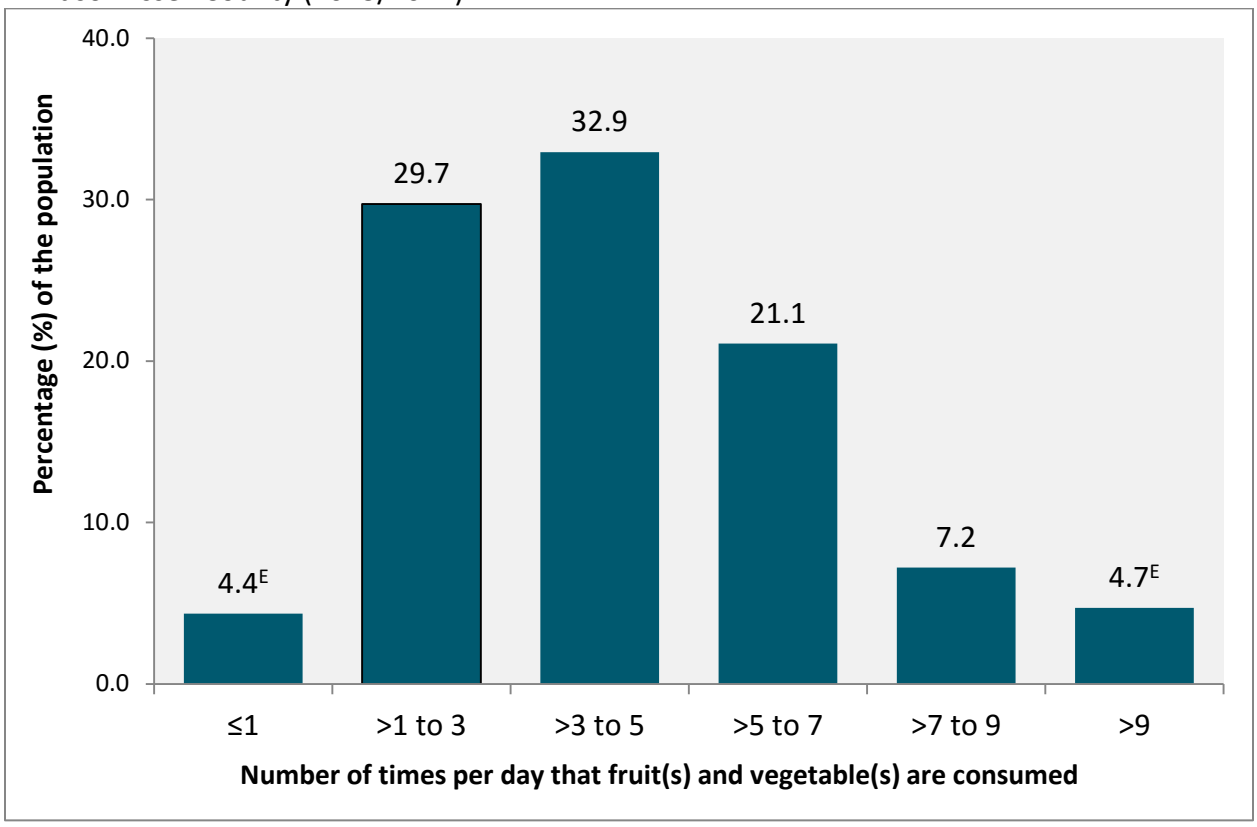
Source: Environics Analytics (2015); Statistics Canada, Survey of Household Spending.

Vegetable and Fruit Consumption

The consumption of vegetables and fruit is used as a population indicator for healthy eating as vegetable and fruit consumption is associated with a lower risk for many health problems such as obesity, heart disease, stroke, and cancer (Perez 2002). The CCHS measures the number of time per day that individuals consume vegetables and fruit (not the number of servings). Research has found that this frequency measure has moderate reliability and validity (Serdula et al. 1993) and is a good proxy for actual vegetable and fruit intake (Traynor, et al. 2006). Historically, this indicator is reported using a cut-off of vegetable and fruit consumption five or more times per day and this cut-off is used for this report.

The different frequencies of daily vegetable and fruit consumption are reported in **Figure 10** for Windsor-Essex County. Over 95% of Windsor-Essex County residents (≥12 years old) report consuming vegetable and fruits multiple times per day. Just over 1 in 3 (34.9%) residents consume vegetables and fruit five or more times per day (Windsor-Essex County, 2013-2014) which is similar to the provincial average (38.9%).

Figure 10. The number of times per day that individuals consume vegetables and fruit in Windsor-Essex County (2013/2014).



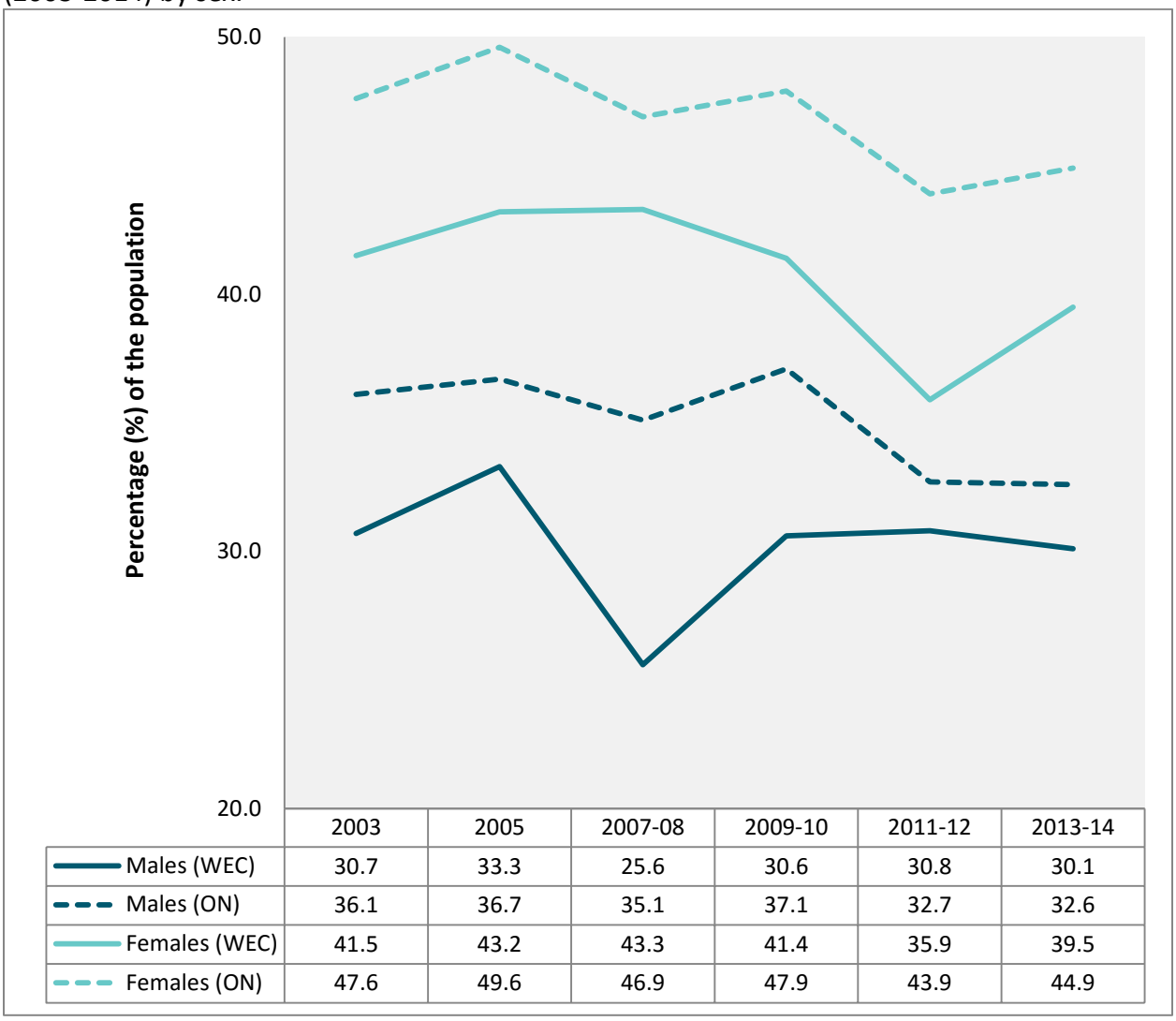
Source: Canadian Community Health Survey [2013-2014], Statistics Canada, Public Use Microdata File, Statistics Canada.

Note:

- E – The estimate should be used with caution due to high sampling variability.

The percentages of the Windsor-Essex County and Ontario populations that consume vegetables and fruit five or more times per day is reported in **Figure 11** by sex for Windsor-Essex County and Ontario (2003-2014). Overall, consumption of vegetables and fruit five or more times per day was greater among females compared to males (locally and provincially). For the most part, Windsor-Essex County males and females did not differ from Ontario males and females, respectively. When looking at the Ontario estimates there does appear to be a decreasing trend among both males and females for the consumption of vegetables and fruit five or more times per day; the fluctuation in local estimates makes it too difficult to determine any trends.

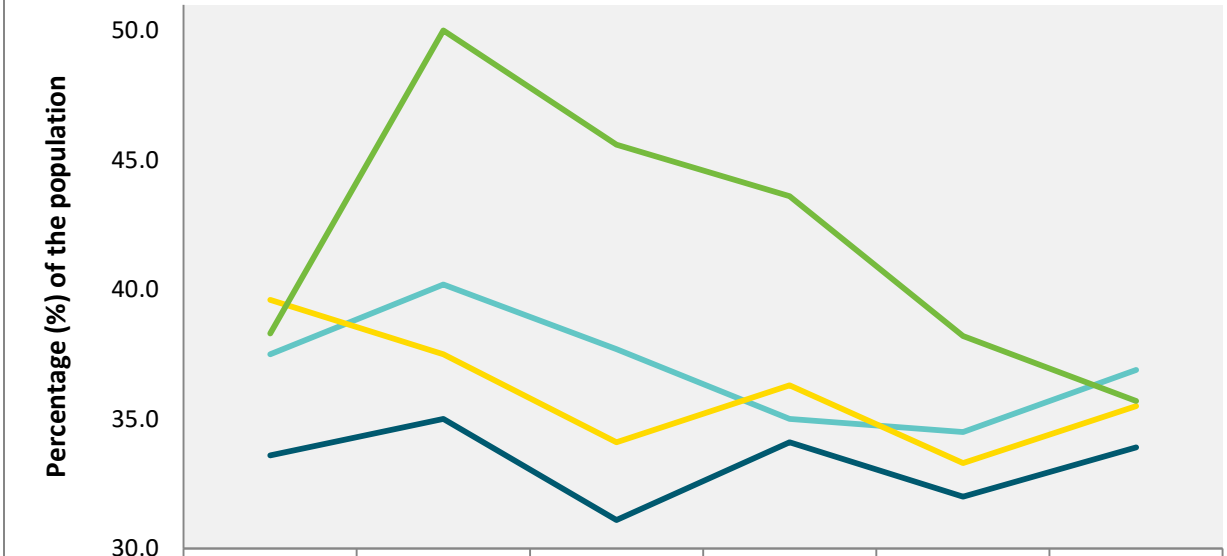
Figure 11. The age-standardized percentage (%) of the population (≥12 years old) that consumes vegetables and fruit five or more times per day in Windsor-Essex County and Ontario (2003-2014) by sex.



	2003	2005	2007-08	2009-10	2011-12	2013-14
Males (WEC)	30.7	33.3	25.6	30.6	30.8	30.1
Males (ON)	36.1	36.7	35.1	37.1	32.7	32.6
Females (WEC)	41.5	43.2	43.3	41.4	35.9	39.5
Females (ON)	47.6	49.6	46.9	47.9	43.9	44.9

Source: Public Health Ontario. Snapshots: WECHU: Self-reported consumption of vegetables and fruits five or more times per day 2003-14. Toronto, ON: Ontario Agency for Health Protection and Promotion; 2016 Feb 1 [cited 2016 Aug 3].

Figure 12. The age-specific percentage (%) of the population (≥12 years old) that consumes vegetables and fruit five or more times per day in Windsor-Essex County (2003-2014).



	2003	2005	2007-08	2009-10	2011-12	2013-14
12-19	37.5	40.2	37.7	35.0	34.5	36.9
20-44	33.6	35.0	31.1	34.1	32.0	33.9
45-64	39.6	37.5	34.1	36.3	33.3	35.5
65+	38.3	50.0	45.6	43.6	38.2	35.7

Source: Public Health Ontario. Snapshots: WECHU: Self-reported consumption of vegetables and fruits five or more times per day 2003-14. Toronto, ON: Ontario Agency for Health Protection and Promotion; 2016 Feb 1 [cited 2016 Aug 3].

The age-specific percentage (%) of the population that consumes vegetables and fruit five or more times per day is reported in **Figure 12** for Windsor-Essex County (2003-2014). Between 2005 and 2014, there was a year-over-year decline for this indicator among seniors (≥65 years old). There was some fluctuation among other age groups, but no notable trends were evident. When looking at the most current data (2013-2014), all age groups had similar estimates (range: 33.9-36.9%) for the consumption of vegetables and fruit five or more times per day.

Consumption of vegetables and fruit five or more times per day was stratified by other social determinants of health (see **Table 6**). Windsor-Essex County residents who were single, separated, divorced, or widowed reported less vegetable and fruit consumption compared to married or common-law residents (statistically significant difference). Residents from households with low educational attainment (high school or less) reported less vegetable and fruit consumption when compared to individuals from households with higher educational attainment (statistically significant difference). Lastly, residents from low income households (household income <$30,000 per year) reported less vegetable and fruit consumption compared to residents from high income household (household income ≥$100,000 per year) (statistically significant difference). One of the greatest disparities was between adults (45-64

years old) from low income and high income households; the proportion of adults who consumed vegetables and fruit five or more times per day was 3.7-times lower for those from low-income households (14.8%) when compared to those from high income households (54.7%) (statistically significant difference).

Table 6. Percentage (%) of Windsor-Essex County residents (≥12 years old) who consume vegetables and fruit five or more times per day stratified by age, sex, marital status, highest household education, and household income (2013/2014).

Determinant of Health	12 to 19 years old	20 to 44 years old	45 to 64 years old	≥65 years old	Total
Sex					
Males	42.1[E]	20.8[E]	31.3	34.7	**29.9**
Females	28.1[E]	44.7	30.9	36.5	**37.2**
Marital Status					
Married or Common-Law	NR	44.4	37.4	45.5	**41.9**
Single, Separated, Divorced, or Widowed	35.5	28.5[E]	21.9[E]	26.0	**28.5**
Household Education‡					
High school or less	NR	25.2[E]	21.2[E]	36.4	**25.3**
Post-secondary education	48.5	38.0	35.1	35.7	**38.2**
Household Income					
<$30,000	NR	26.0[E]	14.8[E]	34.9	**25.7**
$30,000-$99,999	30.4[E]	38.5	27.6	34.6	**33.6**
≥$100,000	53.9	34.4[E]	54.7	49.8[E]	**45.4**

Source: Canadian Community Health Survey [2013-2014], Statistics Canada, Public Use Microdata File, Statistics Canada.

Notes:

- ‡ – The highest level of education in the household.
- E – The estimate should be used with caution due to high sampling variability.
- NR – The estimate is not reportable due to very high sampling variability.

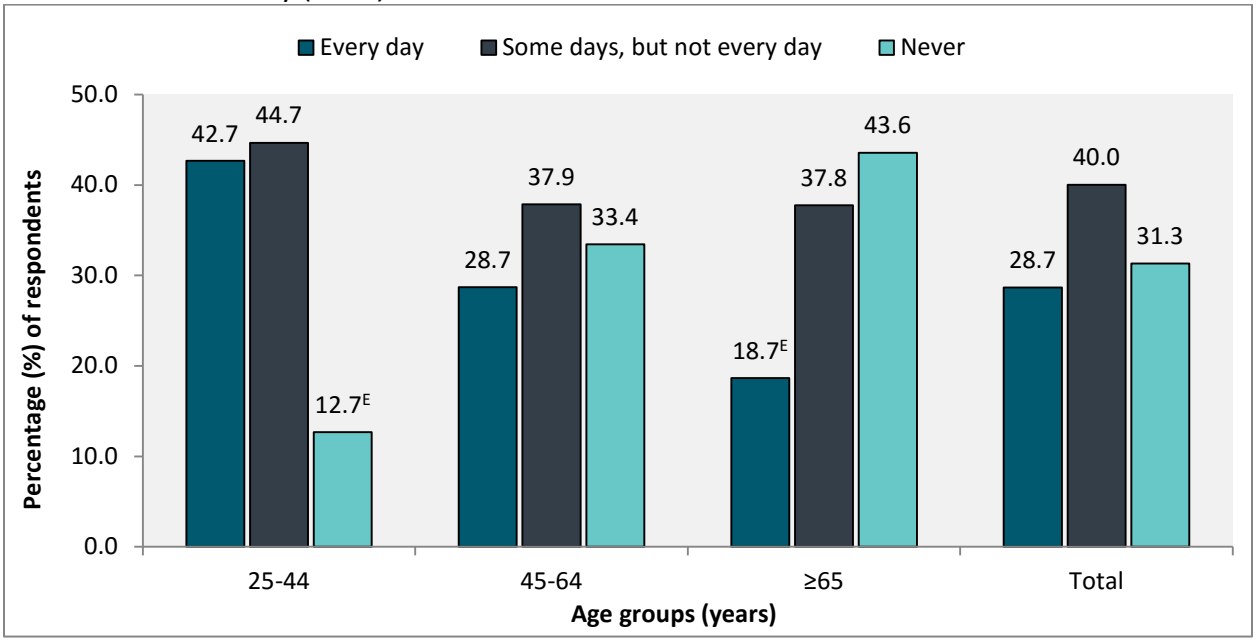
Sugar Sweetened Beverages

The consumption of added-sugar has been linked to numerous health outcomes including obesity, diabetes, cardiovascular disease, and tooth decay (Malik, et al. 2010). The main source of added-sugar in the North American diet comes from sugar sweetened beverages (SSBs) such as soda pop, fruit juice , sport and energy drinks, flavoured drinks, and flavoured milk or coffee/tea (Malik, et al. 2010).

To measure the consumption of SSBs in Windsor-Essex County, respondents (≥18 years old) of the RRFSS survey were ask about beverage consumption in the previous 7 days. In total, more than 2 in 3 (68.7%) adults from Windsor-Essex County reported consuming SSBs on a weekly basis and 28.7% reported consuming SSBs on a daily basis. The daily consumption of SSBs was similar between males (29.9%) and females (28.0%) in Windsor-Essex County.

Consumption patterns of SSBs are reported in **Figure 13** for different age groups in Windsor-Essex County. The consumption of SSBs was associated with age. Windsor-Essex County residents aged 25-44 years old reported significantly greater daily consumption of SSBs compared to seniors (≥65 years old). Likewise, those reporting never consuming SSBs in the past week increased with age.

Figure 13. Consumption of sugar sweetened beverages (SSBs) in the last 7 days by age group, Windsor-Essex County (2015).



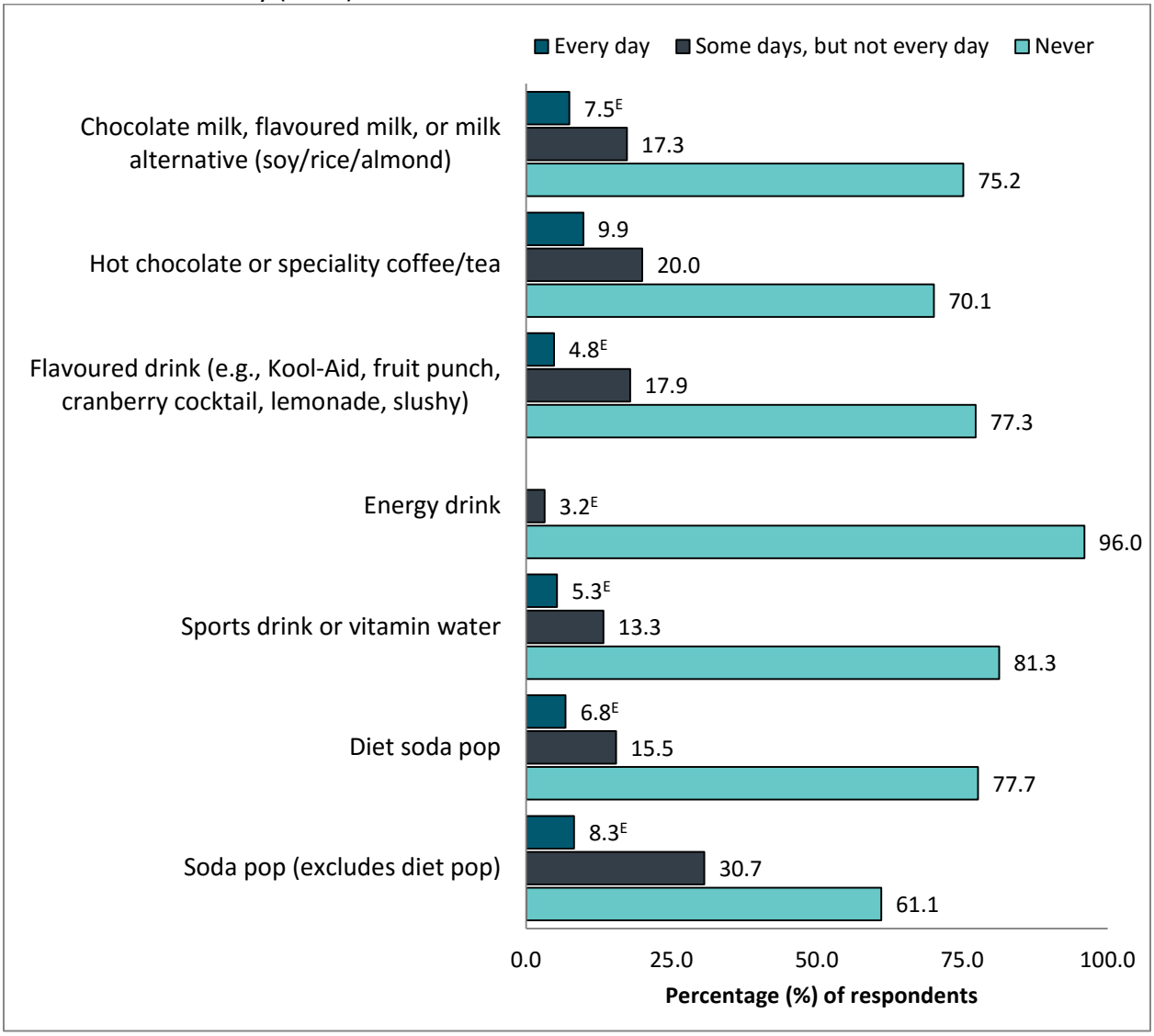
Source: Rapid Risk Factor Surveillance System [September, 2015 – December, 2015], Extracted: [August, 2016].

Notes:

- E – The estimate should be used with caution due to high sampling variability.
- The estimates for individuals aged 18-24 years old could not be reported due to very low sample size.

The types of beverages consumed by Windsor-Essex County residents are reported in **Figure 14**. Soda pop (excludes diet pop) was the most popular SSB beverage consumed; nearly 2 in 5 (39.0%) respondents reported consuming soda pop on a daily or weekly basis. Coffee, tea, or hot chocolate with added-sugar was the SSB most commonly consumed on a daily basis (1 in 10 reported consuming daily). Energy drinks are the most infrequently consumed SSB.

Figure 14. Consumption of sugar sweetened beverages in the last 7 days by type of beverage, Windsor-Essex County (2015).



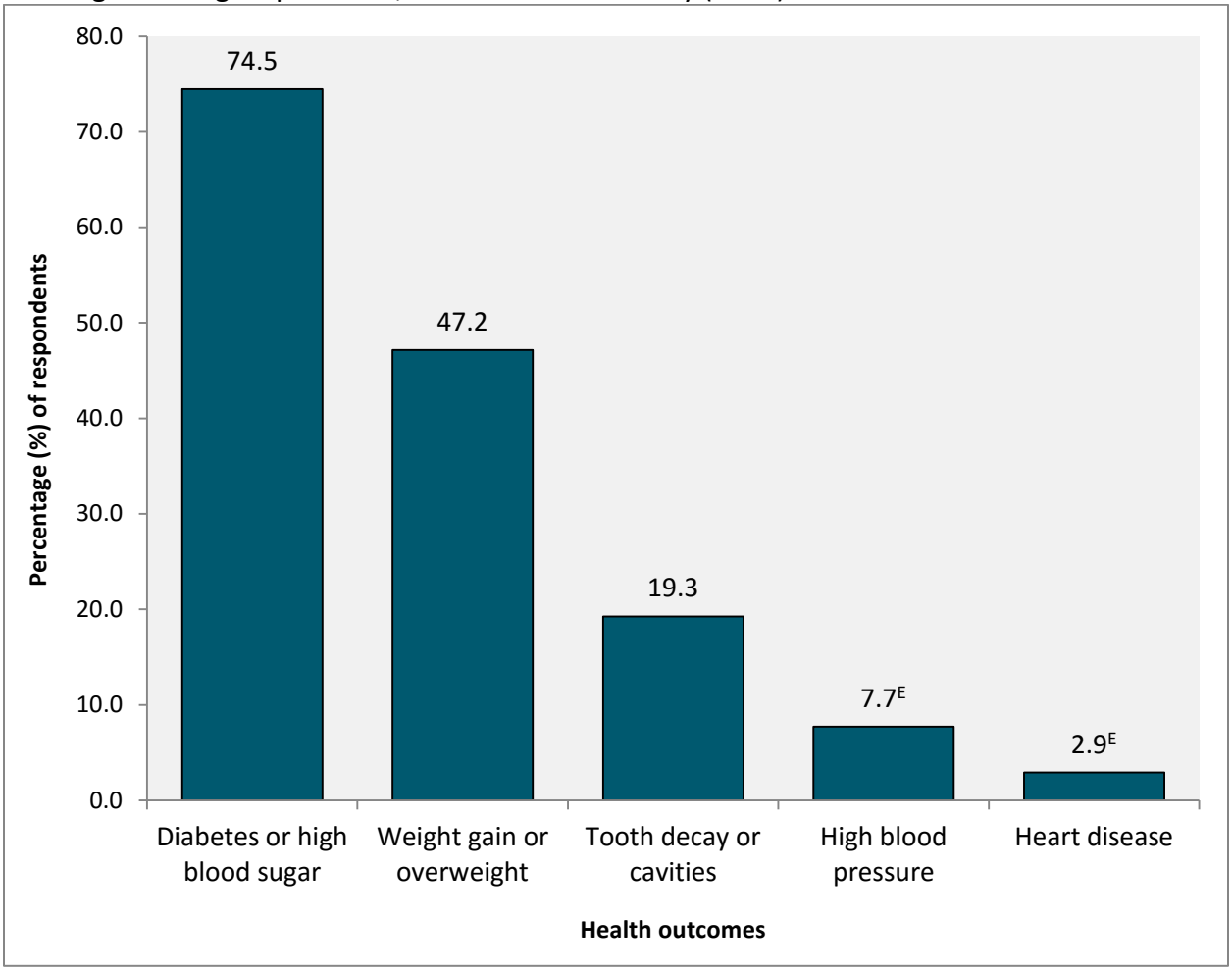
Source: Rapid Risk Factor Surveillance System [September, 2015 – December, 2015], Extracted: [August, 2016].

Notes:

- E – The estimate should be used with caution due to high sampling variability.
- The 'every day' consumption estimate for energy drinks could not be reported due to very high sampling variability.
- 'Flavoured Drinks' include any juices that are not 100% fruit/vegetable juice.

Respondents were also asked about their knowledge of health outcomes related to SSB consumption (see **Figure 15**). In total, 91.9% of respondents agreed that drinking SSBs can have an effect on a person's health (this estimate was not significantly different between males and females, or age groups). Of those respondents who agreed that drinking SSBs can affect health, most (3 in 4 respondents) associated the consumption of SSBs with diabetes or high blood sugar. Forty-seven percent and 19.3% mentioned weight gain/overweight and tooth decay/cavities, respectively, as being associated with SSB consumption. Even fewer respondents associated SSB consumption with high blood pressure and heart disease. Overall, there was significant knowledge gaps related to the health outcomes associated with the consumption of SSBs.

Figure 15. Knowledge of health outcomes related to the consumption of sugar sweetened beverages among respondents, Windsor-Essex County (2015).



Source: Rapid Risk Factor Surveillance System [September, 2015 – December, 2015], Extracted: [August, 2016].

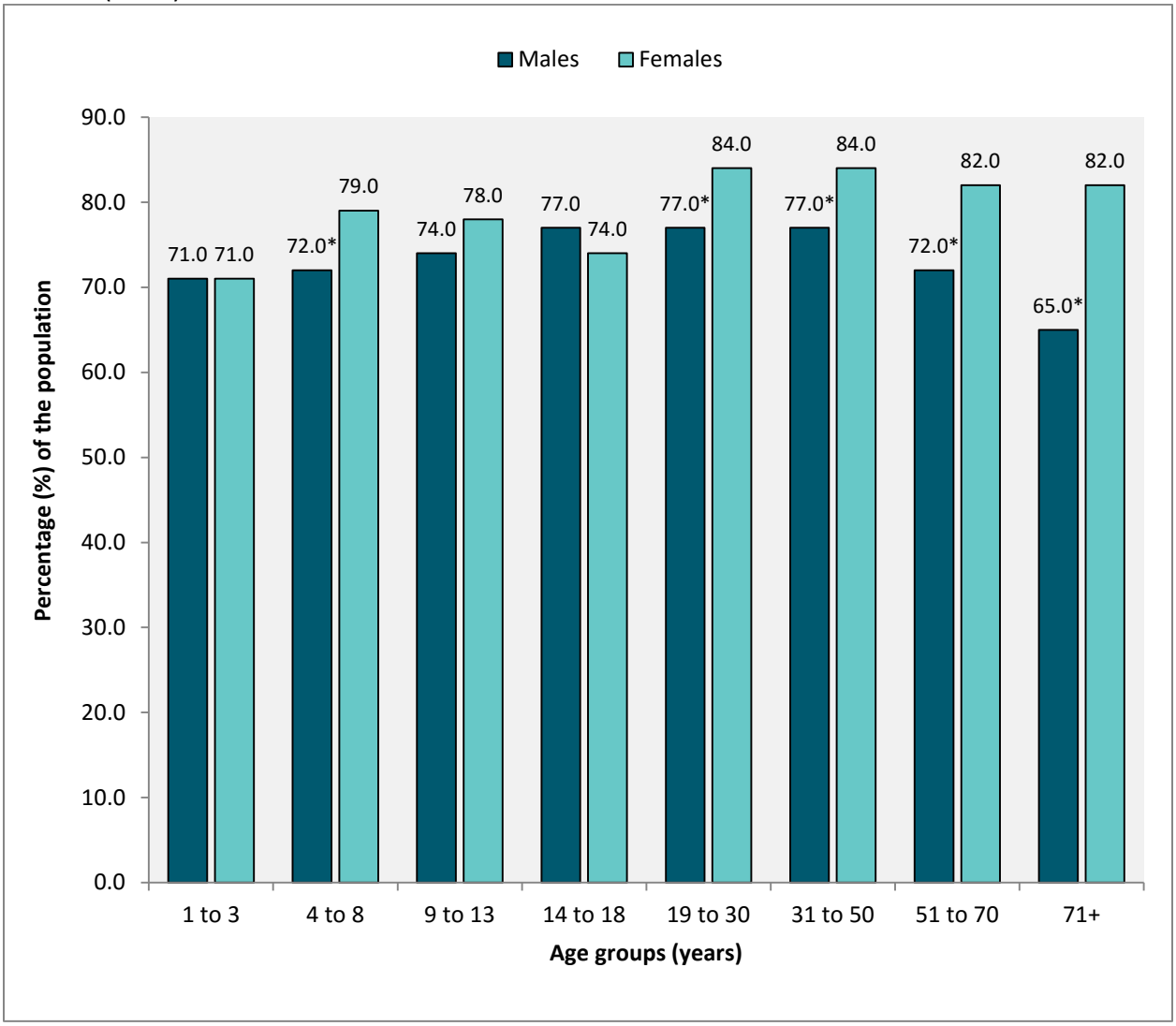
Note:

- E – The estimate should be used with caution due to high sampling variability.
- These estimates exclude individuals who indicated that SSBs have no effect on health.

Hydration

To estimate daily water consumption among Canadians, the Canadian Community Health Survey asked participants (or their caregivers) whether they drank water in the previous day (see **Table 7**). Women aged 19-50 years old were the most likely to consume water daily, while men over 70 years old were the least likely to consume water daily. Adult males from all age groups (≥19 years old) reported significantly less daily water consumption compared to women from the same age groups.

Table 7. Percentage (%) of Canadians who consumed water in the previous day by age groups and sex (2004).



Source: Canadian Community Health Survey [2004], Statistics Canada, Catalogue no. 82-003-X.

Notes:

- (*) – Statistically significant difference between males and females of the same age group.
- These estimates only include data from Canadian provinces (excludes territories).

Food Security

The concept of food security is defined by the Food and Agricultural Organization of the United Nations as "when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life" (FAO 2009). Having access to healthy food is one of the pillars of food security, and the lack of access to affordable, healthy foods creates a barrier to healthy eating, particularly among those who are the most socio-economically deprived (FAO 2009).

Access to Healthy Food

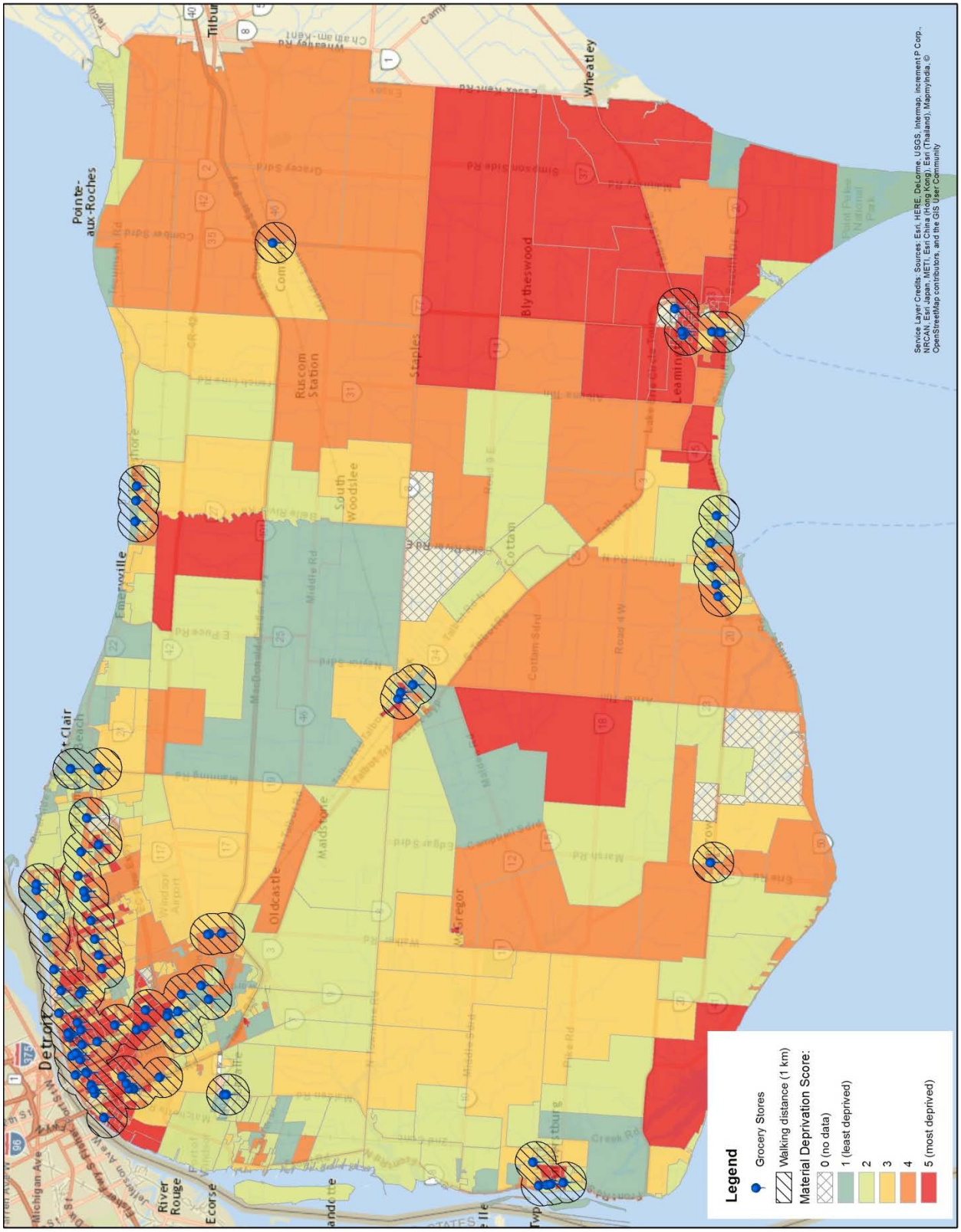
Food outlets such as grocery stores provide access to a variety of fresh produce and unprocessed foods that are essential for a healthy diet. However, access to grocery stores is not equal across communities. Socio-economically deprived areas with poor access to healthy foods are commonly referred to as 'food deserts' (Larsen and Gilliland 2008). When people cannot access or afford food they may turn to food assistance programs. In Ontario, it is estimated that food banks assisted 358,963 people per month in 2015, which is a 14.2% increase since 2008; one-third of Ontarians who accessed food banks were children (Food Banks Canada 2015).

To assess food accessibility in Windsor-Essex County, a database of grocery stores (from August 2015) were mapped across the region. Access was determined based on the ability for residents to walk to these grocery stores. Residents living within 1.0 km (10-15 minute walk) of these grocery stores were considered to have access by foot (Larsen and Gilliland 2008). This grocery store data were mapped with local data on material deprivation (sorted into quintiles), which is a measure of the lack of the goods and conveniences that are a part of modern life such as adequate housing, a car, or a television set (Pampalon, et al. 2009).

The resulting maps of grocery store accessibility are shown in **Figure 16** (for Windsor and Essex County) and **Figure 17** (for the City of Windsor). Most rural areas in the county are not within walking distance of a grocery store and this may limit accessibility to healthy foods, particularly for residents from materially deprived areas such as the cluster in the Leamington area. In the City of Windsor, the west end (around Sandwich Street and Ojibway Parkway) has a materially-deprived area of approximately 2,600 residents who do not have walking access to a grocery store. There was also a materially-deprived area of approximately 6,400 residents around Walker Road and the E.C. Row Expressway that lacked walking access to a grocery store. Lastly, walkable access to a grocery store was lacking in the area between Matchette Road and Front Road in LaSalle which contains several materially-deprived neighbourhoods (consisting of approximately 3,500 residents in total).

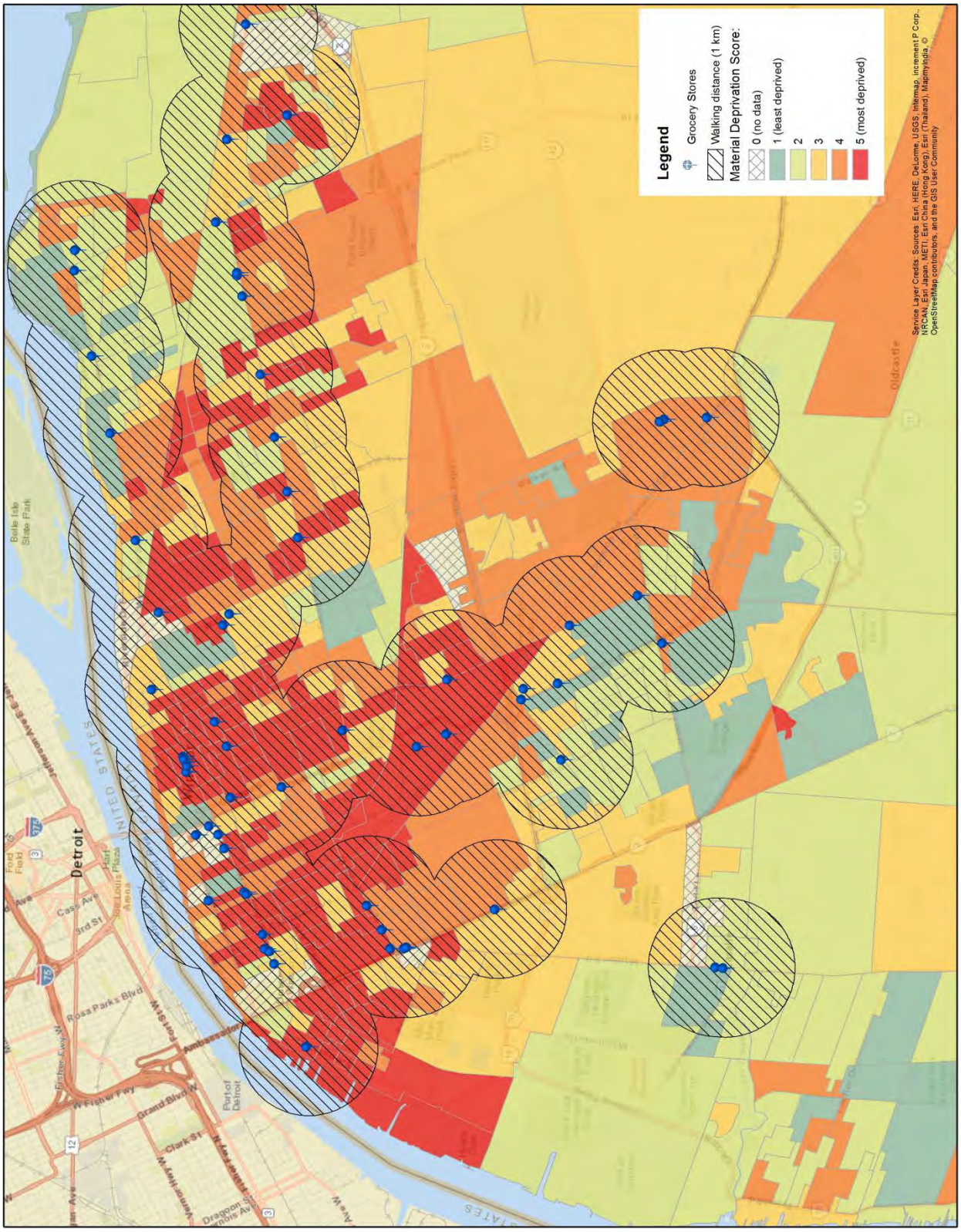
Access to healthy foods is a multifactorial, complex issue and the findings related to grocery store accessibility by foot are only one component. There are other components to food accessibility that must also be considered, such as ensuring that materially-deprived neighbourhoods have grocery store access via public transit routes. Some of these additional issues surrounding food accessibility are covered in a local context in other comprehensive reports such as *Hungry for Change: Working towards a more sustainable food system for Windsor-Essex County* (2009).

Figure 16. Material deprivation and walkable access to grocery stores in Windsor-Essex County.



Sources: Erie-St. Clair LHIN; Windsor-Essex County Health Unit (data from August 2015).

Figure 17. Material deprivation and walkable access to grocery stores in the City of Windsor.



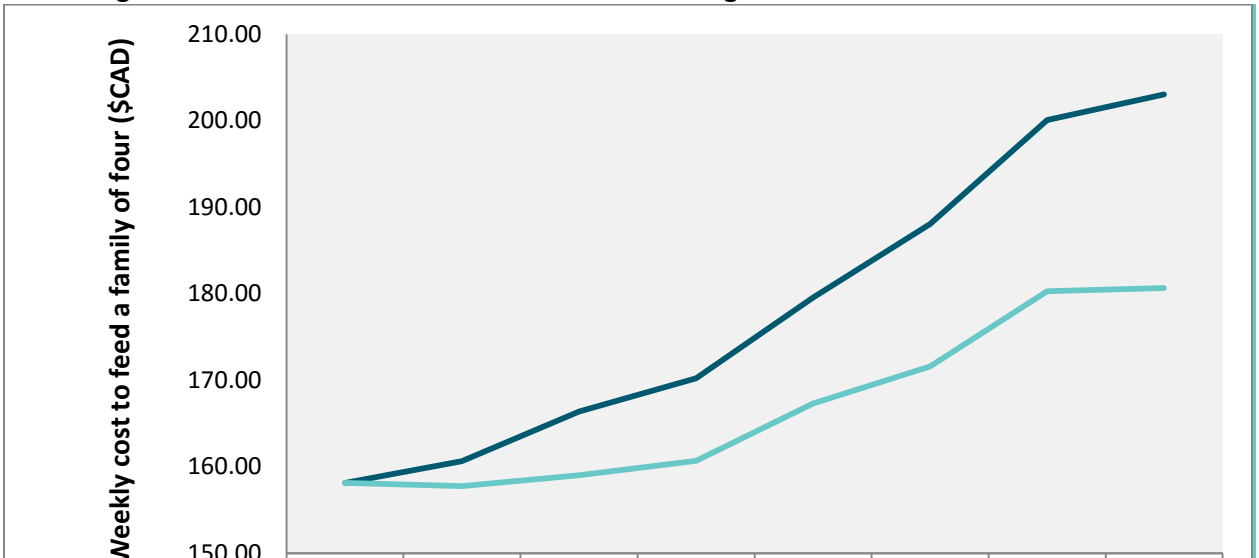
Sources: Erie-St. Clair LHIN; Windsor-Essex County Health Unit (data from August 2015).

Affordability of Healthy Foods

Affordability of healthy foods is another important component of food security. The Windsor-Essex County Health Unit monitors the affordability of healthy eating using the 'National Nutritious Food Basket' costing tool. This tool measures the cost of 67 standardized food items from the four food groups (it does not include processed foods, snacks, or other non-nutritious foods). Each year the Health Unit determines the price of the Nutritious Food Basket by sampling 9 local grocery stores. The lowest price of each food item is recorded at each grocery store (regardless of brand) and an average is calculated for each food item across the 9 grocery stores. There is a 5% addition on top of the total cost to budget for miscellaneous food items (e.g., spices, coffee). These data are then used to estimate the weekly cost of feeding a reference 'family of four': a man and a woman (aged 31-50 years old), a boy (14-18 years old), and a girl (4-8 years old). The data can also be used to estimate the cost of feeding other types of households (e.g., senior couple, single mother with child).

The weekly cost to feed a family of four in Windsor-Essex County is reported in **Figure 18** for the year 2009 through to 2016. It cost an estimated $203.03 per week to feed a family of four in Windsor-Essex County in 2016, which is a 28.4% increase since 2009 (when costs are adjusted to 2009 dollars to account for inflation, the increase was 14.2%). In other words, a family of four spends nearly $45 more today on weekly food costs than they did 7 years ago (this amounts to an estimated $2,334 in extra costs per year).

Figure 18. The weekly cost to feed a family of four in Windsor-Essex County (2009-2016) according to the National Nutritious Food Basket costing tool.



	2009	2010	2011	2012	2013	2014	2015	2016
Actual Cost	158.14	160.66	166.38	170.23	179.54	188.04	200.07	203.03
Adjusted Cost	158.14	157.77	159.03	160.70	167.29	171.58	180.27	180.66

Source: Windsor-Essex County Health Unit Nutritious Food Basket (2016).
Note: 'actual cost' is the cost for that year and 'adjusted cost' is the cost for that year adjusted to 2009 Canadian dollars using the Bank of Canada's inflation calculator.

Individuals earning the Ontario minimum wage of $11.25 per hour (as of October 1st, 2015) can expect to earn $421.88 per week if working full-time (37.5 hours). If a family of four with one parent earning full-time minimum wage wanted to buy healthy foods, nearly half (48.1%) of their weekly earnings would have to go towards groceries, and for a family of four with two parent earning full-time minimum wage, nearly a quarter (24.1%) of their weekly earnings would have to go towards groceries. Hence, the rising cost of healthy foods in Windsor-Essex County can be a substantial barrier to healthy eating, particularly for low income households.

The 2016 weekly costs to feed other types of households are reported in **Table 8** for Windsor-Essex County. Children generally have lower costs than adolescents or adults. Adolescent males (14-18 years old) have the greatest weekly food costs which are twice that of a child. The weekly costs for women are generally lower than men, but the costs increase for pregnant women and new mothers.

Table 8. The estimated weekly food cost for various individuals and households in Windsor-Essex County (2016).

Individuals or Household Type	Weekly Cost
Child (Girl 4-8 years old)	**$32.60**
Teenager (Boy 14-18 years old)	**$65.18**
Single Man (Man 31-50 years old)	**$57.04**
Single Woman (Woman 31-50 years old)	**$48.21**
Single Mother with Child (Woman 31-50 years old, Boy 9-13 years old)	**$93.17**
Expecting Mother (Pregnant Woman 19-30 years old)	**$52.78**
New Mother (Lactating Woman 19-30 years old)	**$56.37**
Senior Couple (Man over 70 years old, Woman over 70 years old)	**$95.61**
Family of four (Man 31-50 years old**,** Woman 31-50 years old**,** Boy 14-18 years old**,** Girl 4-8 years old)	**$203.03**

Source: Windsor-Essex County Health Unit Nutritious Food Basket (2016).

Summary: Healthy Eating in Windsor-Essex County

The second section of this report provided an assessment of healthy eating in Windsor-Essex County. The currently available healthy eating data is not comprehensive, and the data that does exist is limited to youth, adults, and seniors (there is a significant surveillance gap for children). The key local findings and statistics from this section are summarized below:

- **There is opportunity for improvement in the area of healthy eating and nutrition.**
  - Households spend more on 'junk food' than they do on fresh vegetables and fruit.
  - 2 in 3 (65.1%) residents consume vegetables and fruit less than five times per day.
  - There is a decreasing provincial trend in vegetable and fruit consumption.
  - Over 2 in 5 (42.5%) adults 25-44 years old reported consuming sugar sweetened beverages every day.
  - More than half (52.8%) of local residents did not know that sugar sweetened beverages were linked to obesity/overweight.

- **Females have some better healthy eating habits compared to males.**
  - Consumption of vegetables and fruit five or more times per day was greater among females (39.5%) compared to males (30.1%).
  - Daily water consumption was significantly greater among adult (≥19 years old) females compared to adult males.

- **There are considerable healthy eating inequities associated with certain social determinants of health.**
  - The consumption of vegetable and fruit five or more times per day was greater for married or common-law individuals (41.9%) compared to individuals who are single, separated, divorced, or widowed (28.5%).
  - Individuals from households with low educational attainment (high school or less) reported less vegetable and fruit consumption (25.3%) when compared to individuals from households with higher educational attainment (38.2%).
  - Among adults 45-64 years old, the consumption of vegetables and fruit five or more times per day was 3.7-times lower for those from low-income households (14.8%) when compared to those from high income households (54.7%).

- **Food inaccessibility and the rising cost of healthy foods may be barriers to healthy eating.**
  - There were several materially-deprived neighbourhoods in the County of Essex, the City of Windsor and LaSalle that lacked walkable access (10-15 minute walk) to a grocery store.
  - The weekly cost to feed a family of four in Windsor-Essex County was $203.03 for 2016, which is a 28.4% increase since 2009.
  - In other words, a family of four will have to spend an additional $2,334 this year (2016) on healthy food compared to 7 years ago (2009).

Healthy Weights

Child Body Mass Index

There is no current surveillance data for childhood BMI that can be reported locally. The 2012-2013 Canadian Health Measures Survey found that 26.0% of Canadian children (5-11 years old) were overweight or obese. Among Canadian children 5-11 years old, 22.0% of boys were overweight or obese compared to 28.0% of girls (Statistics Canada 2015).

Furthermore, a 2010-2011 study by researchers from the University of Windsor found that 42.0% of children (grade 7 students) from 26 schools in Windsor and Essex County were overweight or obese which is greater than the equivalent Canadian average of 34.0% (Woodruff, et al. 2011).

Adolescent Body Mass Index

The available surveillance data for adolescent BMI comes from the CCHS and can be reported locally for Windsor-Essex County, although the small sample can cause fluctuations in the estimates and limits the ability to stratify these data by demographics or socio-economic status. Between 2003 and 2014, on average 26.1% of youth (12-19 years old) from Windsor-Essex County were overweight or obese, compared to the provincial average of 24.2% (see **Table 9**). When looking at Ontario data, 32.2% of male youth were overweight or obese compared to 18.1% of female youth (statistically significant difference).

Table 9. The crude percentage (%) of overweight and obese youth (12-19 years old) in Windsor-Essex County and Ontario (2003-2014).

Year	Windsor-Essex County	Ontario
2003	34.3	23.4
2005	21.0	24.2
2007-08	21.3	23.8
2009-10	40.2	24.0
2011-12	17.4	24.0
2013-14	22.4	25.5
Average	**26.1**	**24.2**

Source: Public Health Ontario. Snapshots: WECHU: Self-reported consumption of vegetables and fruits five or more times per day 2003-14. Toronto, ON: Ontario Agency for Health Protection and Promotion; 2016 Feb 1 [cited 2016 Aug 3].

Notes:

- These estimates exclude pregnant women.
- Fluctuation among these estimates may be due to small local sample sizes.

Adult Body Mass Index

The local surveillance data available for adult BMI is more current and comprehensive. Self-reported, corrected adult BMI data from the 2013-2014 CCHS is summarized in **Table 10**. In Windsor-Essex County, 2 in 3 (66.5%) adults (≥20 years old) were overweight or obese which is significantly greater than the provincial average (61.7%). Obesity was reported among 1 in 4 (26.1%) adults in Windsor-Essex County. The percentage of overweight or obese males (72.3%) was significantly greater than the percentage of overweight or obese females (60.0%) in Windsor-Essex County. The percentage of adults 20-44 years old (58.1%) who are overweight or obese was significantly lower than adults 45-64 years old (80.1%) and seniors (74.4%). The 80.1% (4 out of 5) of adults (45-64 years old) from Windsor-Essex County who are obese or overweight is significantly greater than the provincial average (71.5%) for this same age group. The other adult age groups from Windsor-Essex County were similar to their provincial counterparts. Overall, the prevalence of overweight and obese adults in Windsor-Essex County is higher than the provincial averages, particularly among adults 45-64 years old.

Table 10. The age-standardized, corrected percentage (%) of overweight and/or obese adults (≥20 years old) in Windsor-Essex County (2013-2014).

Determinant of Health	Percentage (%) overweight	Percentage (%) obese	Percentage (%) overweight or obese
Sex			
Males	46.8	25.6	72.3
Females	33.2	26.8	60.0
Both sexes	40.4	26.1	66.5
Age			
20-44 years old	36.7	21.4	58.1
45-64 years old	47.5	32.8	80.1
≥65 years old	42.3	32.1	74.4

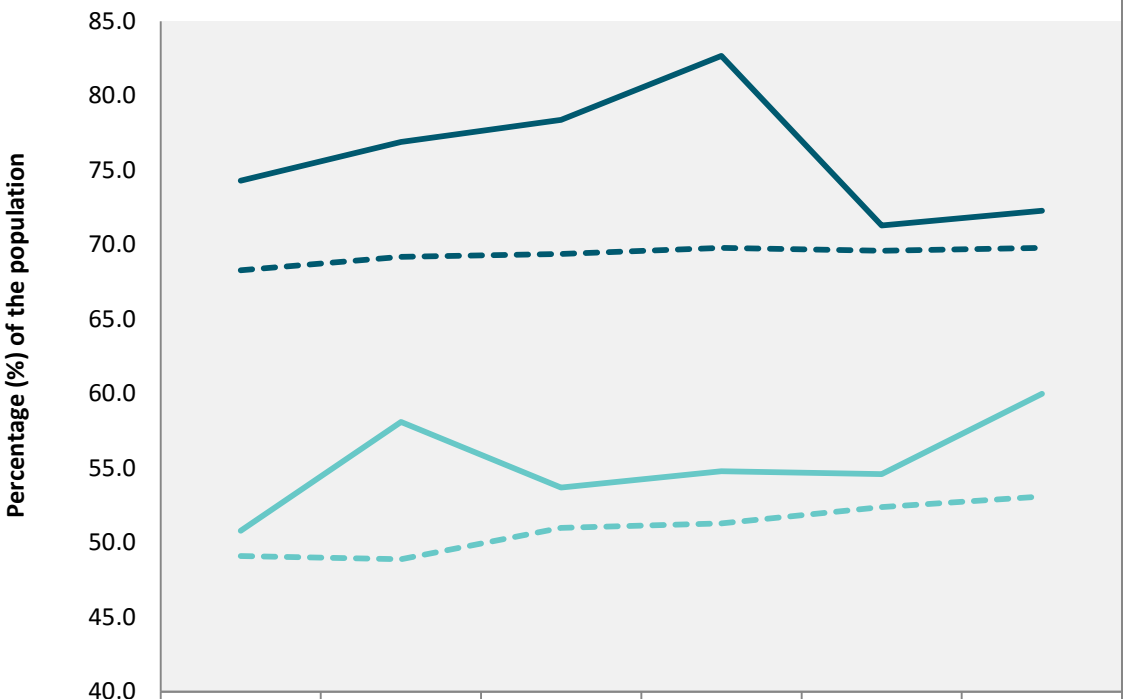
Source: Public Health Ontario. Snapshots: WECHU: Self-reported consumption of vegetables and fruits five or more times per day 2003-14. Toronto, ON: Ontario Agency for Health Protection and Promotion; 2016 Feb 1 [cited 2016 Aug 3].

Notes:

- These estimates exclude pregnant women.
- These estimates were calculated using self-reported BMI that is corrected for respondent bias according to the method reported by Gorber et al., 2008.

The percentage (age-standardized and correct) of adult males and females who are overweight and obese is reported in **Figure 19** for Windsor-Essex County and Ontario (2003-2014). The fluctuation in local estimates makes it difficult to discern any local trends, but there does appear to be an increasing provincial trend among males and females. In both Windsor-Essex County and Ontario, the percentage of overweight or obese females was significantly lower than the percentage of overweight or obese males. Generally, the percentage of overweight or obese males and females from Windsor-Essex County tended to be greater than Ontario males and females, respectively (local males were significantly higher in 2005, 2007-08, and 2009-10, and local females were significantly higher in 2005).

Figure 19. The age-standardized, corrected percentage (%) of the adult population (≥20 years old) who self-report being overweight and obese by sex, Windsor-Essex County and Ontario (2003-2014).



	2003	2005	2007-08	2009-10	2011-12	2013-14
Males (WEC)	74.3	76.9	78.4	82.7	71.3	72.3
Males (ON)	68.3	69.2	69.4	69.8	69.6	69.8
Females (WEC)	50.8	58.1	53.7	54.8	54.6	60.0
Females (ON)	49.1	48.9	51.0	51.3	52.4	53.1

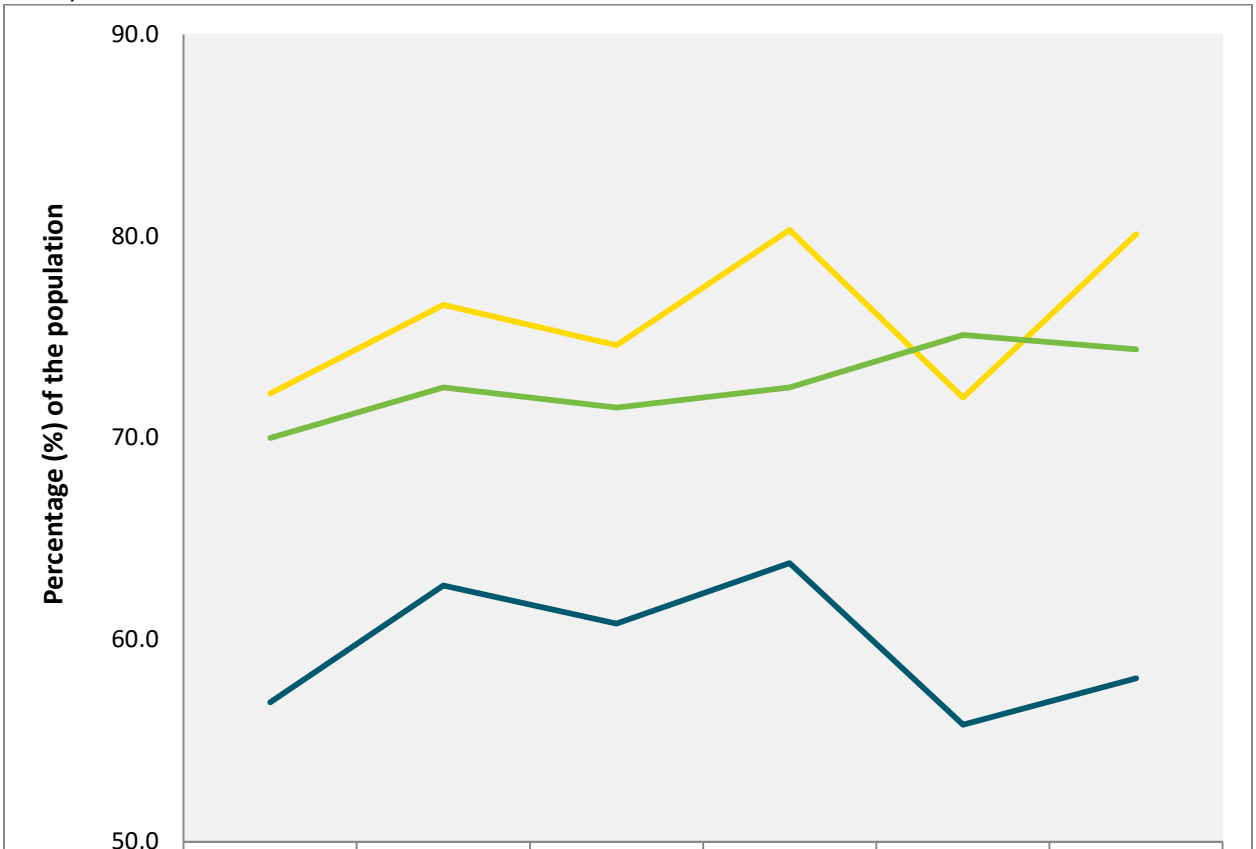
Source: Public Health Ontario. Snapshots: WECHU: Self-reported consumption of vegetables and fruits five or more times per day 2003-14. Toronto, ON: Ontario Agency for Health Protection and Promotion; 2016 Feb 1 [cited 2016 Aug 3].

Notes:

- These estimates exclude pregnant women.
- These estimates were calculated using self-reported BMI that is corrected for respondent bias according to the method reported by Gorber et al., 2008.

The age-specific percentages (corrected) of overweight or obese adults are reported in **Figure 20** for Windsor-Essex County (2003-2014). There was considerable year-to-year fluctuation for local estimates which makes it challenging to discern local trends. In general, adults 45-64 years old were more likely to be overweight or obese compared to all other adult age groups while adults 20-44 years old were significantly less likely to be overweight or obese compared to other adult age groups.

Figure 20. The age-specific, corrected percentage (%) of the adult population (≥20 years old) who self-report being overweight and obese by age categories, Windsor-Essex County (2003-2014).



	2003	2005	2007-08	2009-10	2011-12	2013-14
20-44	56.9	62.7	60.8	63.8	55.8	58.1
45-64	72.2	76.6	74.6	80.3	72.0	80.1
65+	70.0	72.5	71.5	72.5	75.1	74.4

Source: Public Health Ontario. Snapshots: WECHU: Self-reported consumption of vegetables and fruits five or more times per day 2003-14. Toronto, ON: Ontario Agency for Health Protection and Promotion; 2016 Feb 1 [cited 2016 Aug 3].

Notes:

- These estimates exclude pregnant women.
- These estimates were calculated using self-reported BMI that is corrected for respondent bias according to the method reported by Gorber et al., 2008.

The age-specific percentage of overweight and obese adults is reported in **Table 11** for Windsor-Essex County and stratified by certain social determinants of health. Overall, the percentage of overweight and obese adults did not differ by marital status, highest level of household education, or household income. This finding could be due to the fact that there are different drivers of obesity among different socio-economic populations. For example adults from high income households are more likely to get ≥35% of their daily calories from fat and are more likely to eat fast-food compared to Canadians from low income households (Garriguet 2004). On the other hand, this report found that Windsor-Essex County residents from low income households consumed vegetables and fruit fewer times per day compared to residents from high income households.

Table 11. The age-specific percentage (%) of overweight and obese adults (≥20 years old) in Windsor-Essex County (2013-2014) stratified by marital status, education, and income.

Determinant of Health	20 to 44 years old	45 to 64 years old	≥65 years old	Total
Marital Status				
Married or Common-Law	61.4	66.3	61.9	**63.5**
Single, Separated, Divorced, or Widowed	48.8	66.7	62.2	**56.7**
Household Education‡				
High school or less	49.3	71.4	65.0	**62.2**
Post-secondary education	54.9	64.0	60.4	**59.0**
Household Income				
<$30,000	55.2	67.3	55.3	**58.9**
$30,000-$99,999	54.0	62.6	65.9	**59.8**
≥$100,000	51.2	73.5	66.3	**61.7**

Source: Canadian Community Health Survey [2013-2014], Statistics Canada, Public Use Microdata File, Statistics Canada.

Note:

- These estimates exclude pregnant women.
- ‡ – The highest level of education in the household.

Summary: Healthy Weights in Windsor-Essex County

The third section of this report provided an assessment of healthy weights in Windsor-Essex County using currently available data. Most of the healthy weight data is limited to adults and seniors (there are major data gaps for children and youth). The key local findings and statistics from this section are summarized below:

- **Overweight and obesity are very prevalent in Windsor-Essex County.**
  - Local research with elementary school students shows that more than 2 in 5 (42.0%) are overweight or obese.
  - Over a quarter (26.1%) of youth and two-thirds (66.5%) of adults from Windsor-Essex County are overweight or obese.

- **Males and adults (45-64 years old) were more likely to be overweight or obese.**
  - The percentage of overweight or obese males (72.3%) was significantly greater than the percentage of overweight or obese females (60.0%) in Windsor-Essex County.
  - In Windsor-Essex County, 4 out of 5 (80.1%) adults 45-64 years old are overweight or obese which is significantly greater than the provincial average (71.5%) for this same age group.

- **There was no significant association between weight and social determinants (education, income, marital status).**
  - The percentage of overweight and obese adults did not differ by marital status, highest level of household education, or household income.
  - Overweight and obesity are complex, multifactorial health issues. There are multiple, and sometimes unique, factors that could increase the risk for certain individuals or groups. For example, adults from low income households eat fewer vegetables and fruit, and adults from high income households eat more fast-food.

- **There are significant surveillance gaps for healthy weights.**
  - There is a complete lack of local surveillance data on child healthy weights.
  - Local sample size for heathy weights among youth is limited and does not allow for comprehensive analysis.
  - Self-reported measures of BMI do have their own limitations and biases; it would be ideal to have direct measures for healthy weights surveillance.

Conclusions and Recommendations

This health status report highlights some of the local statistics, emerging trends, and at-risk populations as it relates to active living, healthy eating, and healthy weights within Windsor-Essex County. The findings indicate that there are opportunities for improvement in each of these areas: less than 30% of residents report being active during leisure time, just over a third of residents report consuming vegetables and fruit five or more times per day, and 2 in 3 adults are overweight or obese. Furthermore, there were health inequities associated with active living and healthy eating, particularly among individuals from low income households who reported being less active and eating vegetables and fruit less often. This report also identified inaccessibility to grocery stores and the rising cost of healthy foods as potential barriers to healthy eating in the community. Lastly, surveillance gaps limited the ability to assess active living, healthy eating, and healthy weights among local children.

The findings of this reported were used to form recommendations that will help to inform and optimize the direction of public health programs and activities mandated by the Ontario Public Health Standards:

- In addition to universal programming, initiatives involving active living and healthy eating should target populations with the greatest needs:
    - Active living programs in Windsor-Essex County should target females and individuals from low income households.
    - Healthy eating programs in Windsor-Essex County should target males, individuals who are not married/common-law, and individuals from households with low income or lower educational attainment.
- The social determinants of health are a driver of health inequities related to active living and healthy eating. Public health can play a role in supporting and advocating for improved societal changes to address the root causes of these health inequities.
- Promote healthy food environments and support policies that reduce barriers to healthy eating, particularly as it relates to accessibility and affordability of healthy foods in Windsor-Essex County.
- Work towards improved assessment and surveillance of children and youth, both provincially and locally, in the areas of active living, healthy eating, and healthy weights.
- Due to the complex and dynamic nature of active living, healthy eating, and healthy weights, public health initiatives in these areas should continuously ensure that their programming is supported by current research, evidence, and/or best practices. These programs should regularly be re-examined for relevance and evaluated for effectiveness.

The findings and recommendations of this report will help to inform and optimize the planning, direction, and provision of public health programs and services in Windsor-Essex County. Working towards improving active living, healthy eating, and health weights will require a comprehensive approach and collaboration across sectors.

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WINDSOR-ESSEX COUNTY
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