Chronic Disease Prevention and Well-being

Health Status by Program Area

Population Health Assessment
Southwestern Public Health
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Contents

Summary

This report is intended to complement the 2019 health status report titled Understanding our Communities' Health, which aimed to provide a high-level overview of the current health status of people residing in the Southwestern Public Health (SWPH) region, which includes Oxford County, Elgin County and the City of St. Thomas.[1] This report includes many of the same indicators, but highlights differences by sociodemographic characteristics such as age, sex, income and education, where possible. These indicators were chosen based on the data needs of SWPH's Chronic Disease Prevention & Well-being team. The information included in this report may assist in program planning and be used to increase community awareness of health issues. The overarching trends are summarized below.

- As expected, many of the indicators in this report differed by age. As age increased, people reported worse general health, less physical activity, less active transportation and more screen time during leisure time as well as higher rates of hospitalizations and deaths from cardiovascular diseases, respiratory diseases, diabetes and dementia.
- In the SWPH region, the proportion of older adults (65 years and older) was higher than in Ontario (18.4% versus 16.7%) and the older adult population is expected to increase from 40,673 people in 2019 to 49,697 people by 2025. Our increasingly aging population is expected to increase the rates of chronic diseases.
- There were also some differences by sex: females were more likely to consume fruits or vegetables five or more times per day and were more likely to use the 2007 version of Canada's Food Guide compared to males. Males were more likely to be hospitalized for cardiovascular diseases and diabetes compared to females.
- As household income increased, people reported better general health, more physical activity and increased awareness of Canada's Food Guide. Similar results were found with increasing education. People with a postsecondary education reported more physical activity and less screen time during leisure time and they were more likely to use Canada's Food Guide to choose foods.
- People living in the urban municipalities of Woodstock, Ingersoll, Tillsonburg, St. Thomas and Aylmer reported more screen time during leisure time and more hospitalizations for cardiovascular diseases, respiratory diseases, diabetes and dementia compared to people living in the rural municipalities.

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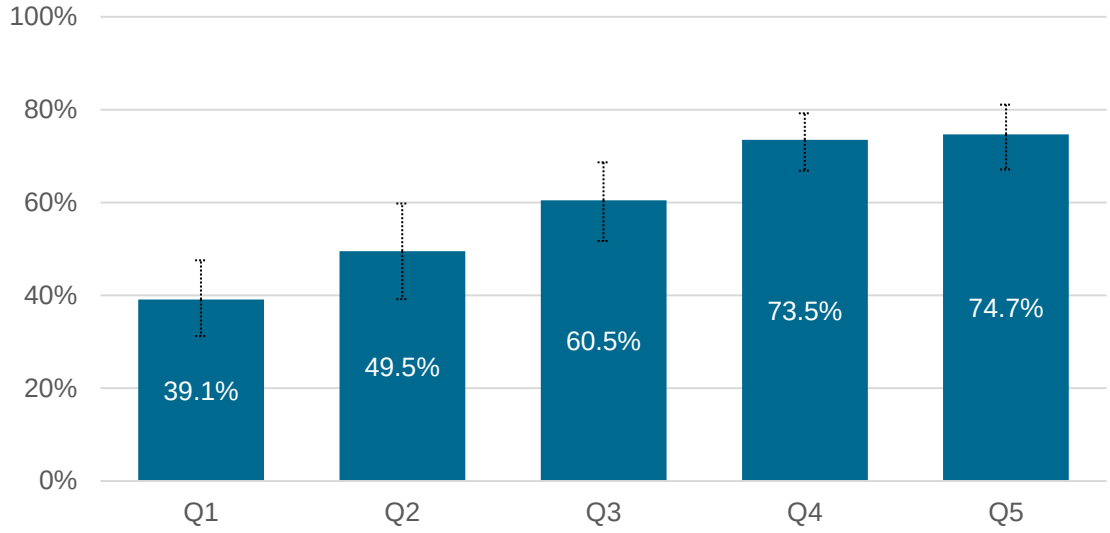
The data presented in this report may differ slightly from previous reports; data in the report titled Understanding our Communities' Health was age-standardized to compare local data to Ontario whereas the data presented in this report is not age-standardized and focuses on local differences between subgroups of the population.

General Health

From 2015 to 2016, 61.4% (95% confidence interval (CI): 56.9-65.8) of people aged 12 years and older living in the SWPH region reported very good or excellent general health, 25.4% (95% CI: 22.0-29.1) reported good general health and 13.2% (95% CI: 11.1-15.7) reported fair or poor general health.

Self-reported general health varied by household income quintile (denoted by Q1 to Q5); the richest 60% of the population (Q3 to Q5) was more likely to report very good or excellent general health compared the poorest 20% of the population (Q1; Figure 1). In addition, the richest 40% of the population (Q4 and Q5) was more likely to report very good or excellent general health compared to the poorest 40% of the population (Q1 and Q2). There was no difference in self-reported general health by education or between males and females.

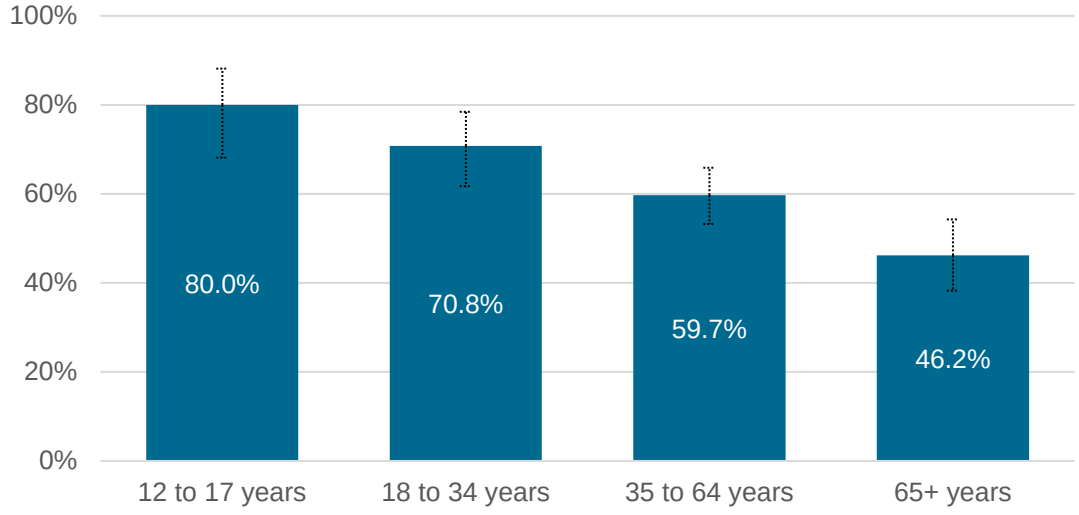
Figure 1. Very good or excellent general health by income quintile[a], residents 12 years and older, Southwestern Public Health, 2015-2016



Source: Canadian Community Health Survey (2015-2016), Statistics Canada, Share File, Ontario MOHLTC.

Additionally, a higher proportion of youth (12 to 17 years) reported very good or excellent general health compared to middle-age adults (35 to 64 years) and older adults (65 years and older). Similarly, a higher proportion of young adults (18 to 34 years) reported very good or excellent general health compared to older adults (Figure 2).

Figure 2. Very good or excellent general health by age group, Southwestern Public Health, 2015-2016



Source: Canadian Community Health Survey (2015-2016), Statistics Canada, Share File, Ontario MOHLTC.

[a] Quintiles are five equal groups divided based on their level of income (each group contains 20% of the population). Therefore, people in Q1 have the lowest 20% of incomes and people in Q5 have the highest 20% of incomes. Using this data source, it is not possible to provide the income ranges associated with each quintile.

Self-reported Chronic Conditions

The most common chronic conditions self-reported by people living in the SWPH region were: joint pain, aching or stiffness in the past 30 days (44.3%); arthritis (25.0%); and back problems (23.6%; Table 1).

Table 1. Self-reported chronic conditions, Southwestern Public Health, 2015-2016

Chronic disease	Per cent (95% CI)
People 12 years and older	
Joint pain, aching or stiffness in the past 30 days	44.3% (40.2%-48.6%)
Arthritis (e.g., osteoarthritis, rheumatoid arthritis, gout or any other type, excluding fibromyalgia)	25.0% (21.9%-28.3%)
Back problems (excluding scoliosis, fibromyalgia and arthritis)	23.6% (20.3%-27.2%)
High blood pressure	17.7% (15.2%-20.4%)
Migraine headaches	12.7% (10.5%-15.3%)
Asthma	9.5% (7.5%-12.0%)
Diabetes	7.7% (6.2%-9.6%)
Sleep apnea	5.3%* (3.7%-7.3%)
Heart disease	4.9%* (3.6%-6.6%)
Multiple chemical sensitivities	3.2% (2.4%-4.4%)
Fibromyalgia	2.6%* (1.8%-3.8%)
Scoliosis	2.4%* (1.6%-3.7%)
Chronic fatigue syndrome	1.6%* (1.1%-2.4%)
Effects of a stroke	1.6%* (1.0%-2.5%)
Cancer	1.4%* (0.9%-2.3%)
People 18 years and older	
High blood cholesterol/lipids	15.9% (13.6%-18.6%)
People 35 years and older	
Chronic bronchitis, emphysema or chronic obstructive pulmonary disease (COPD)	5.6% (4.4%-7.1%)
People 40 years and older	
Osteoporosis	9.1%* (6.4%-12.6%)

*These per cents should be interpreted with caution due to their variability.

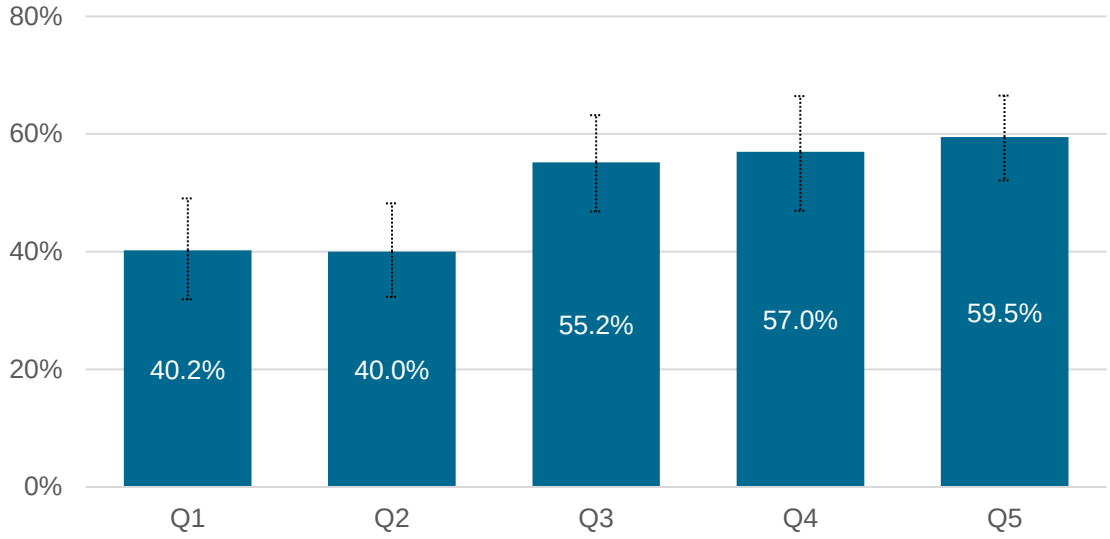
Source: Canadian Community Health Survey (2015-2016), Statistics Canada, Share File, Ontario MOHLTC.

Physical Activity

From 2015 to 2016, 51.8% (95% CI: 48.1-55.5) of adults (18 years and older) living in the SWPH region were physically active, meaning that they met or exceeded the Canadian Physical Activity Guideline, which recommends at least 150 minutes of moderate- to vigorous-intensity[b] aerobic physical activity per week in bouts of 10 minutes or more. There were no differences in physical activity between males and females or between people living in urban municipalities compared to rural municipalities.

However, the proportion of physically active adults varied by household income; the richest 40% of the population (Q4 and Q5) were more likely to report being physically active compared to the poorest 20% of the population (Q1; Figure 3).

Figure 3. Proportion of physically active adults (18 years and older) by income quintile, Southwestern Public Health, 2015-2016

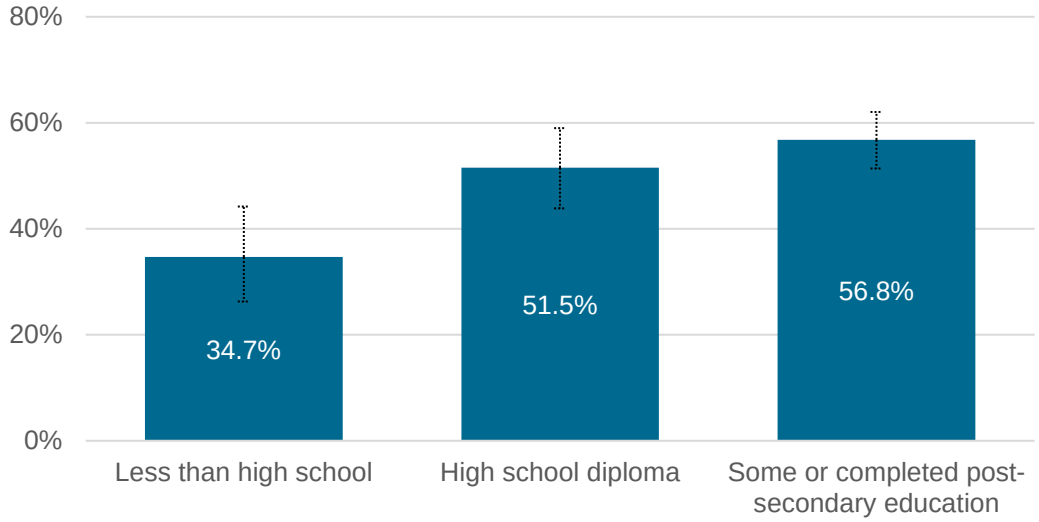


Source: Canadian Community Health Survey (2015-2016), Statistics Canada, Share File, Ontario MOHLTC.

A higher proportion of people with some post-secondary education and people who completed post-secondary education reported being physically active compared to people with less than a high school education (56.8% versus 34.7%; Figure 7).

[b] The 2015-2016 Canadian Community Health Survey (CCHS) no longer asks for the type of activity in order to calculate physical activity levels. Instead, moderate physical activity includes activities that caused the participant to sweat at least a little or breathe harder. Vigorous intensity physical activity includes activities that caused the participant to be out of breath.

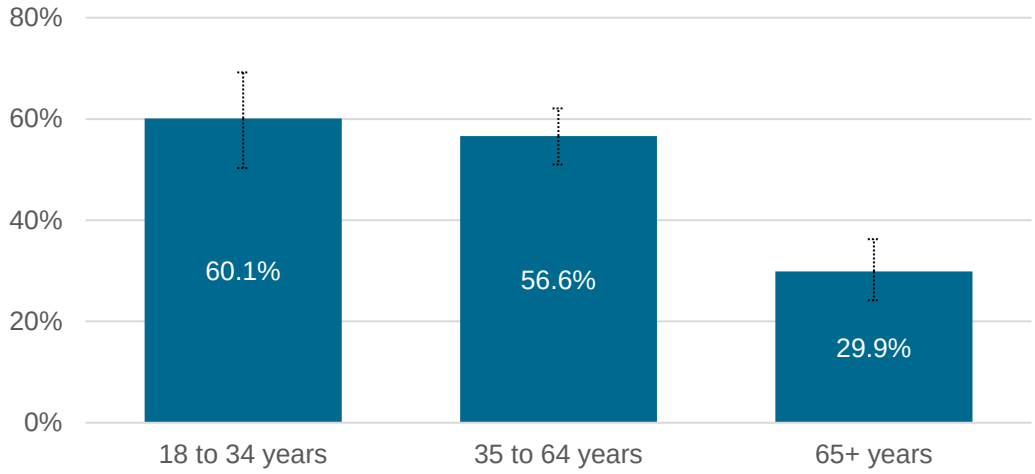
Figure 4. Proportion of physically active adults (18 years and older) by education, Southwestern Public Health, 2015-2016



Source: Canadian Community Health Survey (2015-2016), Statistics Canada, Share File, Ontario MOHLTC.

A lower proportion of people aged 65 years and older reported being physically active compared to people aged 18 to 34 years and 35 to 64 years (Figure 5).

Figure 5. Proportion of physically active adults (18 years and older) by age group, Southwestern Public Health, 2015-2016



Source: Canadian Community Health Survey (2015-2016), Statistics Canada, Share File, Ontario MOHLTC.

It's important to note that Statistics Canada recently found that physical activity is typically overestimated in self-reported surveys like the Canadian Community Health Survey (CCHS). Furthermore, they found that less active adults were more likely to overestimate their physical activity whereas more active adults were more likely to underestimate their physical activity.[2]

Sedentary Activity and Screen Time

Sedentary activity

From 2015 to 2016, 71.1% (95% CI: 66.5-75.3) of people aged 12 years and older living in the SWPH region spent 15 or more hours of leisure time each week doing sedentary activities. This includes reading, using a computer, using the Internet, playing video games and watching television or videos. Sedentary activity did not vary based on sociodemographic characteristics.

Screen time

From 2015 to 2016, 57.2% (95% CI: 52.8-61.6) of people aged 12 years and older living in the SWPH region spent 15 or more hours of leisure time each week using a screen device (i.e., screen time), excluding reading. A higher proportion of people living in the urban municipalities spent 15 or more hours of leisure time each week using a screen device compared to people living in the rural municipalities (Figure 6).

Figure 6. Proportion of the population that spent 15 or more hours of leisure time per week using a screen device by rural or urban residence, residents 12 years and older, Southwestern Public Health, 2015-2016

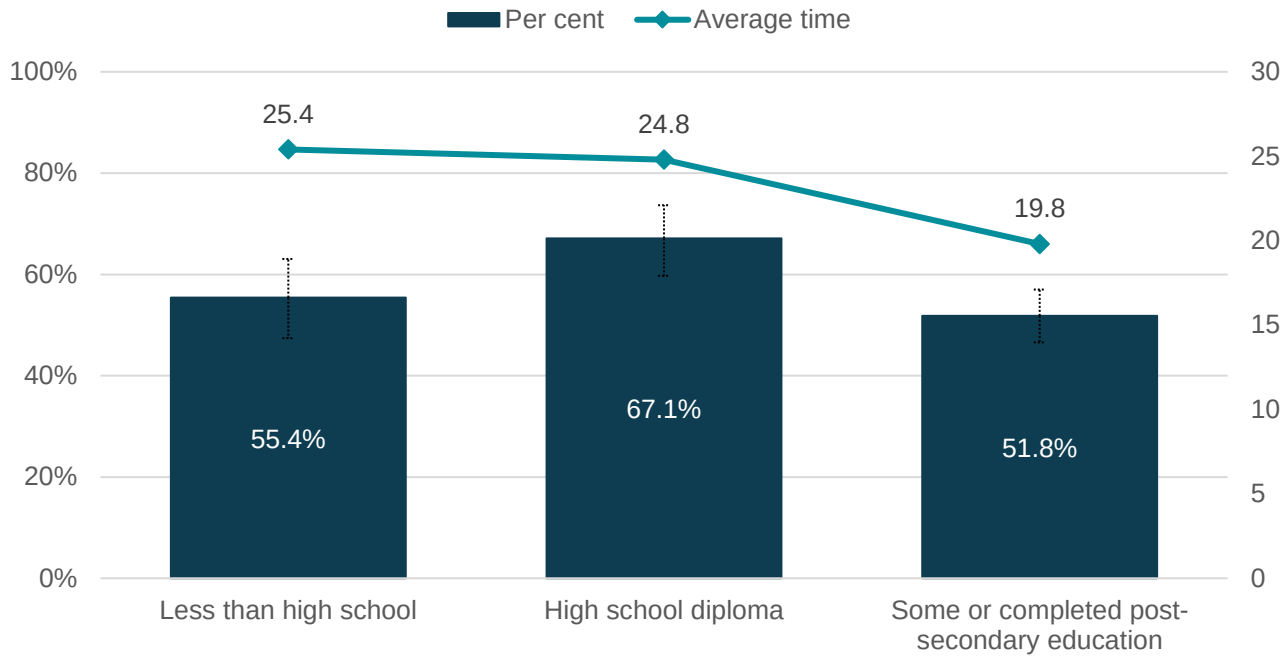
From 2015 to 2016, 62.3% (95% CI: 56.2-68.1) of people living in the urban municipalities of St. Thomas, Aylmer, Ingersoll, Tillsonburg and Woodstock spent 15 or more hours of leisure time each week using a screen device.

From 2015 to 2016, 49.7% (95% CI: 43.7-55.7) of people living in the rural municipalities of Bayham, Central Elgin, Southwold, Dutton/Dunwich, Malahide, West Elgin, Blandford-Blenheim, East Zorra-Tavistock, Zorra, Norwich and South-West Oxford spent 15 or more hours of leisure time each week using a screen device.

Source: Canadian Community Health Survey (2015-2016), Statistics Canada, Share File, Ontario MOHLTC.

A higher proportion of people with a high school diploma reported spending 15 or more hours of leisure time each week using a screen device compared to people with some or completed post-secondary education (67.1% versus 51.8%; Figure 7).

Figure 7. Proportion of the population that spent 15 or more hours of leisure time per week using a screen device and average time (hours) by education, residents 12 years and older, Southwestern Public Health, 2015-2016

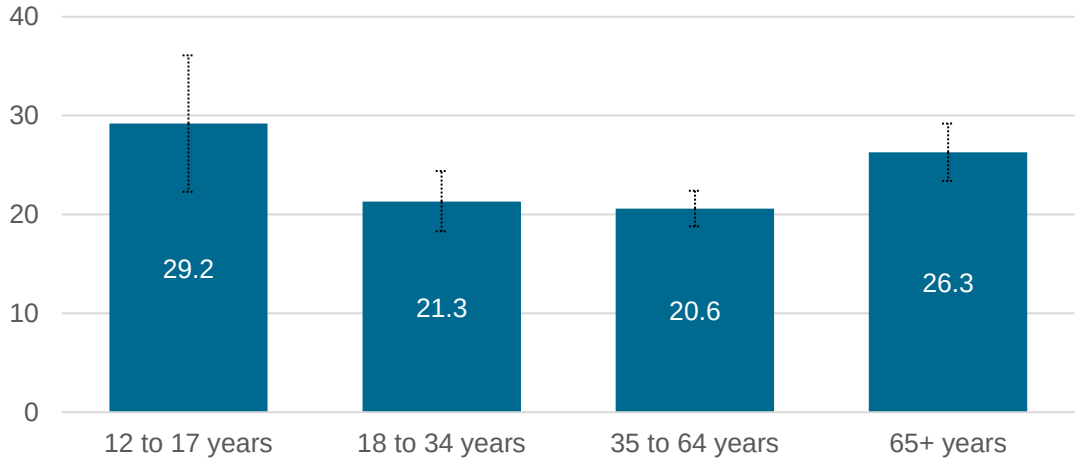


Source: Canadian Community Health Survey (2015-2016), Statistics Canada, Share File, Ontario MOHLTC.

On average, people 12 years and older spent 22.6 hours (95% CI: 21.1-24.1) of leisure time per week using a screen device. People with some or completed post-secondary education spent less leisure time using a screen device, on average, compared to people with less than a high school education and people with a high school diploma (Figure 7).

Additionally, older adults (65 years and older) spent more leisure time using a screen device, on average, compared to middle-aged adults (35 to 64 years; 26.3 hours versus 20.6 hours per week; Figure 8). Screen time did not vary between males and females or by household income.

Figure 8. Average amount of leisure time spent using a screen device (hours per week) by age group, Southwestern Public Health, 2015-2016

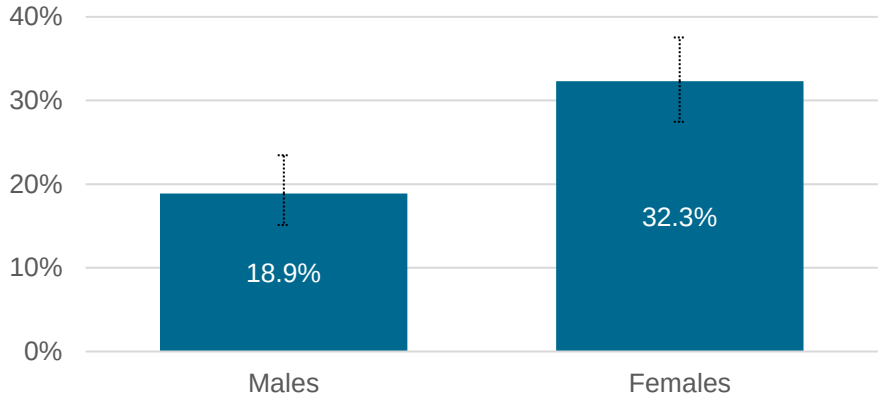


Source: Canadian Community Health Survey (2015-2016), Statistics Canada, Share File, Ontario MOHLTC.

Fruit and Vegetable Consumption

From 2015 to 2016, 25.8% (95% CI: 22.9-29.0) of people aged 12 years and older living in the SWPH region reported that they consumed fruits and vegetables five or more times per day. A higher proportion of females reported consuming fruits and vegetables five or more times per day compared to males (32.3% versus 18.9%; Figure 9). There was no difference by age group, education level, household income or urban versus rural residence.

Figure 9. Fruit and vegetable consumption by sex, residents 12 years and older, Southwestern Public Health, 2015-2016



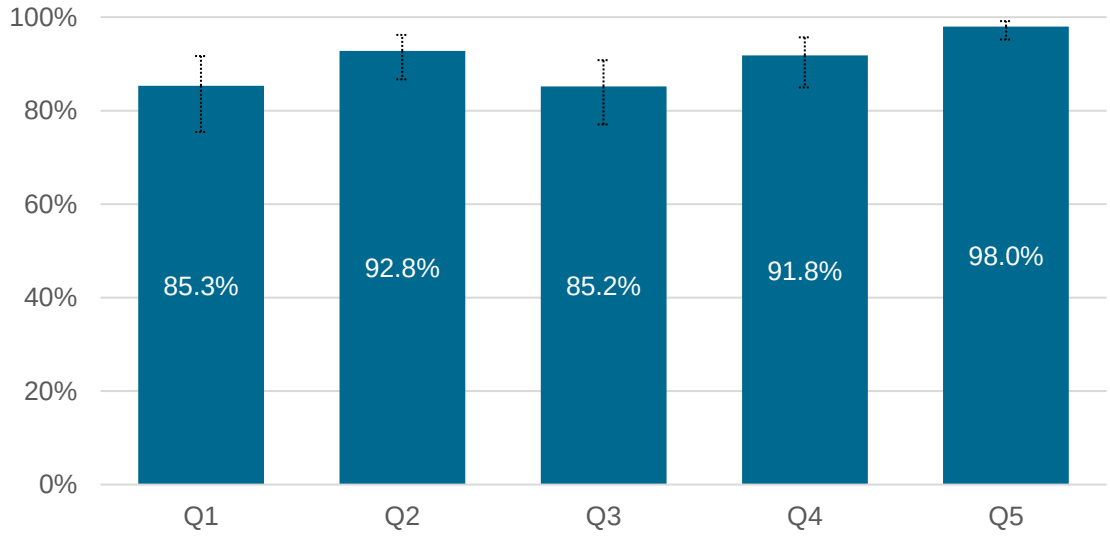
Source: Canadian Community Health Survey (2015-2016), Statistics Canada, Share File, Ontario MOHLTC.

Awareness and Use of Canada's Food Guide

From 2015 to 2016, 91.1% (95% CI: 88.0-93.4) of people aged 12 years and older living in the SWPH region reported that, in their lifetime, they saw or heard of Canada's Food Guide. These questions refer to the 2007 version of the Food Guide, not the version released in 2019.

The proportion of people who saw or heard of Canada's Food Guide in their lifetime varied by household income; the richest 20% of the population (Q5) were more likely to report that they were aware of Canada's Food Guide compared to the poorest 20% of the population (Q1) and the population with a middle income (Q3; Figure 10).

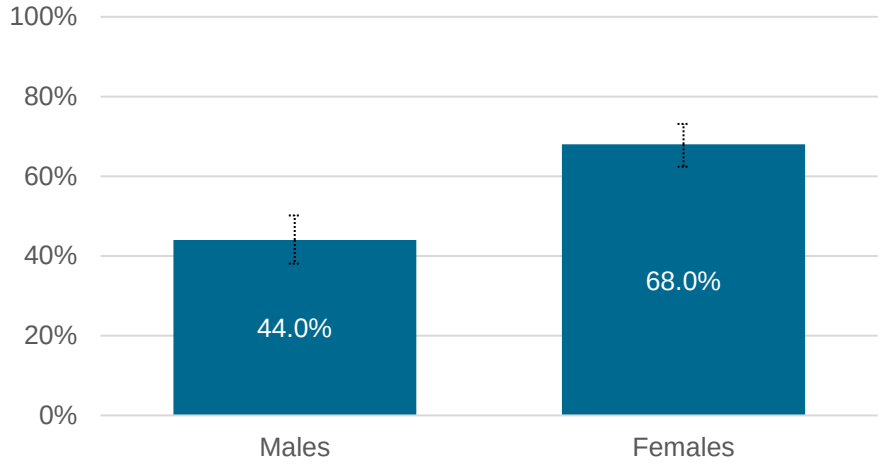
Figure 10. Saw or heard of Canada's Food Guide by income quintile, residents 12 years and older, Southwestern Public Health, 2015-2016



Source: Canadian Community Health Survey (2015-2016), Statistics Canada, Share File, Ontario MOHLTC.

Among people aged 12 years and older that were aware of Canada's Food Guide, 56.7% (95% CI: 52.6-60.8) reported that they used information from Canada's Food Guide in their lifetime. A higher proportion of females reported using information from Canada's Food Guide compared to males (68.0% versus 44.0%; Figure 11).

Figure 11. Used information from Canada's Food Guide by sex, residents 12 years and older that were aware of Canada's Food Guide, Southwestern Public Health, 2015-2016



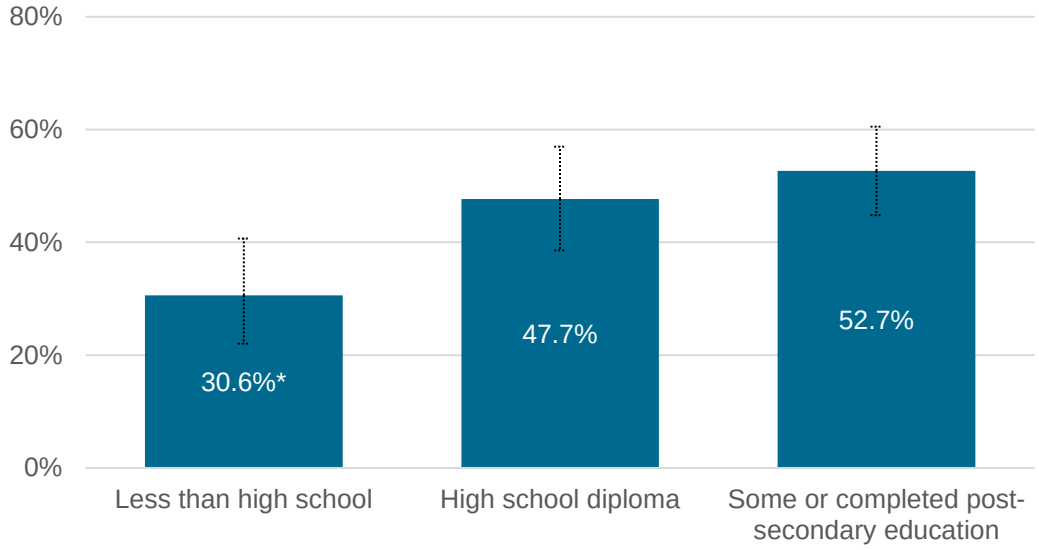
Source: Canadian Community Health Survey (2015-2016), Statistics Canada, Share File, Ontario MOHLTC.

Reasons for using Canada's Food Guide

Among people 12 years and older that used information from Canada's Food Guide, 53.0% (95% CI: 48.0-57.9) used it to assess how well they or people in their household are eating and 45.6% (95% CI: 40.5-50.9) used it to choose foods for themselves or people in their household.

A higher proportion of people with some or a completed post-secondary degree reported using Canada's Food Guide to choose foods compared to people with less than a high school education (52.7% versus 30.6%; Figure 12). This result may be related to the impact of age on using Canada's Food Guide to choose foods (Figure 13).

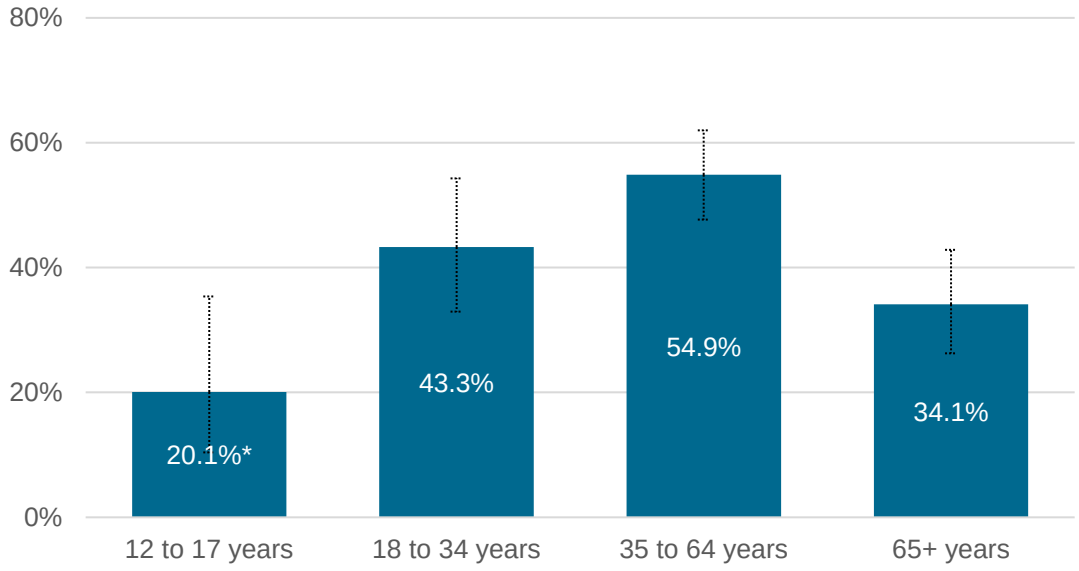
Figure 12. Used Canada's Food Guide to choose foods by education, residents 12 years and older, Southwestern Public Health, 2015-2016



*This per cent should be interpreted with caution due to its variability.
Source: Canadian Community Health Survey (2015-2016), Statistics Canada, Share File, Ontario MOHLTC.

A lower proportion of youth (12 to 17 years) and older adults (65 years and older) reported using Canada's Food Guide to choose foods compared to middle-age adults (35 to 64 years; Figure 13).

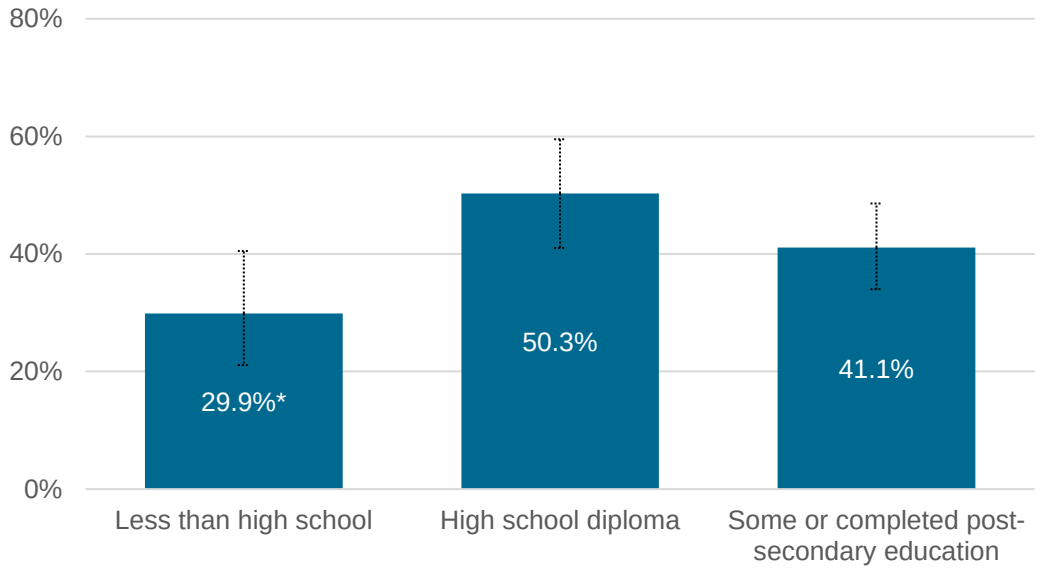
Figure 13. Used Canada's Food Guide to choose foods by age group, Southwestern Public Health, 2015-2016



*This per cent should be interpreted with caution due to its variability.
Source: Canadian Community Health Survey (2015-2016), Statistics Canada, Share File, Ontario MOHLTC.

Among people 12 years and older that used information from Canada's Food Guide, 40.6% (95% CI: 35.8-45.6) used it to plan meals or to help with grocery shopping. A higher proportion of people with a high school diploma reported using Canada's Food Guide to plan meals or to help with grocery shopping compared to people with less than a high school education (50.3% versus 29.9%; Figure 14).

Figure 14. Used Canada's Food Guide to plan meals or to help with grocery shopping by education, residents 12 years and older, Southwestern Public Health, 2015-2016



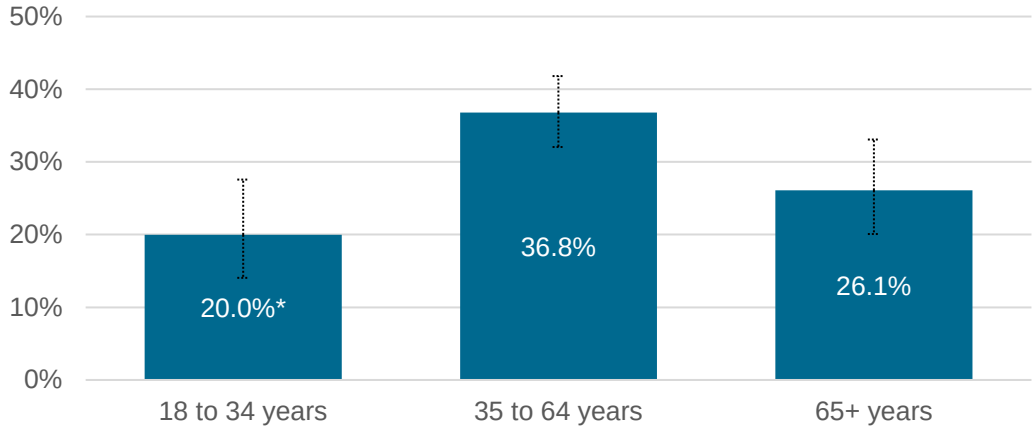
*This per cent should be interpreted with caution due to its variability.
Source: Canadian Community Health Survey (2015-2016), Statistics Canada, Share File, Ontario MOHLTC.

Body Mass Index (BMI)

Body Mass Index (BMI) is the only measure currently available at the population level to assess weight; however, there are limitations to its use. Body type and muscle mass can result in misclassification and BMI is not appropriate for use in certain groups. For example, athletes with a larger proportion of muscle mass typically score as overweight even though they are a healthy weight. BMI also does not measure health. An individual can be classified as overweight and active and be healthier than another individual classified as normal weight but who is sedentary. BMI should only be used to assess weight, not health, at the population level.

From 2015 to 2016, 32.1% (95% CI: 28.5-35.8) of adults (18 years and older) living in the SWPH region were overweight and 30.3% (95% CI: 26.9-34.0) were obese.[c] A higher proportion of people aged 35 to 64 years were considered obese compared to people aged 18 to 34 years (36.8% versus 20.0%; Figure 15).

Figure 15. Proportion of adults (18 years and older) with obese BMI classification by age group, Southwestern Public Health, 2015-2016



*This per cent should be interpreted with caution due to its variability.
Source: Canadian Community Health Survey (2015-2016), Statistics Canada, Share File, Ontario MOHLTC.

From 2015 to 2016, 19.8%[d] (95% CI: 11.6-31.6) of youth (12 to 17 years) living in the SWPH region were overweight. Notably, youth BMI classifications differ from adult classifications because they are sex-specific and change with age.

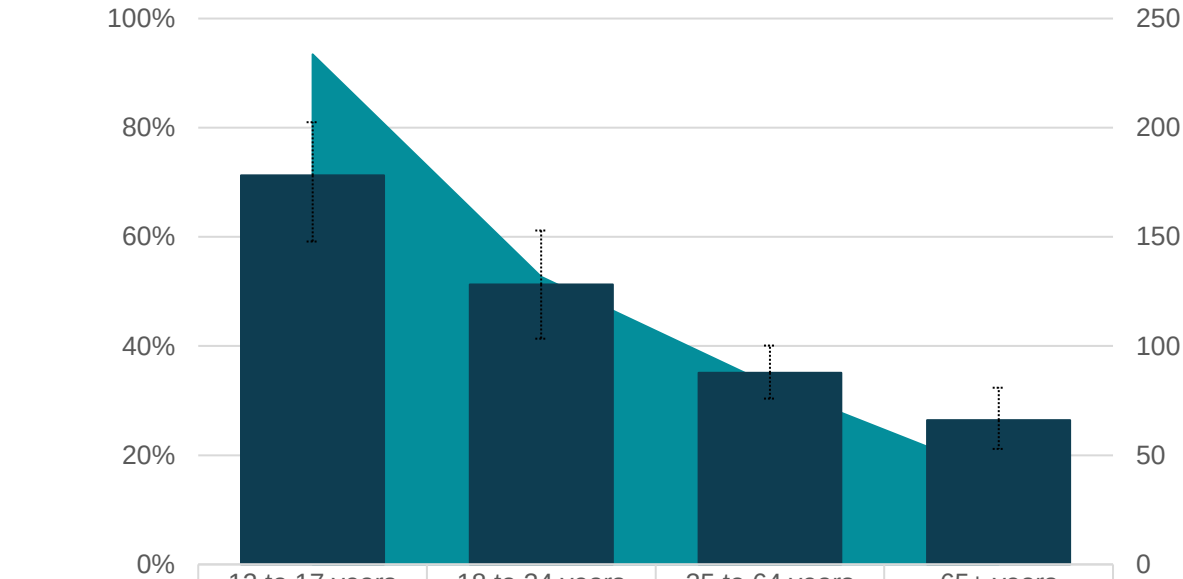
[c] BMI is a calculation using an individual's weight and height (kg/m^2). The standard classifications used by the World Health Organization are underweight (<18.5), normal (18.5-24.9), overweight (25.0-29.9) and obese (≥30.0).
[d] This per cent should be interpreted with caution due to its variability.

Active Transportation

Active transportation includes walking or cycling to get to places such as school, bus stops, shopping centres and work, or to visit friends. From 2015 to 2016, 37.4% (95% CI: 33.6-41.4) of adults (18 years and older) used active transportation in the past week compared to 71.3% (95% CI: 59.2-81.0) of youth (12 to 17 years). A higher proportion of youth used active transportation in the past week compared to middle-age adults (35 to 64 years) and older adults (65 years and older). Additionally, a higher proportion of young adults (18 to 34 years) used active transportation in the past week compared to older adults (65 years and older; Figure 16).

Youth spent the most time travelling in active ways in the past week; on average 233.6 minutes, which was higher than middle-aged adults and older adults (Figure 16). Older adults spent less time travelling in active ways compared to all other age groups. Active transportation did not vary based on sex, income, education or geography.

Figure 16. Used active transportation in the past week and average time (minutes) by age group, Southwestern Public Health, 2015-2016



	12 to 17 years	18 to 34 years	35 to 64 years	65+ years
Average time	233.6	131.7	82.4	41.0
Per cent	71.3%	51.3%	35.1%	26.4%

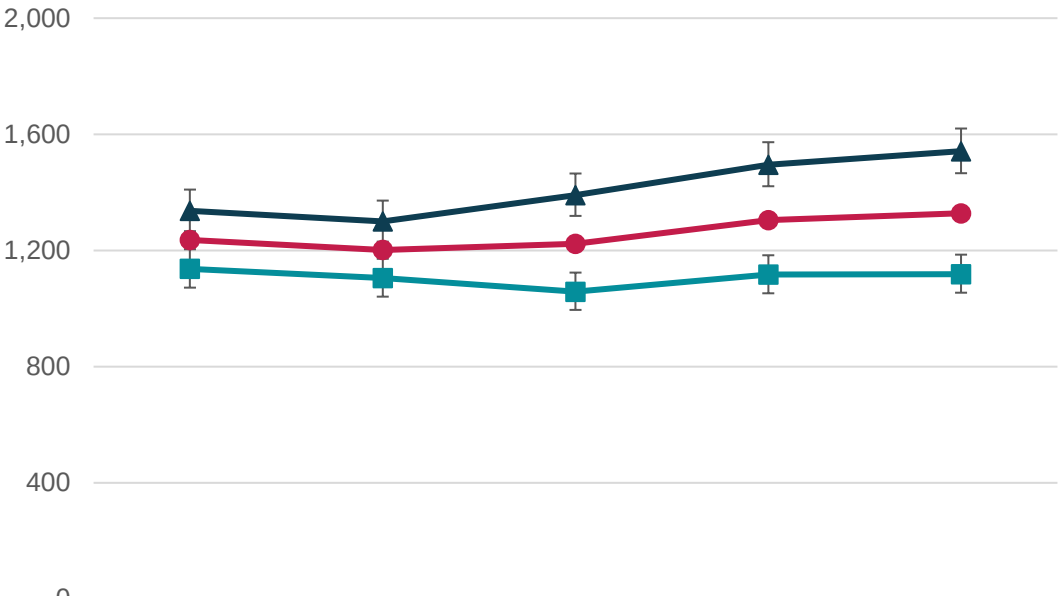
Source: Canadian Community Health Survey (2015-2016), Statistics Canada, Share File, Ontario MOHLTC.

Cardiovascular Diseases

Hospitalizations

The rates of hospitalization due to cardiovascular diseases among people living in the SWPH region remained similar between 2013 and 2017 (error bars not shown for the overall rates). Over this time period, males consistently had a higher rate of hospitalization compared to females (Figure 17).

Figure 17. Crude rate of hospitalizations due to cardiovascular diseases (per 100,000 population), by sex, Southwestern Public Health, 2013-2017

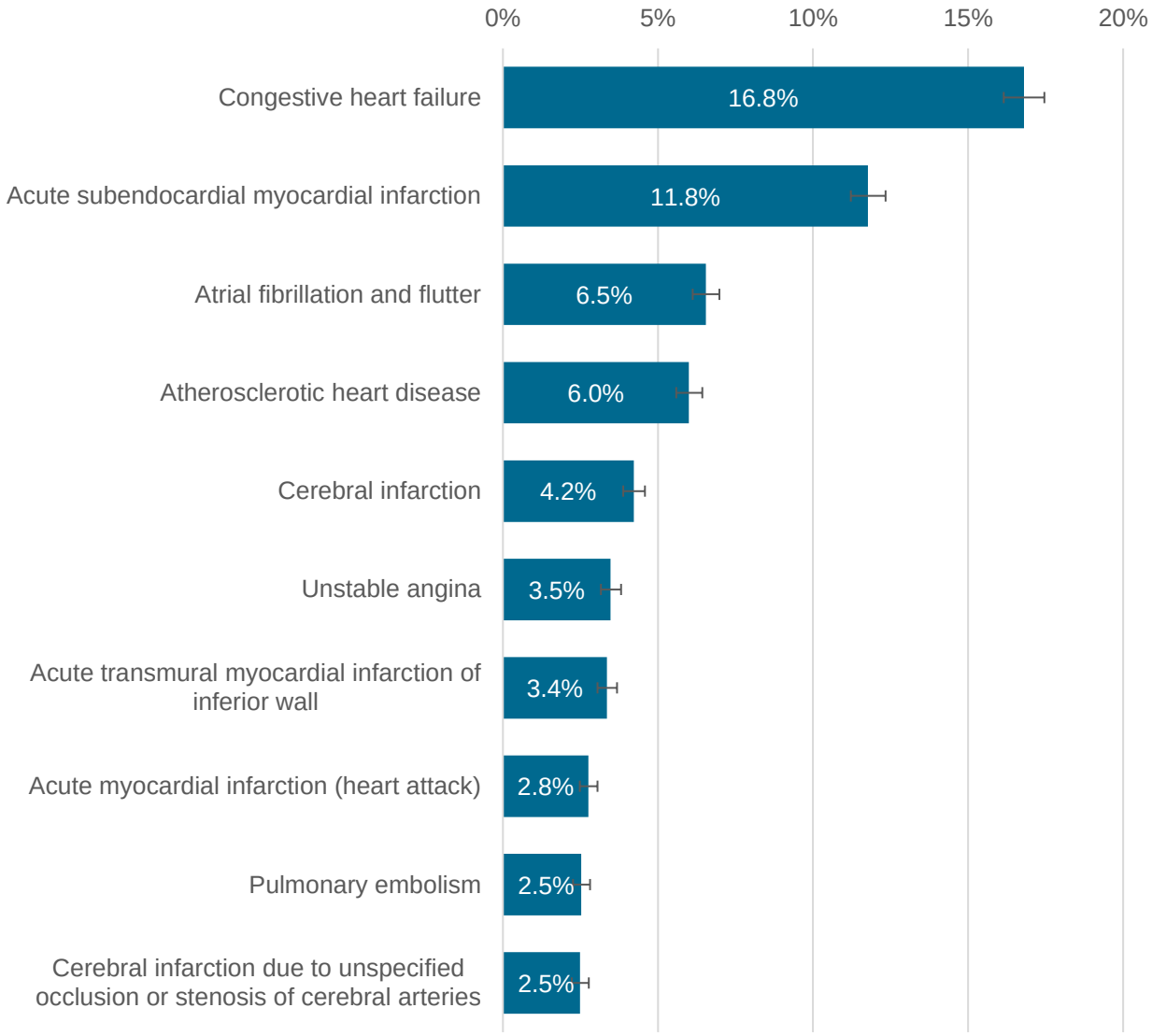


	2013	2014	2015	2016	2017
Overall	1235.7	1201.5	1222.9	1304.4	1328.0
Males	1336.5	1299.9	1390.6	1495.5	1541.9
Females	1136.4	1104.5	1058.0	1116.9	1118.2

Source: Inpatient Discharges (2013-2017), Ontario Ministry of Health and Long-Term Care, IntelliHEALTH ONTARIO, Date Extracted: March 7, 2019 & Population Estimates (2013-2016), Ontario Ministry of Health and Long-Term Care, IntelliHEALTH ONTARIO, Date Extracted: December 21, 2018 & Population Projections (2017), Ontario Ministry of Health and Long-Term Care, IntelliHEALTH ONTARIO, Date Extracted: January 2, 2019.

The most common reason that people were hospitalized for cardiovascular disease was congestive heart failure (16.8%; Figure 18).

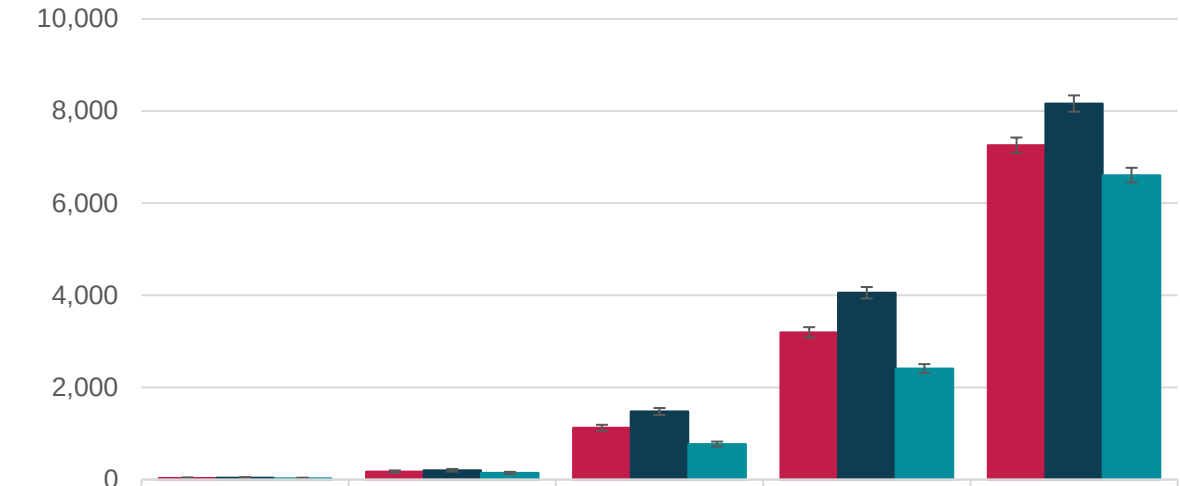
Figure 18. Ten most common reasons for hospitalization for cardiovascular diseases, Southwestern Public Health, 2013-2017 (combined)



Source: Inpatient Discharges (2013-2017), Ontario Ministry of Health and Long-Term Care, IntelliHEALTH ONTARIO, Date Extracted: March 7, 2019.

The rates of hospitalization for cardiovascular diseases increased with each age group (Figure 19). There were no differences between males and females among people less than 20 years old; however, males had higher rates of hospitalizations compared to females in the 20 years and older age groups.

Figure 19. Five-year average rate of hospitalizations for cardiovascular diseases (per 100,000 population) by sex and age group, Southwestern Public Health, 2013-2017 (combined)

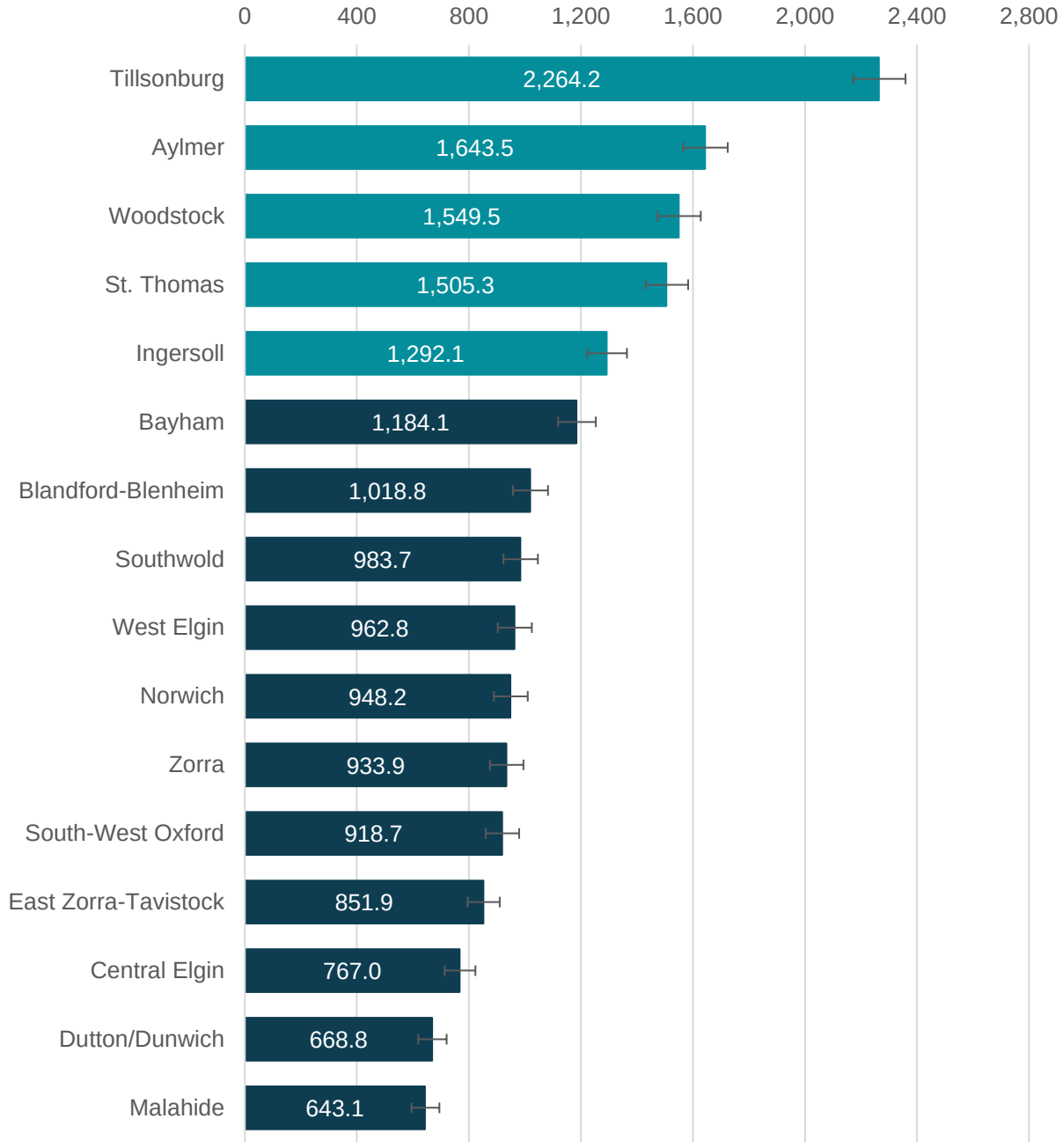


	<20	20 to 44	45 to 64	65 to 74	75+
Overall	34.3	172.9	1122.5	3196.3	7256.2
Males	39.2	201.6	1476.0	4054.4	8161.0
Females	29.2	143.9	769.2	2408.3	6607.8

Source: Inpatient Discharges (2013-2017), Ontario Ministry of Health and Long-Term Care, IntelliHEALTH ONTARIO, Date Extracted: March 7, 2019 & Population Estimates (2013-2016), Ontario Ministry of Health and Long-Term Care, IntelliHEALTH ONTARIO, Date Extracted: December 21, 2018 & Population Projections (2017), Ontario Ministry of Health and Long-Term Care, IntelliHEALTH ONTARIO, Date Extracted: January 2, 2019.

In the SWPH region, the rates of hospitalizations for cardiovascular disease were higher among people living in the urban municipalities – particularly among people living in Tillsonburg – compared to the rural municipalities (Figure 20).

Figure 20. Crude rate of hospitalizations for cardiovascular diseases (per 100,000 population) by municipality, Southwestern Public Health, 2016



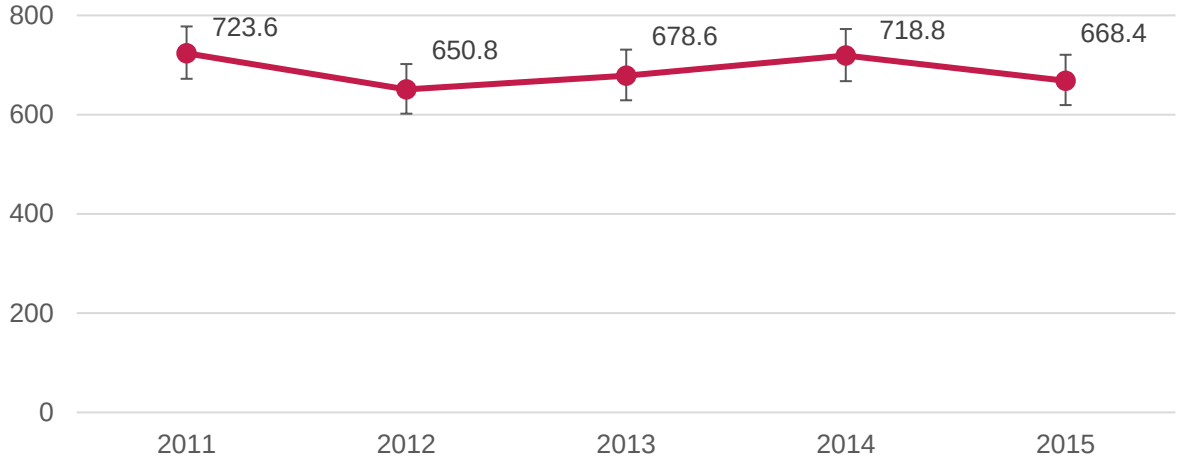
Note: the urban municipalities are highlighted using a lighter blue compared to the rural municipalities which are shown using a darker blue.

Source: Inpatient Discharges (2016), Ontario Ministry of Health and Long-Term Care, IntelliHEALTH ONTARIO, Date Extracted: March 7, 2019 & Population Estimates (2016), Ontario Ministry of Health and Long-Term Care, IntelliHEALTH ONTARIO, Date Extracted: December 21, 2018.

Deaths

The rates of death due to cardiovascular diseases among people living in the SWPH region remained similar between 2011 and 2015 (Figure 21). There were no differences in the rates of death between males and females.

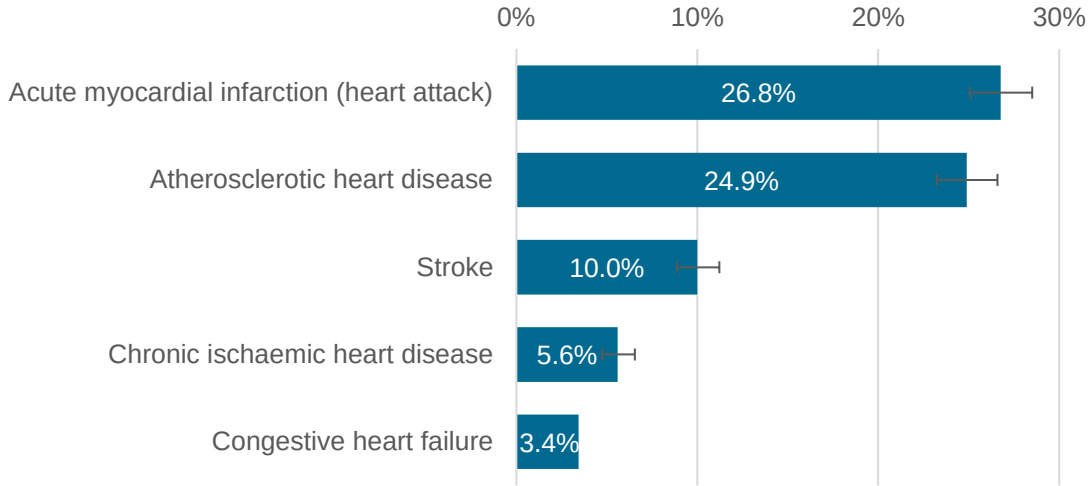
Figure 21. Crude rate of deaths due to cardiovascular diseases (per 100,000 population), Southwestern Public Health, 2011-2015



Source: Ontario Mortality Data (2011-2015), Ontario Ministry of Health and Long-Term Care, IntelliHEALTH ONTARIO, Date Extracted: March 7, 2019 & Population Estimates (2011-2015), Ontario Ministry of Health and Long-Term Care, IntelliHEALTH ONTARIO, Date Extracted: December 21, 2018.

Over one-quarter (26.8%) of SWPH residents that died from cardiovascular disease had a heart attack and one-quarter (24.9%) had atherosclerotic heart disease (Figure 22).

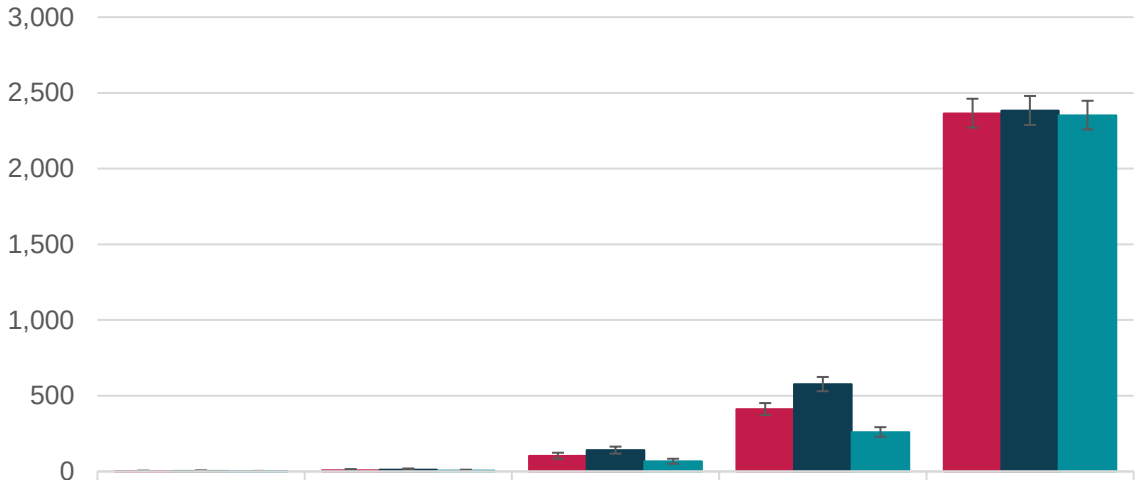
Figure 22. Five most common types of cardiovascular disease leading to death, Southwestern Public Health, 2011-2015 (combined)



Source: Ontario Mortality Data (2011-2015), Ontario Ministry of Health and Long-Term Care, IntelliHEALTH ONTARIO, Date Extracted: March 7, 2019.

The rates of death from cardiovascular disease increased with each age group, starting when people were 20 years (i.e., there was no difference between people less than 20 years old and people aged 20 to 44 years; Figure 23). Males aged 45 to 64 years and 65 to 74 years had higher rates of death from cardiovascular disease compared to females.

Figure 23. Five-year average rate of deaths from cardiovascular disease (per 100,000 population) by sex and age group, Southwestern Public Health, 2011-2015 (combined)



	<20	20 to 44	45 to 64	65 to 74	75+
Overall	1.6	8.3	102.8	410.8	2364.5
Males	2.4	11.2	139.7	575.6	2382.2
Females	0.8	5.3	66.0	259.5	2351.9

Source: Ontario Mortality Data (2011-2015), Ontario Ministry of Health and Long-Term Care, IntelliHEALTH ONTARIO, Date Extracted: March 7, 2019 & Population Estimates (2011-2015), Ontario Ministry of Health and Long-Term Care, IntelliHEALTH ONTARIO, Date Extracted: March 6, 2019.

The rate of deaths due to cardiovascular disease was higher among people living in the urban municipalities compared to the rural municipalities (Figure 24).

Figure 24. Crude rate of deaths from cardiovascular disease (per 100,000 population) by urban versus rural residence, Southwestern Public Health, 2015

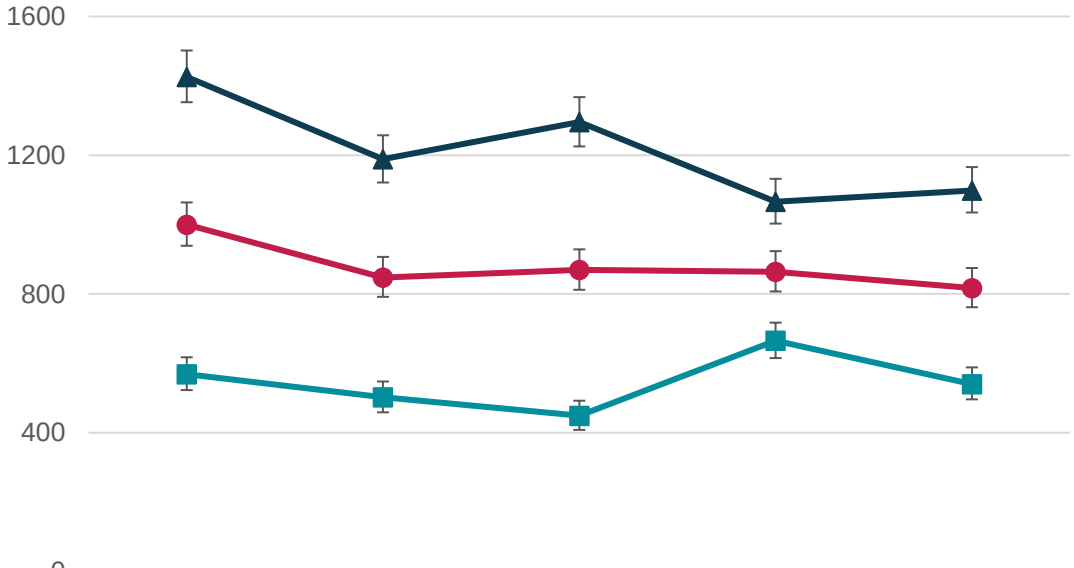
In 2015, there were 306.6 (95% CI: 273.6-342.3) deaths per 100,000 population for cardiovascular disease in the urban municipalities of St. Thomas, Aylmer, Ingersoll, Tillsonburg and Woodstock.

In 2015, there were 203.3 (95% CI: 177.0-232.9) deaths per 100,000 population for cardiovascular disease in the rural municipalities of Bayham, Central Elgin, Southwold, Dutton/Dunwich, Malahide, West Elgin, Blandford-Blenheim, East Zorra-Tavistock, Zorra, Norwich and South-West Oxford.

Deaths among people less than 75 years old are commonly considered premature deaths and can be measured by potential years of life lost (PYLL; i.e., the total number of years not lived by someone). For example, using this cut-off, there would be 50 potential years of life lost for someone who died at 25 years of age. However, from 2014 to 2016, the life expectancy in Canada was 82 years.[3] Therefore, the convention of using a 75-year cut-off likely underestimates the PYLL from premature deaths.

In 2015, there were 817 PYLL due to cardiovascular disease deaths per 100,000 population less than 75 years old (Figure 25). The rate of PYLL due to cardiovascular disease deaths was consistently higher among males compared to females.

Figure 25. Crude rate of potential years of life lost (PYLL) to deaths from cardiovascular disease (per 100,000 population), by sex, residents less than 75 years, Southwestern Public Health, 2011-2015



	2011	2012	2013	2014	2015
Overall	1000	848	869	864	817
Males	1426	1188	1295	1066	1099
Females	569	502	449	665	541

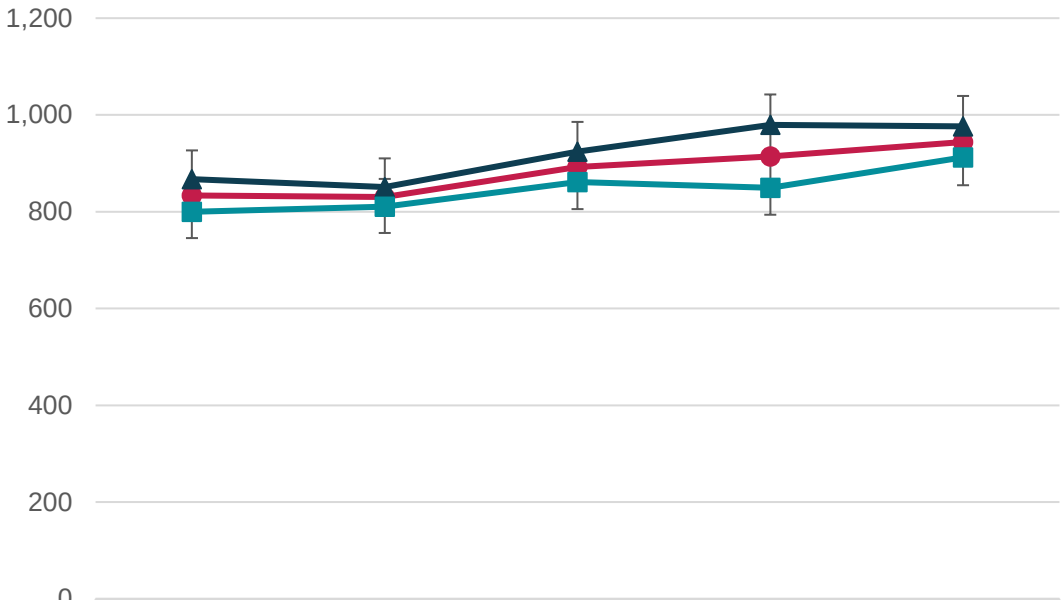
Source: Ontario Mortality Data (2011-2015), Ontario Ministry of Health and Long-Term Care, IntelliHEALTH ONTARIO, Date Extracted: March 7, 2019 & Population Estimates (2011-2015), Ontario Ministry of Health and Long-Term Care, IntelliHEALTH ONTARIO, Date Extracted: March 6, 2019.

Respiratory Diseases

Hospitalizations

The rates of hospitalization due to respiratory diseases among people living in the SWPH region remained similar between 2013 and 2017 (error bars not shown for the overall rates). In 2016, males had a higher rate of hospitalization compared to females, but in other years there were no differences (Figure 26).

Figure 26. Crude rate of hospitalizations due to respiratory diseases (per 100,000 population), by sex, Southwestern Public Health, 2013-2017

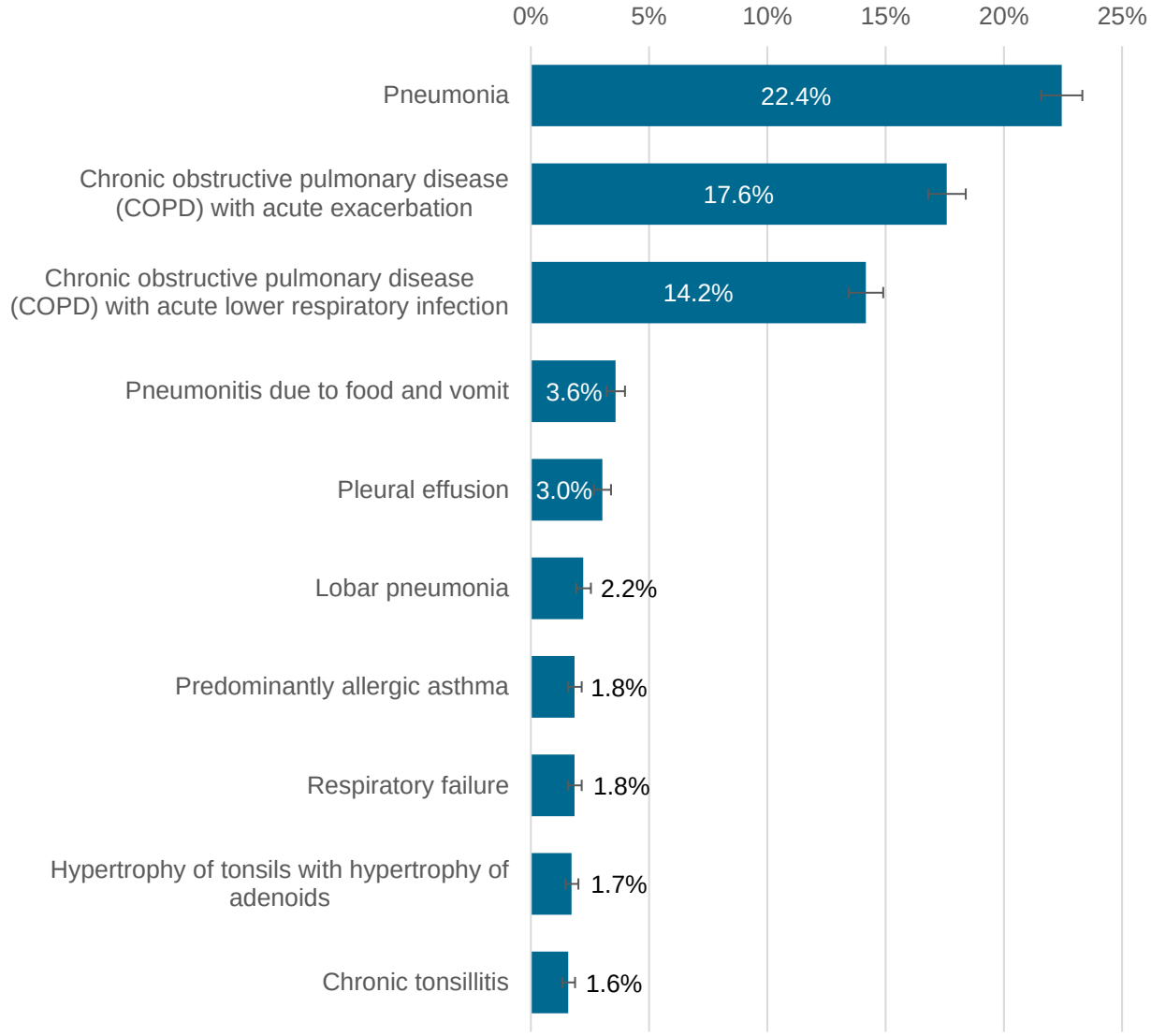


	2013	2014	2015	2016	2017
Overall	833.3	830.4	892.3	914.2	944.0
Males	867.2	851.0	924.1	979.4	976.4
Females	799.9	810.2	861.1	849.1	912.3

Source: Inpatient Discharges (2013-2017), Ontario Ministry of Health and Long-Term Care, IntelliHEALTH ONTARIO, Date Extracted: March 7, 2019 & Population Estimates (2013-2016), Ontario Ministry of Health and Long-Term Care, IntelliHEALTH ONTARIO, Date Extracted: December 21, 2018 & Population Projections (2017), Ontario Ministry of Health and Long-Term Care, IntelliHEALTH ONTARIO, Date Extracted: January 2, 2019.

The most common reasons that people were hospitalized for respiratory diseases were pneumonia (22.4%) and worsening of chronic obstructive pulmonary disease (COPD; Figure 27).

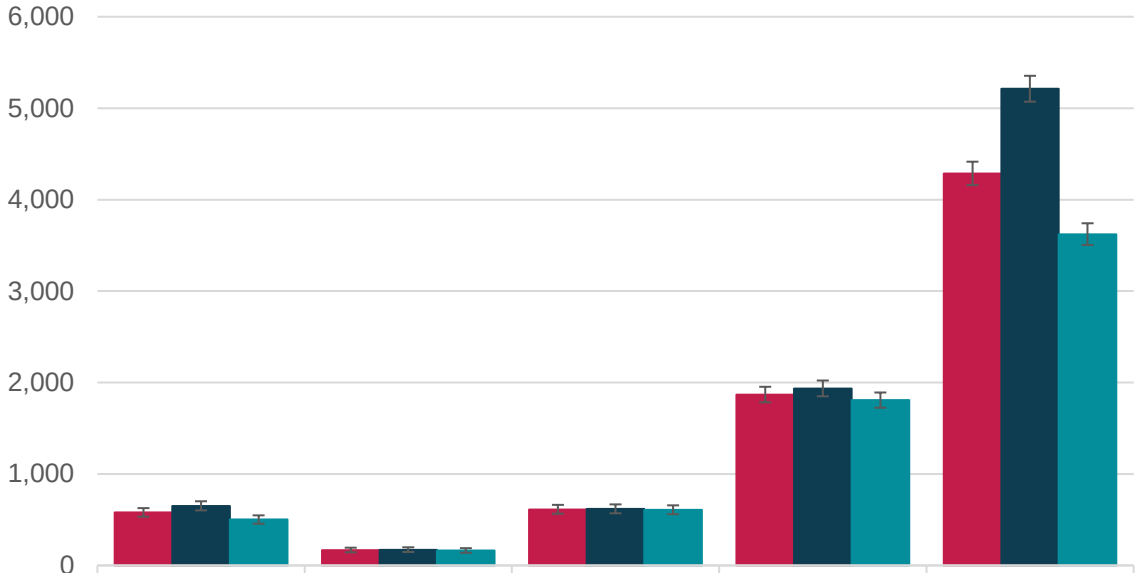
Figure 27. Ten most common reasons for hospitalization for respiratory diseases, Southwestern Public Health, 2013-2017 (combined)



Source: Inpatient Discharges (2013-2017), Ontario Ministry of Health and Long-Term Care, IntelliHEALTH ONTARIO, Date Extracted: March 7, 2019.

People aged 20 to 44 years had the lowest rate of hospitalizations for respiratory diseases (Figure 28). People less than 20 years old and 45 to 64 years old had similar rates of hospitalizations. The rate was higher among those aged 65 to 74 years old and was highest among those aged 75 years and older. Males had higher rates of hospitalizations compared to females in the less than 20 years and 75 years and older age groups.

Figure 28. Five-year average rate of hospitalizations for respiratory diseases (per 100,000 population) by sex and age group, Southwestern Public Health, 2013-2017 (combined)

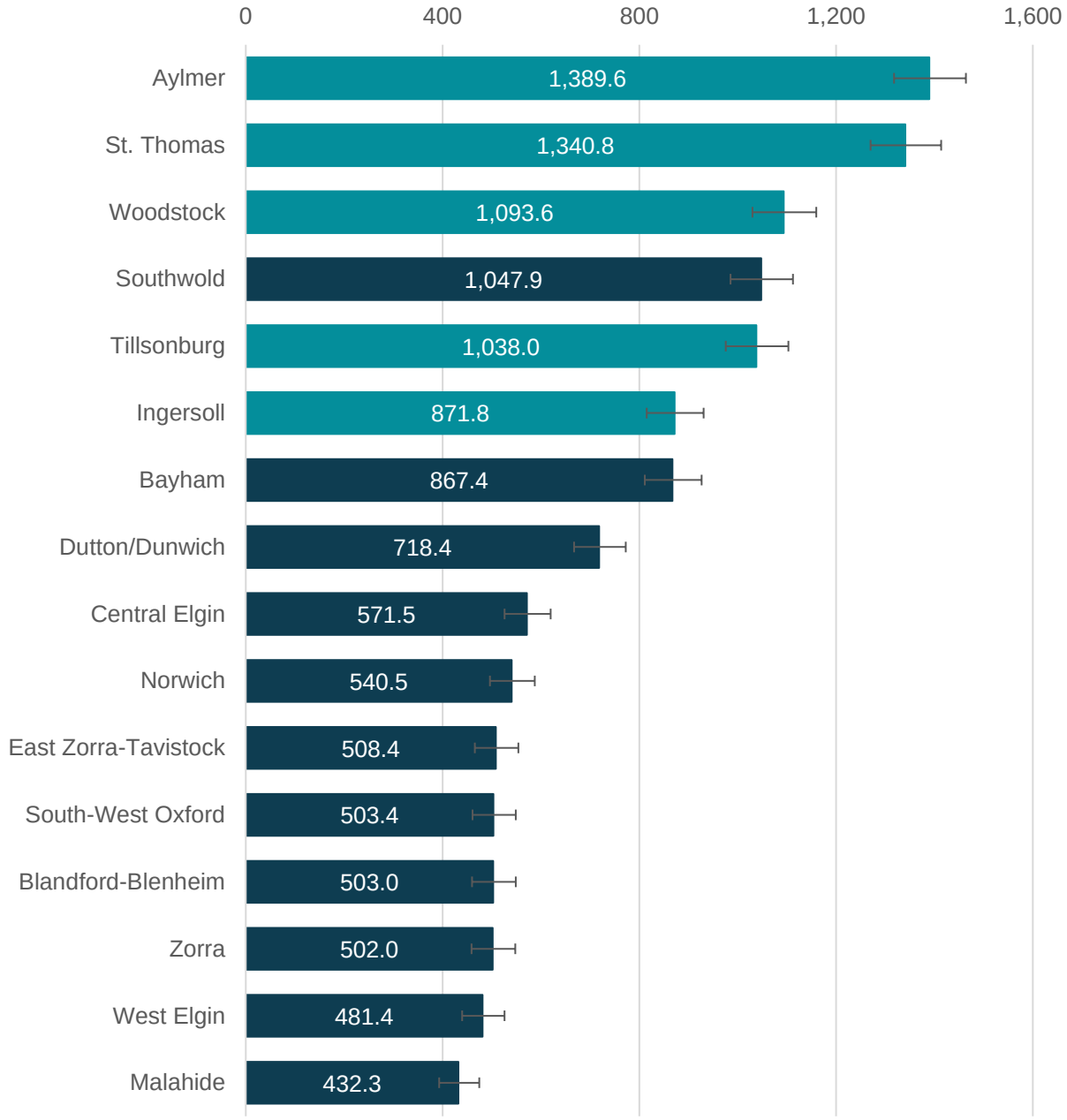


	<20	20 to 44	45 to 64	65 to 74	75+
Overall	578.8	167.3	612.5	1867.7	4285.4
Males	650.8	171.9	617.2	1934.1	5211.2
Females	502.4	162.6	607.1	1806.7	3622.0

Source: Inpatient Discharges (2013-2017), Ontario Ministry of Health and Long-Term Care, IntelliHEALTH ONTARIO, Date Extracted: March 7, 2019 & Population Estimates (2013-2016), Ontario Ministry of Health and Long-Term Care, IntelliHEALTH ONTARIO, Date Extracted: December 21, 2018 & Population Projections (2017), Ontario Ministry of Health and Long-Term Care, IntelliHEALTH ONTARIO, Date Extracted: January 2, 2019.

In the SWPH region, the rates of hospitalizations for respiratory disease were typically higher among people living in the urban municipalities compared to the rural municipalities, except for Southwold (Figure 29).

Figure 29. Crude rate of hospitalizations for respiratory diseases (per 100,000 population) by municipality, Southwestern Public Health, 2016



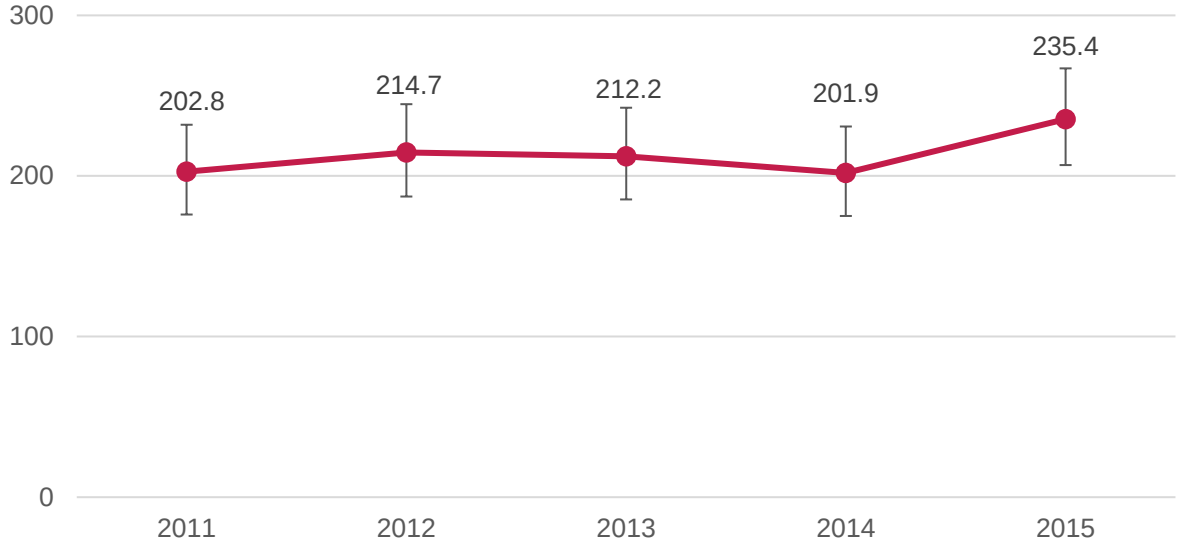
Note: the urban municipalities are highlighted using a lighter blue compared to the rural municipalities which are shown using a darker blue.

Source: Inpatient Discharges (2016), Ontario Ministry of Health and Long-Term Care, IntelliHEALTH ONTARIO, Date Extracted: March 7, 2019 & Population Estimates (2016), Ontario Ministry of Health and Long-Term Care, IntelliHEALTH ONTARIO, Date Extracted: December 21, 2018.

Deaths

The rates of death due to respiratory diseases among people living in the SWPH region remained similar between 2011 and 2015 (Figure 30). There were no differences in the rates of death between males and females or between people living in urban versus rural municipalities.

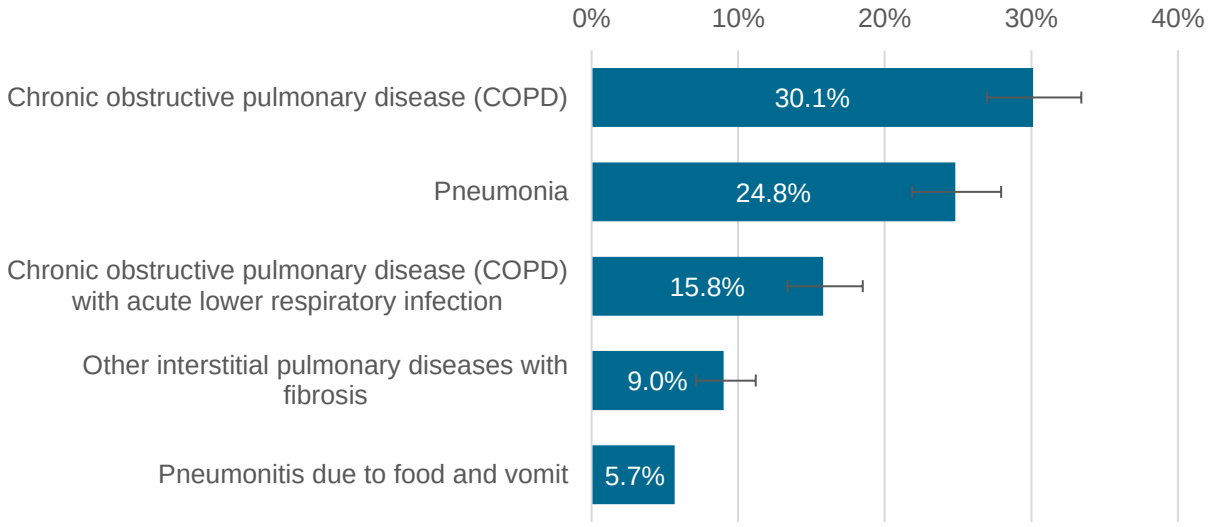
Figure 30. Crude rate of deaths due to respiratory diseases (per 100,000 population), Southwestern Public Health, 2011-2015



Source: Ontario Mortality Data (2011-2015), Ontario Ministry of Health and Long-Term Care, IntelliHEALTH ONTARIO, Date Extracted: March 7, 2019 & Population Estimates (2011-2015), Ontario Ministry of Health and Long-Term Care, IntelliHEALTH ONTARIO, Date Extracted: December 21, 2018.

Over one-quarter (30.1%) of SWPH residents that died from a respiratory disease died from COPD and one-quarter (24.8%) died from pneumonia (Figure 31).

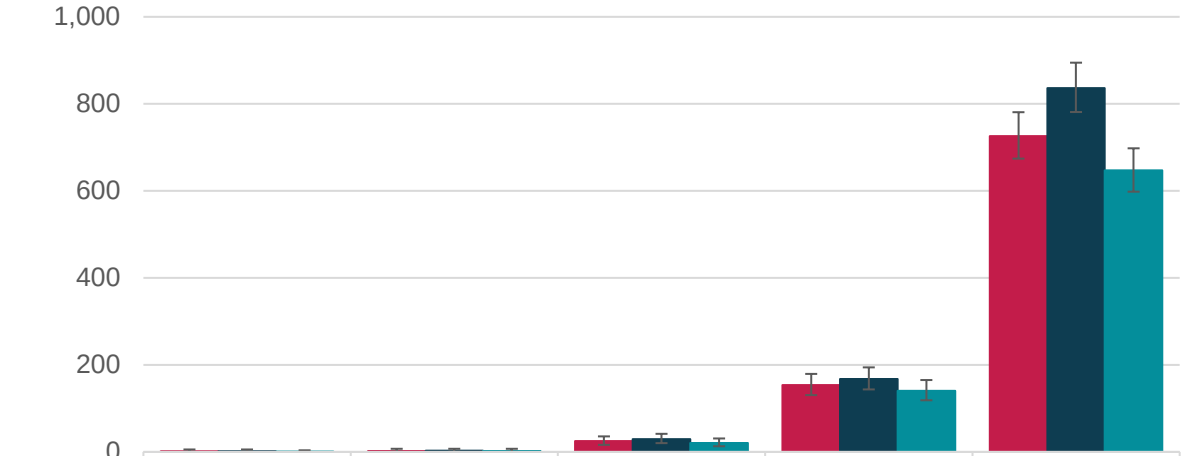
Figure 31. Five most common types of respiratory disease leading to death, Southwestern Public Health, 2011-2015 (combined)



Source: Ontario Mortality Data (2011-2015), Ontario Ministry of Health and Long-Term Care, IntelliHEALTH ONTARIO, Date Extracted: March 7, 2019.

The rates of death from respiratory disease increased with each age group, starting when people were 20 years (i.e., there was no difference between people less than 20 years old and people aged 20 to 44 years; Figure 32). Among people aged 75 years and older, males had a higher rate of death from respiratory disease compared to females.

Figure 32. Five-year average rate of deaths from respiratory disease (per 100,000 population) by sex and age group, Southwestern Public Health, 2011-2015 (combined)

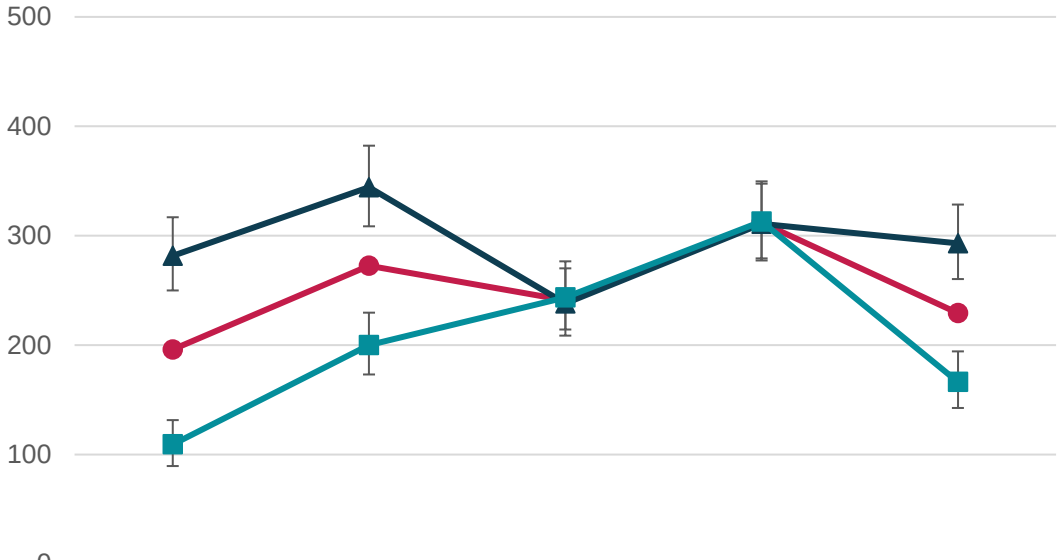


	<20	20 to 44	45 to 64	65 to 74	75+
Overall	1.2	2.3	24.9	153.3	726.0
Males	1.6	2.6	29.5	167.5	836.3
Females	0.8	2.0	20.4	140.3	646.9

Source: Ontario Mortality Data (2011-2015), Ontario Ministry of Health and Long-Term Care, IntelliHEALTH ONTARIO, Date Extracted: March 7, 2019 & Population Estimates (2011-2015), Ontario Ministry of Health and Long-Term Care, IntelliHEALTH ONTARIO, Date Extracted: March 6, 2019.

In 2015, there were 229 PYLL due to respiratory disease deaths per 100,000 population less than 75 years old (Figure 33). The rate of PYLL due to respiratory disease deaths was higher among males compared to females in 2011, 2012 and 2015. As described above, the estimate of PYLL from premature deaths is likely underestimated.

Figure 33. Crude rate of potential years of life lost (PYLL) to deaths from respiratory disease (per 100,000 population), by sex, residents less than 75 years, Southwestern Public Health, 2011-2015



	2011	2012	2013	2014	2015
Overall	196	273	241	312	229
Males	282	344	238	311	293
Females	109	200	244	313	167

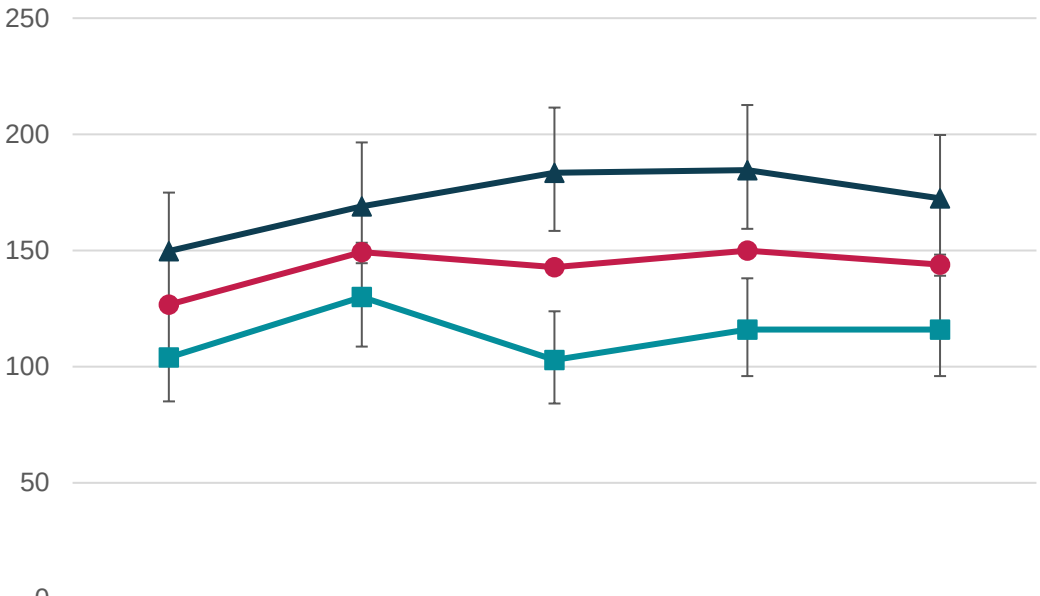
Source: Ontario Mortality Data (2011-2015), Ontario Ministry of Health and Long-Term Care, IntelliHEALTH ONTARIO, Date Extracted: March 7, 2019 & Population Estimates (2011-2015), Ontario Ministry of Health and Long-Term Care, IntelliHEALTH ONTARIO, Date Extracted: March 6, 2019.

Diabetes

Hospitalizations

The rates of hospitalization due to diabetes among people living in the SWPH region remained similar between 2013 and 2017 (error bars not shown for the overall rates). Over this time period, males typically had a higher rate of hospitalization compared to females, except in 2014 (Figure 34).

Figure 34. Crude rate of hospitalizations due to diabetes (per 100,000 population), by sex, Southwestern Public Health, 2013-2017

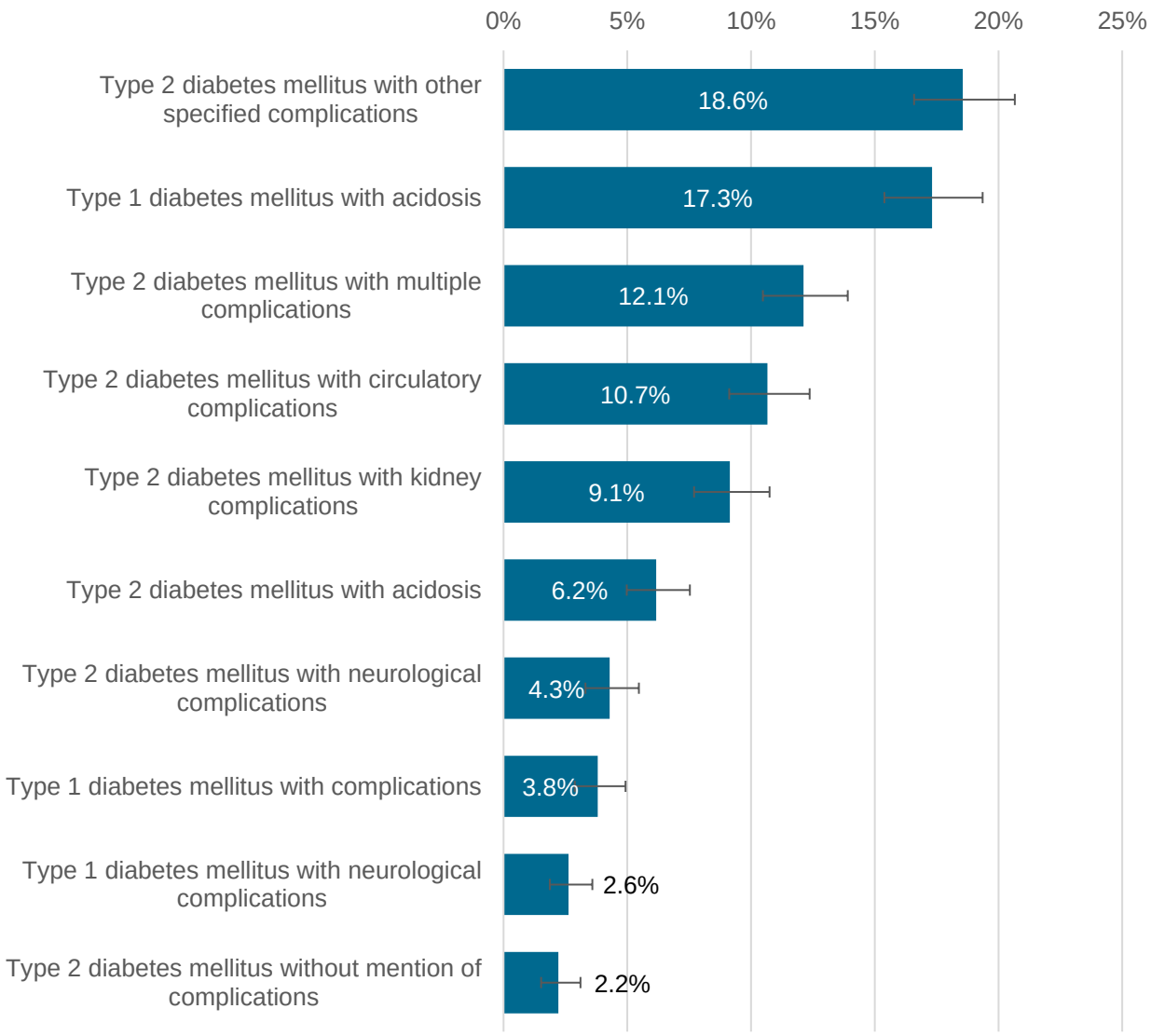


	2013	2014	2015	2016	2017
Overall	126.7	149.3	142.8	149.9	143.9
Males	149.7	169.0	183.4	184.6	172.4
Females	103.9	129.9	102.9	115.9	116.0

Source: Inpatient Discharges (2013-2017), Ontario Ministry of Health and Long-Term Care, IntelliHEALTH ONTARIO, Date Extracted: March 6, 2019 & Population Estimates (2013-2016), Ontario Ministry of Health and Long-Term Care, IntelliHEALTH ONTARIO, Date Extracted: December 21, 2018 & Population Projections (2017), Ontario Ministry of Health and Long-Term Care, IntelliHEALTH ONTARIO, Date Extracted: January 2, 2019.

The most common reasons that people were hospitalized for diabetes was due to type 2 diabetes mellitus with other specified complications (18.6%) followed by type 1 diabetes mellitus with acidosis (17.3%; Figure 35). Type 2 diabetes mellitus with other specified complications includes issues such as musculoskeletal and connective tissue complications, skin and subcutaneous tissue complications, periodontal complications, hypoglycemia and diabetes with poor control.

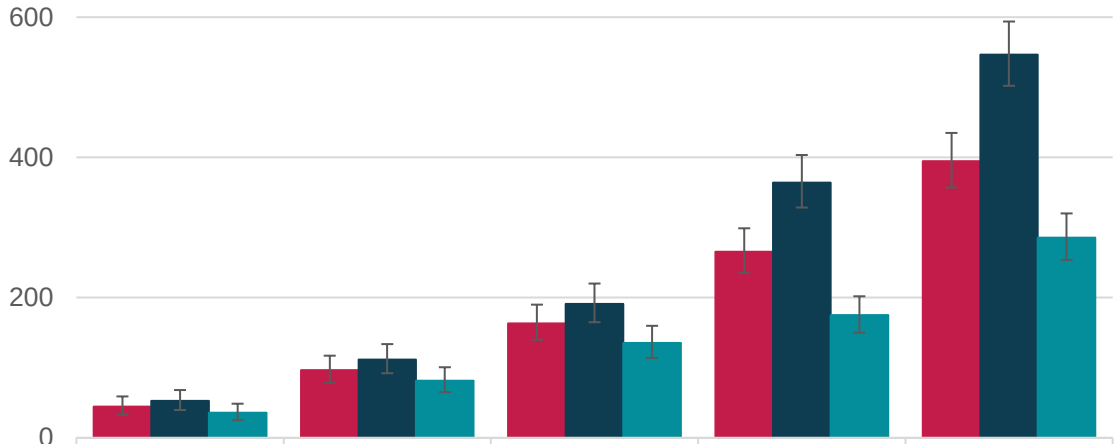
Figure 35. Most common reasons for hospitalization for diabetes, Southwestern Public Health, 2013-2017 (combined)



Source: Inpatient Discharges (2013-2017), Ontario Ministry of Health and Long-Term Care, IntelliHEALTH ONTARIO, Date Extracted: March 6, 2019.

The rates of hospitalization for diabetes increased with each age group (Figure 36). There were no differences between males and females among people less than 45 years old; however, males had higher rates of hospitalizations compared to females in the 45 years and older age groups.

Figure 36. Five-year average rate of hospitalizations for diabetes (per 100,000 population) by sex and age group, Southwestern Public Health, 2013-2017 (combined)



	<20	20 to 44	45 to 64	65 to 74	75+
Overall	44.4	96.6	163.2	265.5	394.5
Males	52.5	111.7	191.0	364.2	546.5
Females	35.8	81.3	135.5	174.9	285.6

Source: Inpatient Discharges (2013-2017), Ontario Ministry of Health and Long-Term Care, IntelliHEALTH ONTARIO, Date Extracted: March 6, 2019 & Population Estimates (2013-2016), Ontario Ministry of Health and Long-Term Care, IntelliHEALTH ONTARIO, Date Extracted: December 21, 2018 & Population Projections (2017), Ontario Ministry of Health and Long-Term Care, IntelliHEALTH ONTARIO, Date Extracted: January 2, 2019.

The rate of hospitalizations due to diabetes was higher among people living in the urban municipalities compared to the rural municipalities (Figure 37).

Figure 37. Crude rate of hospitalizations for diabetes (per 100,000 population) by urban versus rural residence, Southwestern Public Health, 2016

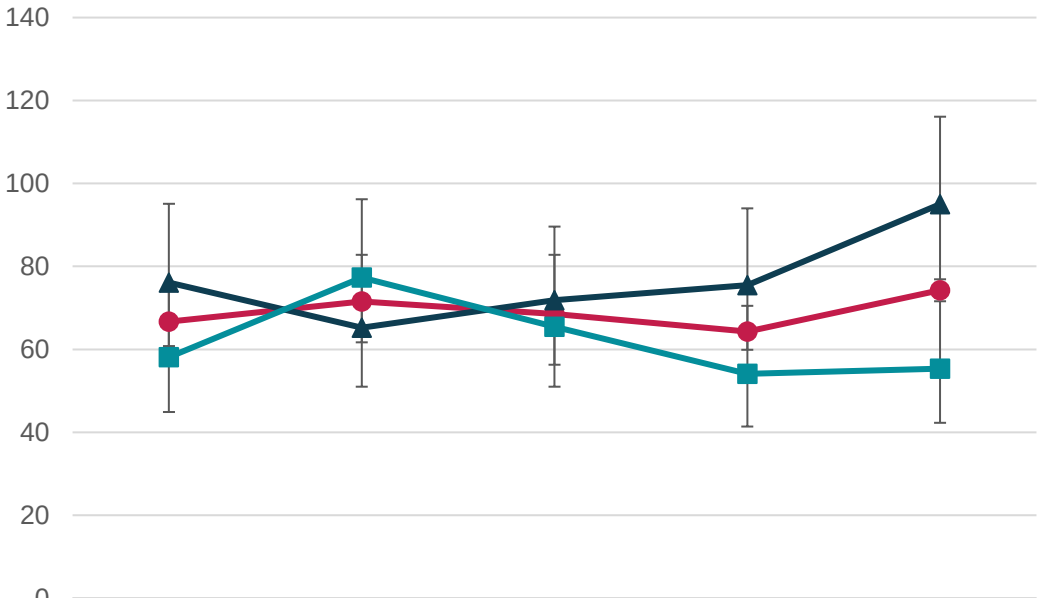
In 2016, there were 196.6 (95% CI: 170.4-225.4) hospitalizations per 100,000 population for diabetes in the urban municipalities of St. Thomas, Aylmer, Ingersoll, Tillsonburg and Woodstock.

In 2016, there were 87.4 (95% CI: 70.6-107.3) hospitalizations per 100,000 population for diabetes in the rural municipalities of Bayham, Central Elgin, Southwold, Dutton/Dunwich, Malahide, West Elgin, Blandford-Blenheim, East Zorra-Tavistock, Zorra, Norwich and South-West Oxford.

Deaths

The rates of death due to diabetes among people living in the SWPH region remained similar between 2011 and 2015 (error bars not shown for the overall rates). In 2015, the rate of death was higher among males compared to females. However, between 2011 and 2014, there were no differences between males and females (Figure 38). There were no differences between people living in the urban municipalities compared to the rural municipalities.

Figure 38. Crude rate of deaths due to diabetes (per 100,000 population), by sex, Southwestern Public Health, 2011-2015

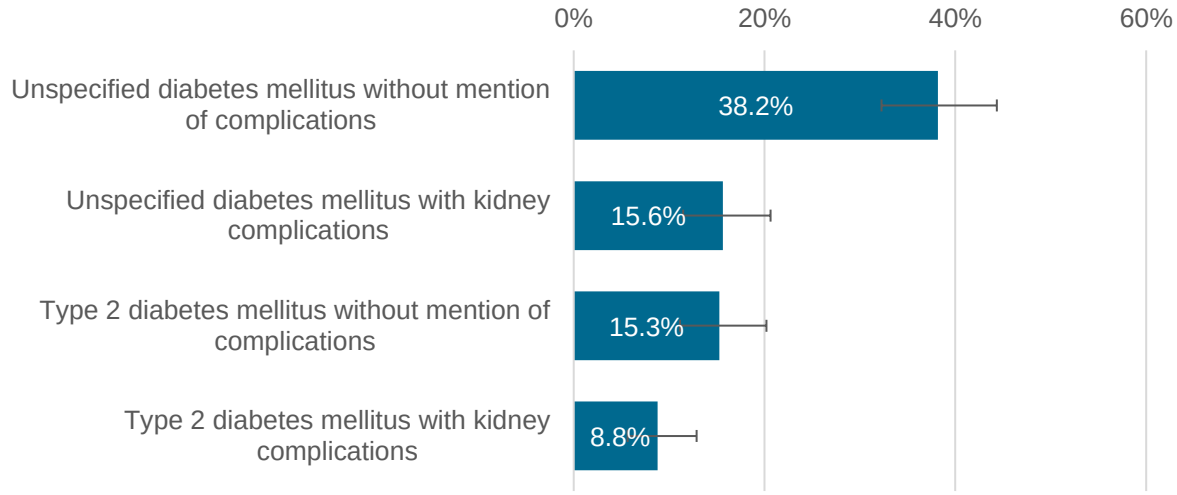


	2011	2012	2013	2014	2015
Overall	66.7	71.6	68.5	64.3	74.3
Males	76.1	65.2	71.9	75.5	95.0
Females	58.2	77.3	65.5	54.1	55.4

Source: Ontario Mortality Data (2011-2015), Ontario Ministry of Health and Long-Term Care, IntelliHEALTH ONTARIO, Date Extracted: March 7, 2019 & Population Estimates (2011-2015), Ontario Ministry of Health and Long-Term Care, IntelliHEALTH ONTARIO, Date Extracted: December 21, 2018.

Over three-quarters (38.2%) of SWPH residents that died from diabetes had unspecified diabetes mellitus without mention of complications (Figure 39).

Figure 39. Most common types of diabetes leading to death, Southwestern Public Health, 2011-2015 (combined)



Source: Ontario Mortality Data (2011-2015), Ontario Ministry of Health and Long-Term Care, IntelliHEALTH ONTARIO, Date Extracted: March 7, 2019.

The rates of death from diabetes increased with each age group, starting when people were 20 years (i.e., there was no difference between people less than 20 years old and people aged 20 to 44 years; Figure 40). In the 65- to 74-year age group, the rate of death was higher among males compared to females. Otherwise, there were no differences between males and females.

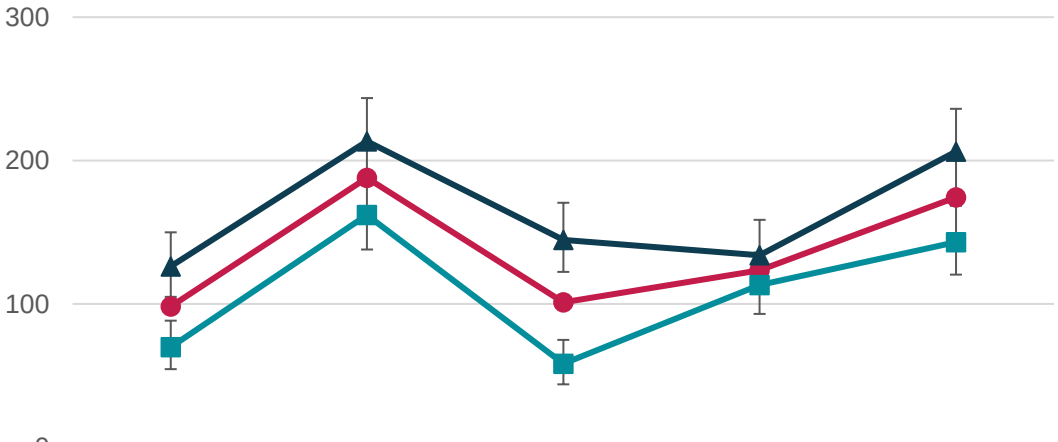
Figure 40. Five-year average rate of deaths from diabetes (per 100,000 population) by sex and age group, Southwestern Public Health, 2011-2015 (combined)

	<20	20 to 44	45 to 64	65 to 74	75+
Overall	0.4	2.0	15.4	55.1	196.6
Males	0.8	2.0	18.3	71.2	226.4
Females	0.0	2.0	12.6	40.4	175.3

Source: Ontario Mortality Data (2011-2015), Ontario Ministry of Health and Long-Term Care, IntelliHEALTH ONTARIO, Date Extracted: March 7, 2019 & Population Estimates (2011-2015), Ontario Ministry of Health and Long-Term Care, IntelliHEALTH ONTARIO, Date Extracted: March 6, 2019.

In 2015, there were 174 PYLL due to diabetes deaths per 100,000 population less than 75 years old (Figure 41Figure 33). The rate of PYLL due to diabetes deaths was higher among males compared to females in 2011, 2013 and 2015. As described above, the estimate of PYLL from premature deaths is likely underestimated.

Figure 41. Crude rate of potential years of life lost (PYLL) to diabetes deaths (per 100,000 population), by sex, residents less than 75 years, Southwestern Public Health, 2011-2015



	2011	2012	2013	2014	2015
Overall	98	188	101	124	174
Males	126	213	145	134	206
Females	70	162	58	113	143

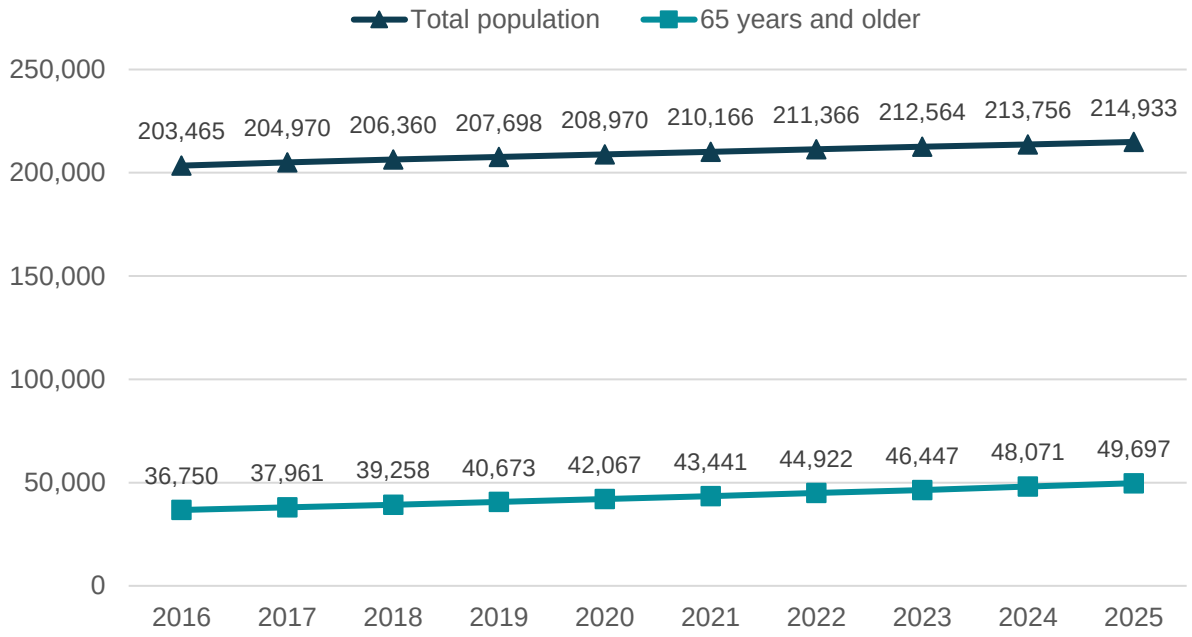
Source: Ontario Mortality Data (2011-2015), Ontario Ministry of Health and Long-Term Care, IntelliHEALTH ONTARIO, Date Extracted: March 7, 2019 & Population Estimates (2011-2015), Ontario Ministry of Health and Long-Term Care, IntelliHEALTH ONTARIO, Date Extracted: March 6, 2019.

Population Profile: Older Adults

Sociodemographic characteristics

The Ministry of Finance projected that 40,673 people 65 years and older would be living in the SWPH region in 2019 and that this would increase to 49,697 by 2025 (Figure 42). In 2016, 18.4% of the population in the SWPH region were older adults (65 years and older), which was slightly higher than Ontario (16.7%). By 2025, the proportion of older adults living in the SWPH region is expected to increase to 23.1%.

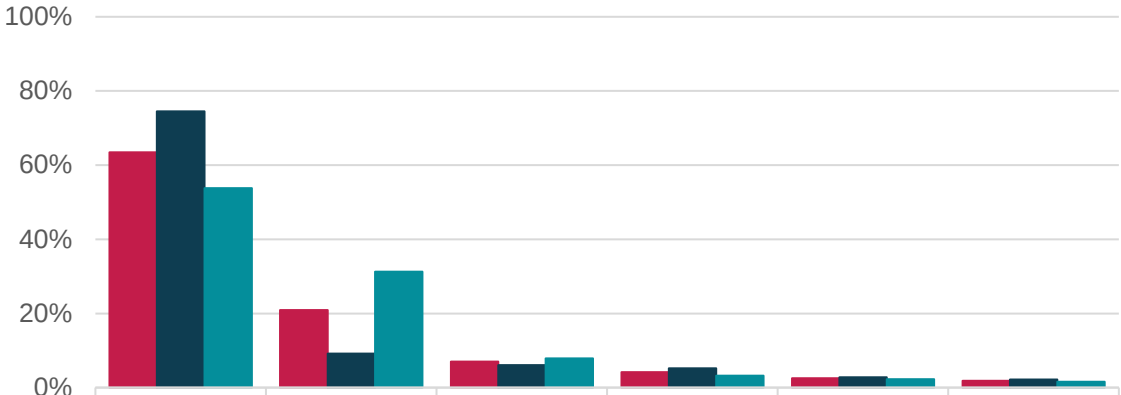
Figure 42. Population projections, Southwestern Public Health, 2016-2025



Source: Population Projections (2016-2025), IntelliHEALTH ONTARIO, Ontario Ministry of Health and Long-Term Care, Date Extracted: December 13, 2018

Over half (63.5%) of people 65 years and older living in the SWPH region were married and about one-fifth (21.0%) were widowed (Figure 43). A higher proportion of females 65 years and older were widowed compared to males 65 years and older (31.3% versus 9.2%).

Figure 43. Marital status, people 65 years and older, by sex, Southwestern Public Health, 2016

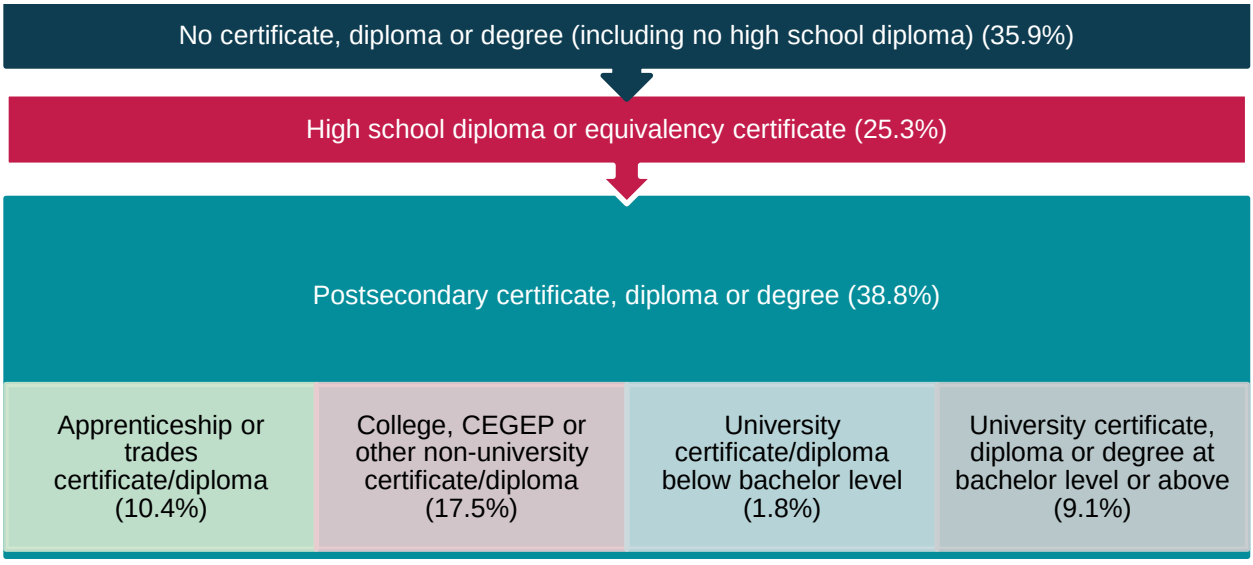


	Married	Widowed	Divorced	Common law	Never married	Separated
Overall	63.5%	21.0%	7.0%	4.2%	2.5%	1.9%
Males	74.5%	9.2%	6.0%	5.2%	2.8%	2.2%
Females	53.8%	31.3%	7.9%	3.2%	2.2%	1.6%

Source: Statistics Canada, 2016 Census of Population, Statistics Canada Catalogue no. 98-400-X2016325.

In the SWPH region, a similar proportion of people 65 years and older had no certificate, diploma or degree (35.9%) compared to a postsecondary certificate, diploma or degree (38.8%) as their highest level of educational attainment (Figure 44). Comparatively, a lower proportion of people aged 15 years and older had no certificate, diploma or degree (24.4%) and a higher proportion had completed postsecondary education (45.4%).

Figure 44. Education level, people 65 years and older, Southwestern Public Health, 2016



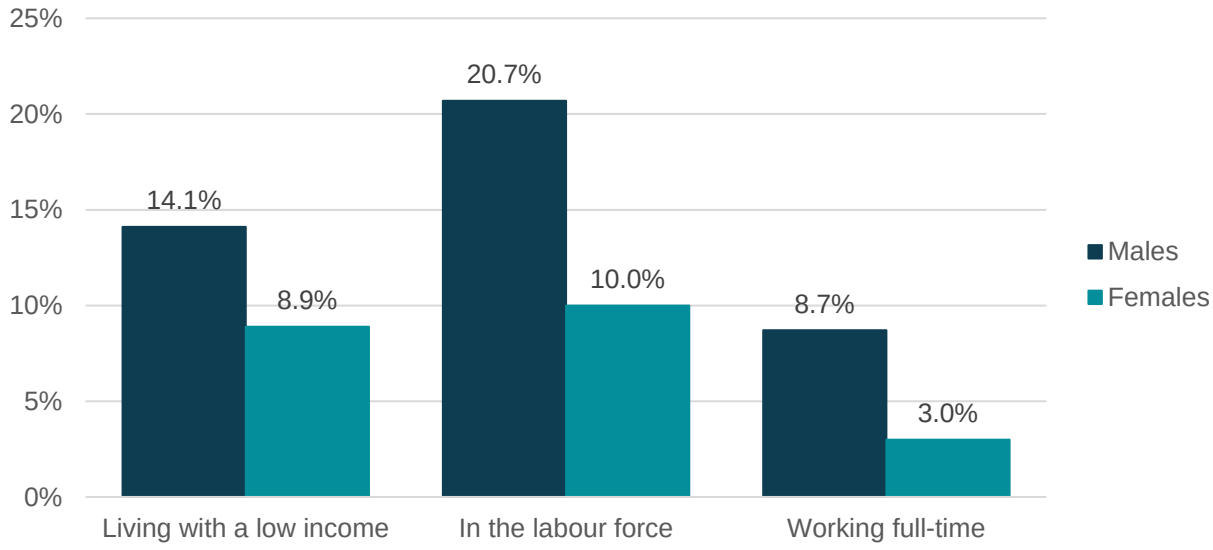
Source: Statistics Canada, 2016 Census of Population, Statistics Canada Catalogue no. 98-400-X2016325.

In 2015, 11.7% of people 65 years and older residing in the SWPH region were living with a low income based on the low-income measure after-tax (LIM-AT). A higher proportion of females 65 years and older were living with a low income compared to males 65 years and older (14.1% versus 8.9%; Figure 45).

In the SWPH region in 2015, 60% of older adults' (65 years and older) income was market income. Within the market income, which can include income sources such investment income, retirement pensions and registered retirement savings plans (RRSPs), 14% was from employment income. The remaining 40% of income was from government transfers such as the Old Age Security pension, benefits from Employment Insurance (EI), social assistance benefits and working income tax benefits.

In 2015, 5.7% of people 65 years and older in the SWPH region worked full-time. A higher proportion of males 65 years and older were working full-time compared to females 65 years and older (8.7% versus 3.0%; Figure 45). In comparison, 15.0% of people 65 years and older in the SWPH region were in the labour force (i.e., employed or unemployed and looking for work). A higher proportion of males 65 years and older were in the labour force compared to females 65 years and older (20.7% versus 10.0%; Figure 45).

Figure 45. Low income and employment status, people 65 years and older, by sex, Southwestern Public Health, 2015



Source: Statistics Canada, 2016 Census of Population, Statistics Canada Catalogue no. 98-400-X2016325.

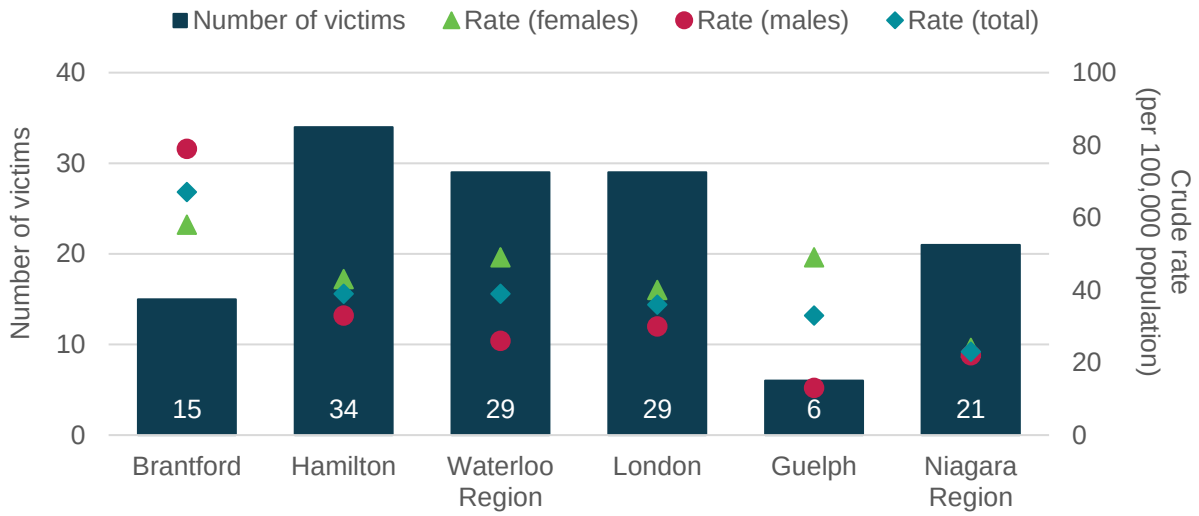
Elder Abuse

In the census metropolitan areas surrounding the SWPH region,[e] the highest rate of police-reported elder abuse in the form of family violence occurred in Brantford. In Brantford, 67 older adults (65 to 89 years) per 100,000 population reported experiencing family violence in 2016 (Figure 46). Family violence includes violence committed by partners, children, siblings and extended family members.

The rate of police-reported elder abuse in the form of family violence was higher among females in Hamilton, Waterloo Region, London and Guelph, higher among males in Brantford and similar between females and males in Niagara Region (Figure 46).

These rates are based on small numbers of incidents and should be interpreted with caution. It is likely that this data represents only a portion of elder abuse since this type of violence is typically underreported.

Figure 46. Number and rates of police-reported family violence (per 100,000 population) among older adults (65 to 89 years) by sex of victim, census metropolitan areas, 2016



Note: a census metropolitan area has one or more neighbouring municipalities situated around a major urban core with a total population of at least 100,000, of which 50,000 or more live in the urban core. There also must be a high degree of integration between adjacent municipalities and the central urban area based on commuting flows.

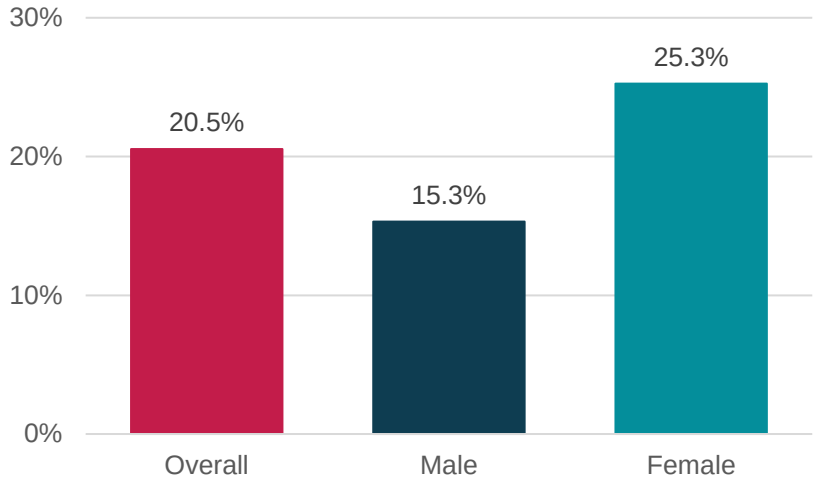
Source: Statistics Canada, Canadian Centre for Justice Statistics, Incident-based Uniform Crime Reporting Survey. Table 5.6 Senior victims of police-reported family violence, by sex of victim and census metropolitan area, 2016. Data Extracted: November 9, 2018. Available from: https://www150.statcan.gc.ca/n1/pub/85-002-x/2018001/article/54893/tbl/tbl5.6-eng.htm

[e] This data is not available for geographies smaller than census metropolitan areas, including the SWPH region.

Social Isolation

One in five older adults (55 years and older) in the SWPH region reported living alone (Figure 47). A higher proportion of female older adults lived alone compared to males.

Figure 47. Proportion of older adults (55 years and older) living alone, by sex, Southwestern Public Health, 2016



Source: Statistics Canada, 2016 Census of Population, Statistics Canada Catalogue no. 98-400-X2016325.

The proportion of older adults (65 years and older) living alone was higher than the proportion of adults 55 years and older living alone (24.8% versus 20.5%, respectively). There were differences in the proportion of older adults (65 years and older) living alone by geography (Table 1). For example, St. Thomas had a higher proportion of both older adults and older adults living alone. In Aylmer, although there was a similar proportion of older adults compared to Elgin County, a higher proportion of those older adults (31.2%) were living alone compared to Elgin County (25.2%) and the SWPH region overall (24.8%).

In Oxford county, Tillsonburg had the highest proportion of older adults (27.8%) as well as a high proportion of older adults living alone (27.4%). Much like St. Thomas, Woodstock also had a high proportion of older adults living alone (28.0%). These concentrations highlight areas of vulnerability for social isolation among older adults. Conversely, there were certain municipalities in both counties that had a low proportion of older adults and older adults living alone, such as Malahide, Bayham, Norwich and South-West Oxford.

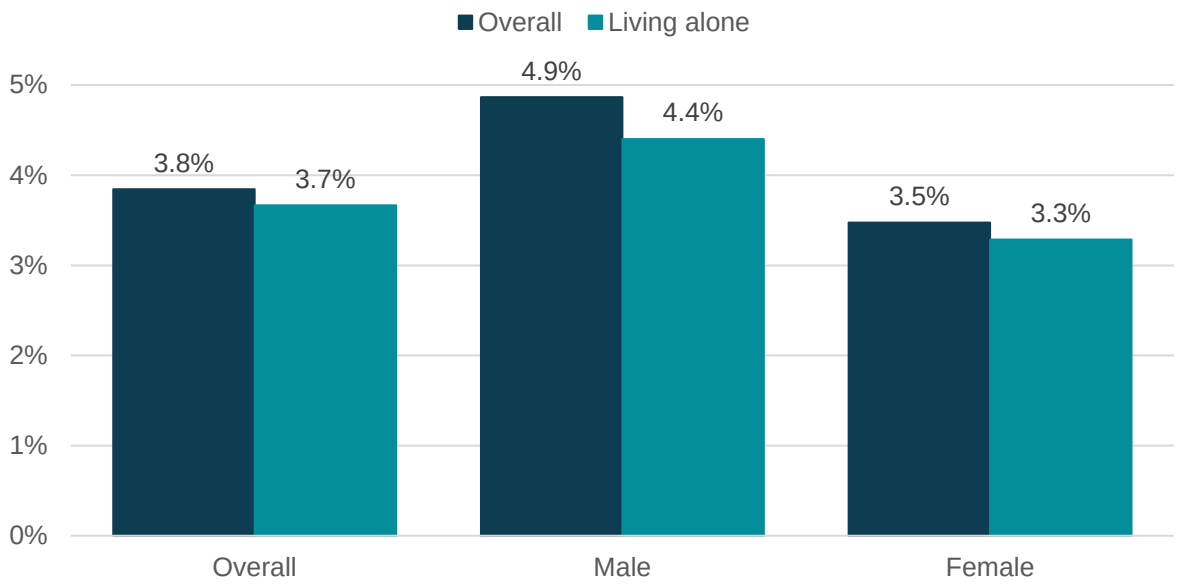
Table 2. Proportion of older adults and older adults living alone (65 years and older) by location, Southwestern Public Health, 2016

Location	Older adults	Older adults living alone
Southwestern Public Health	**18.4%**	**24.8%**
Elgin County	**18.1%**	**25.2%**
West Elgin	21.3%	24.8%
Dutton/Dunwich	19.6%	25.8%
Central Elgin	19.5%	17.5%
St. Thomas	19.2%	29.6%
Southwold	18.6%	15.6%
Aylmer	18.6%	31.2%
Malahide	13.1%	17.1%
Bayham	13.0%	20.5%
Oxford County	**18.7%**	**24.6%**
Tillsonburg	27.8%	27.4%
East Zorra-Tavistock	19.3%	22.6%
Woodstock	19.0%	28.0%
Zorra	16.7%	18.8%
Ingersoll	15.8%	24.9%
Blandford-Blenheim	15.2%	16.3%
South-West Oxford	14.4%	14.7%
Norwich	13.8%	19.4%

Source: Statistics Canada, 2016 Census of Population, Statistics Canada Catalogue no. 98-316-X2016001.

In the SWPH region, 3.7% of older adults (65 years and older) who were living alone were also living with a low income based on the low income measure after-tax (LICO-AT), which was similar to the proportion of older adults living with a low income overall (3.8%; Figure 48). Among older adults, a slightly higher proportion (about 1%) of males were living with a low income compared to females, regardless of their living arrangements.

Figure 48. Proportion of older adults (65 years and older) with a low income based on the low income cut-off after-tax (LICO-AT)* by living arrangements and sex, Southwestern Public Health, 2015



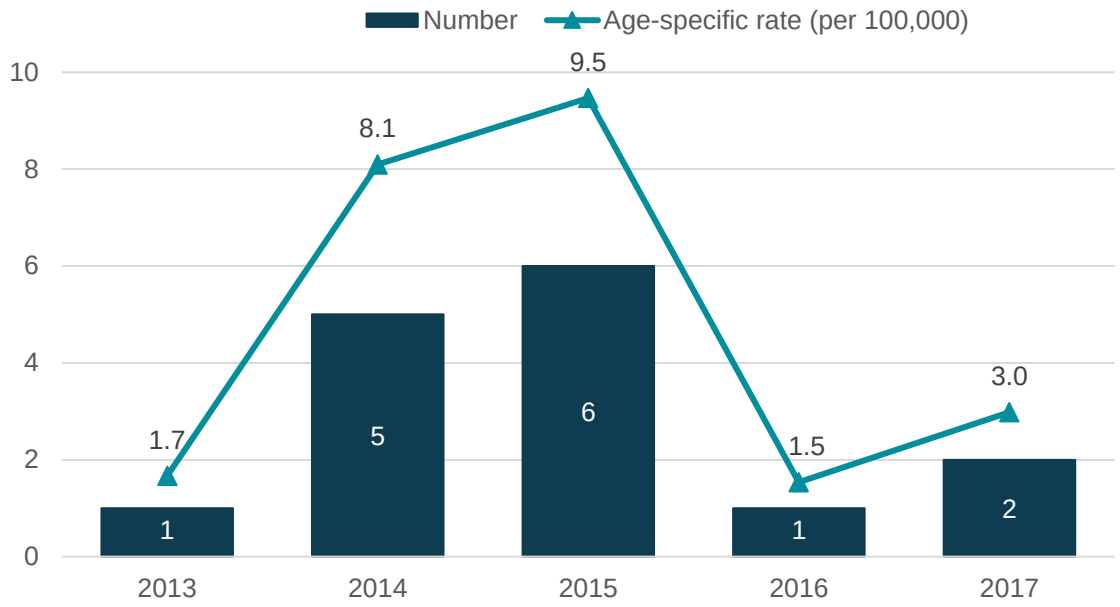
***Note:** the LICO-AT is typically no longer used to measure low income; rather, the preferred measure is the LIM-AT (used earlier in the report) or the Market Basket Measure (MBM). However, low-income status by living arrangements and sex for people 65 years and older is not currently available using the LIM-AT or MBM.

Source: Statistics Canada, 2016 Census of Population, Statistics Canada Catalogue no. 98-400-X2016139.

Malnutrition

The number of hospitalizations for malnutrition among adults 55 years and older in the SWPH region was typically small and unstable from year to year (Figure 49). Using combined data from 2013 to 2017, there were three hospitalizations per year on average, with a five-year average rate of 4.7 (95% CI: 1.6-10.2) per 100,000 population aged 55 years and older.

Figure 49. Hospitalizations for malnutrition, adults 55 years and older, Southwestern Public Health and Ontario, 2013-2017



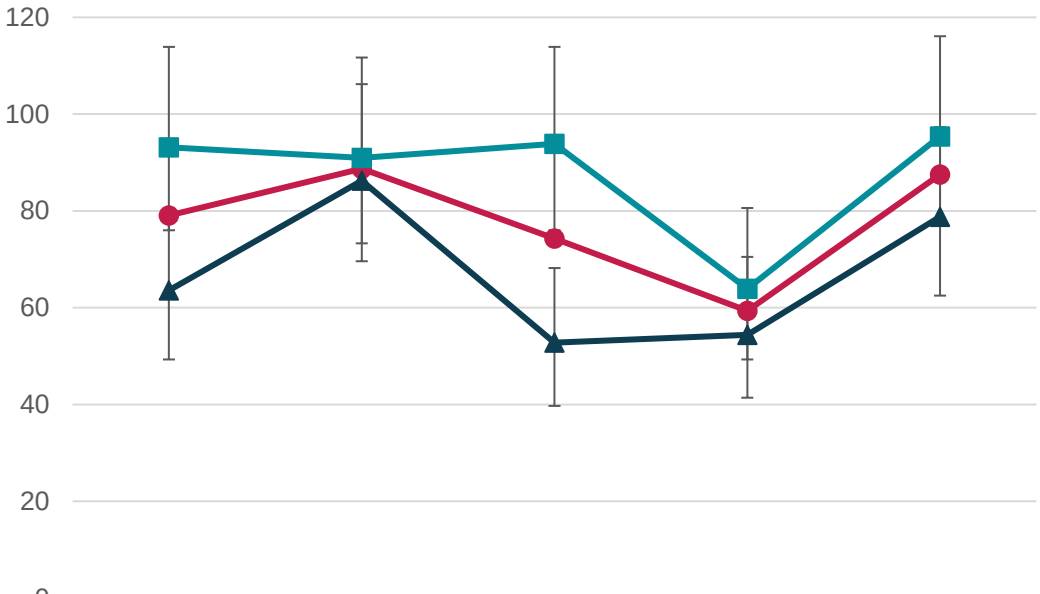
Source: Inpatient Discharges (2013-2017), IntelliHEALTH ONTARIO, Ontario Ministry of Health and Long-Term Care, Date Extracted: December 4, 2018 & Population Estimates (2013-2016), IntelliHEALTH ONTARIO, Ontario Ministry of Health and Long-Term Care, Date Extracted: December 4, 2018 & Population Projections (2017), IntelliHEALTH ONTARIO, Ontario Ministry of Health and Long-Term Care, Date Extracted: December 4, 2018.

Dementia (including Alzheimer's disease)

Hospitalizations

The rates of hospitalization due to dementia among people 50 years and older living in the SWPH region has remained similar between 2013 and 2017 (error bars not shown for the overall rates). In 2015, females had a higher rate of hospitalization compared to males, but otherwise the rates were similar between females and males (Figure 50).

Figure 50. Age-specific rate of hospitalizations due to dementia (per 100,000 population), residents 50 years and older, by sex, Southwestern Public Health, 2013-2017

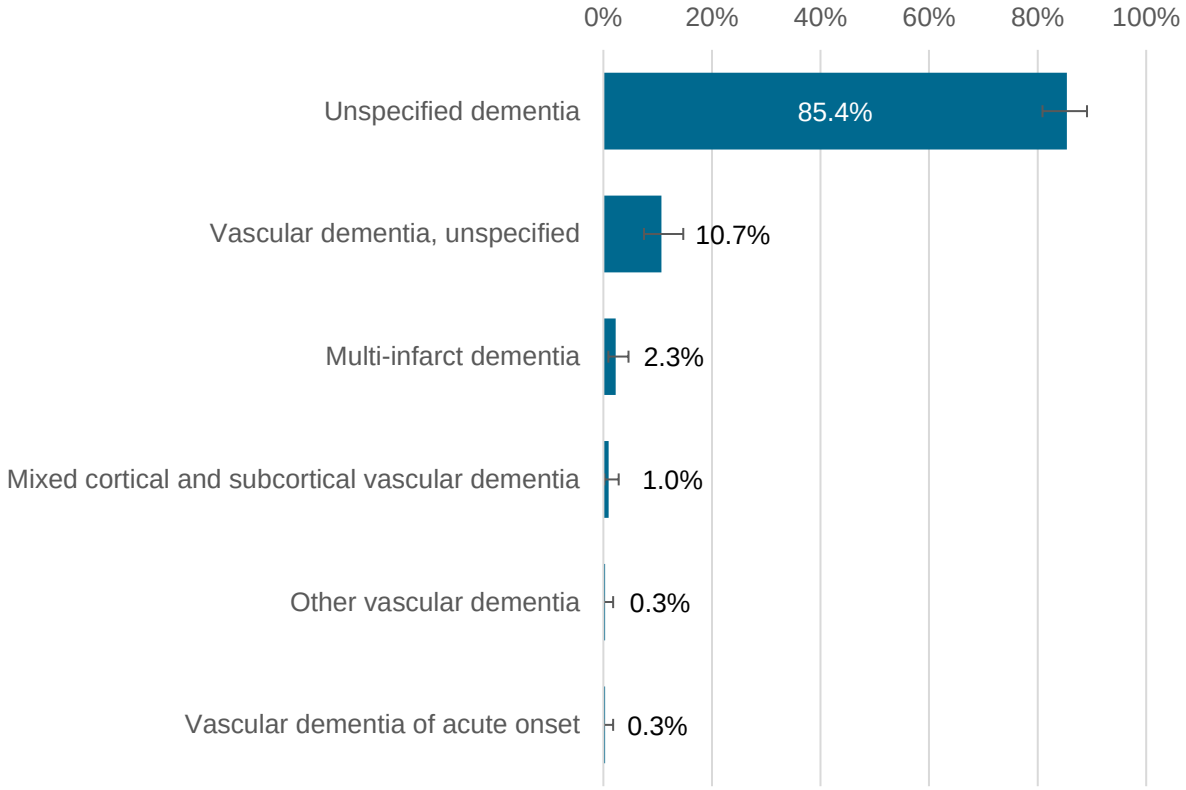


	2013	2014	2015	2016	2017
Overall	79.1	88.7	74.3	59.4	87.5
Males	63.6	86.2	52.8	54.4	78.8
Females	93.1	91.0	93.9	63.9	95.4

Source: Inpatient Discharges (2013-2017), Ontario Ministry of Health and Long-Term Care, IntelliHEALTH ONTARIO, Date Extracted: March 6, 2019 & Population Estimates (2013-2016), Ontario Ministry of Health and Long-Term Care, IntelliHEALTH ONTARIO, Date Extracted: December 21, 2018 & Population Projections (2017), Ontario Ministry of Health and Long-Term Care, IntelliHEALTH ONTARIO, Date Extracted: January 2, 2019.

The majority (85.4%) of SWPH residents hospitalized for dementia had unspecified dementia, which may include presenile dementia or psychosis, primary degenerative dementia, psychosis and senile dementia (not otherwise specified or depressed/paranoid type; Figure 51).

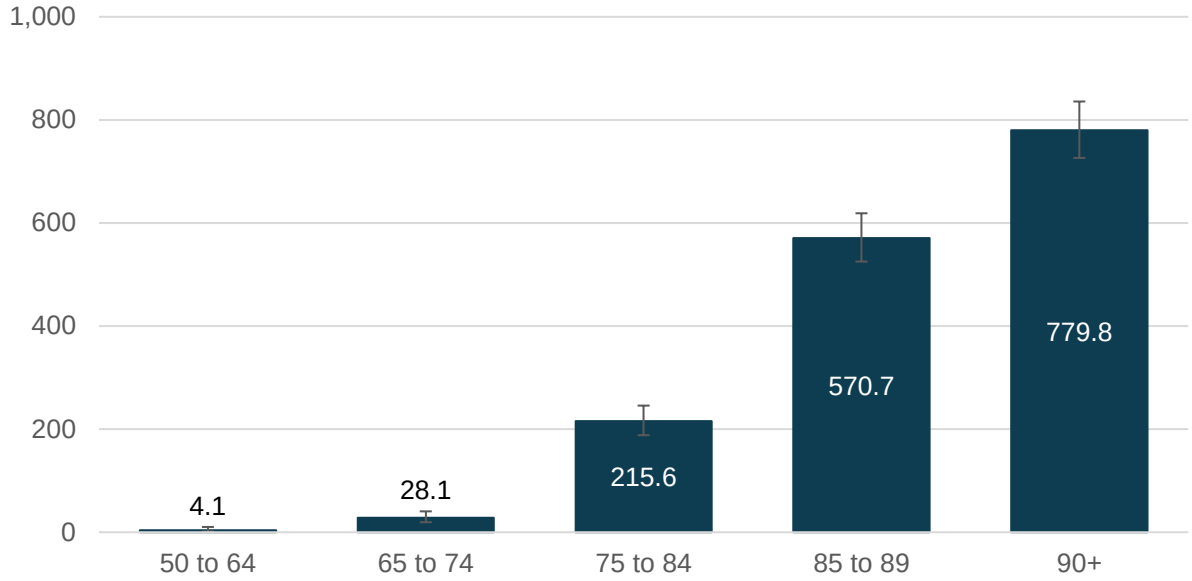
Figure 51. Most common types of dementia among hospitalized residents 50 years and older, Southwestern Public Health, 2013-2017 (combined)



Source: Inpatient Discharges (2013-2017), Ontario Ministry of Health and Long-Term Care, IntelliHEALTH ONTARIO, Date Extracted: March 6, 2019.

The rates of hospitalization for dementia increased with each age group (Figure 52). Among people aged 90 years and older, the rate of hospitalization for dementia was 779.8 per 100,000 population aged 90 years and older. There were no differences between females and males across the age groups.

Figure 52. Five-year average rate of hospitalizations for dementia (per 100,000 population) by age group, Southwestern Public Health, 2013-2017 (combined)



Source: Inpatient Discharges (2013-2017), Ontario Ministry of Health and Long-Term Care, IntelliHEALTH ONTARIO, Date Extracted: March 6, 2019 & Population Estimates (2013-2016), Ontario Ministry of Health and Long-Term Care, IntelliHEALTH ONTARIO, Date Extracted: December 21, 2018 & Population Projections (2017), Ontario Ministry of Health and Long-Term Care, IntelliHEALTH ONTARIO, Date Extracted: January 2, 2019.

The rate of hospitalizations due to dementia among people 50 years and older was higher among people living in the urban municipalities compared to the rural municipalities (Figure 53).

Figure 53. Crude rate of hospitalizations for dementia (per 100,000 population) by urban versus rural residence, Southwestern Public Health, 2016

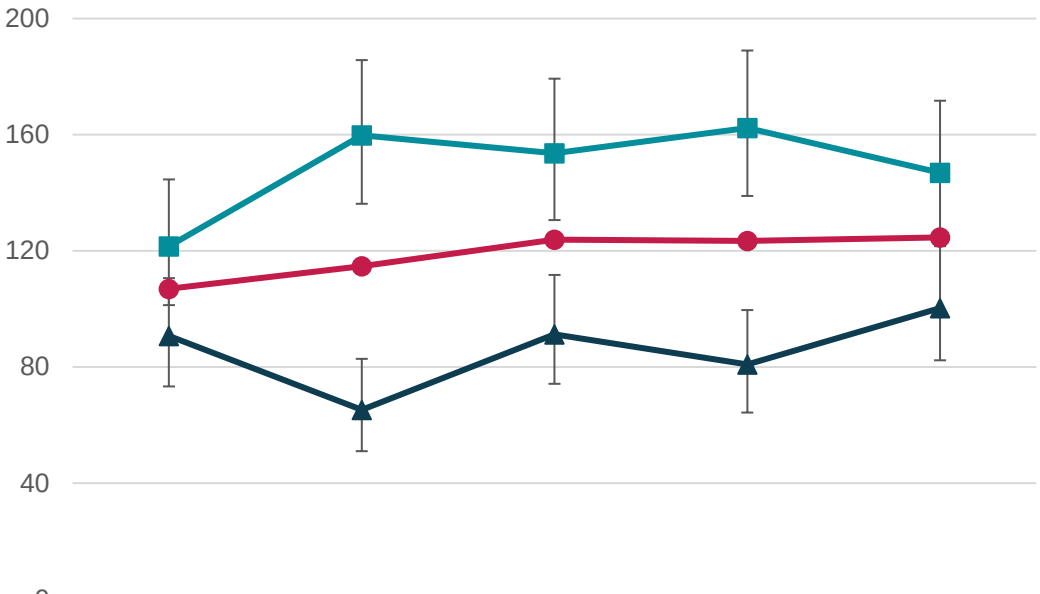
In 2016, there were 76.3 (95% CI: 60.8-95.1) hospitalizations per 100,000 population aged 50 years and older for dementia in the urban municipalities of St. Thomas, Aylmer, Ingersoll, Tillsonburg and Woodstock.

In 2016, there were 35.6 (95% CI: 25.2-48.7) hospitalizations per 100,000 population aged 50 years and older for dementia in the rural municipalities of Bayham, Central Elgin, Southwold, Dutton/Dunwich, Malahide, West Elgin, Blandford-Blenheim, East Zorra-Tavistock, Zorra, Norwich and South-West

Deaths

The rates of death due to dementia among people 50 years and older living in the SWPH region remained similar between 2011 and 2015 (error bars not shown for the overall rates). Over this time period, females typically had higher rates of death due to dementia compared to males, except in 2011 (Figure 54).

Figure 54. Age-specific rate of deaths due to dementia (per 100,000 population), residents 50 years and older, by sex, Southwestern Public Health, 2011-2015

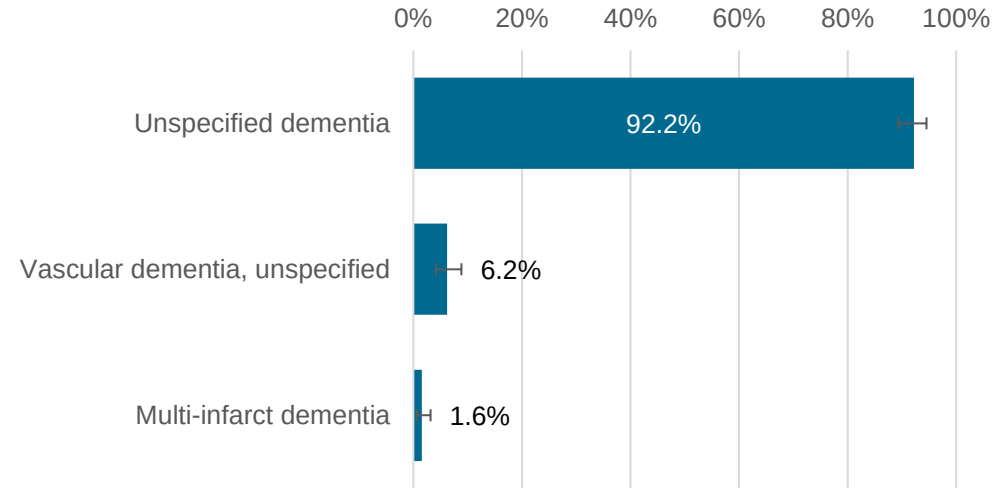


	2011	2012	2013	2014	2015
Overall	106.9	114.8	123.9	123.4	124.6
Males	90.7	65.2	91.2	80.9	100.3
Females	121.6	159.8	153.6	162.3	146.8

Source: Ontario Mortality Data (2011-2015), Ontario Ministry of Health and Long-Term Care, IntelliHEALTH ONTARIO, Date Extracted: March 6, 2019 & Population Estimates (2011-2015), Ontario Ministry of Health and Long-Term Care, IntelliHEALTH ONTARIO, Date Extracted: December 21, 2018.

The majority (92.2%) of SWPH residents that died from dementia had unspecified dementia, which may include presenile dementia or psychosis, primary degenerative dementia, psychosis and senile dementia (not specified or depressed/paranoid type; Figure 55).

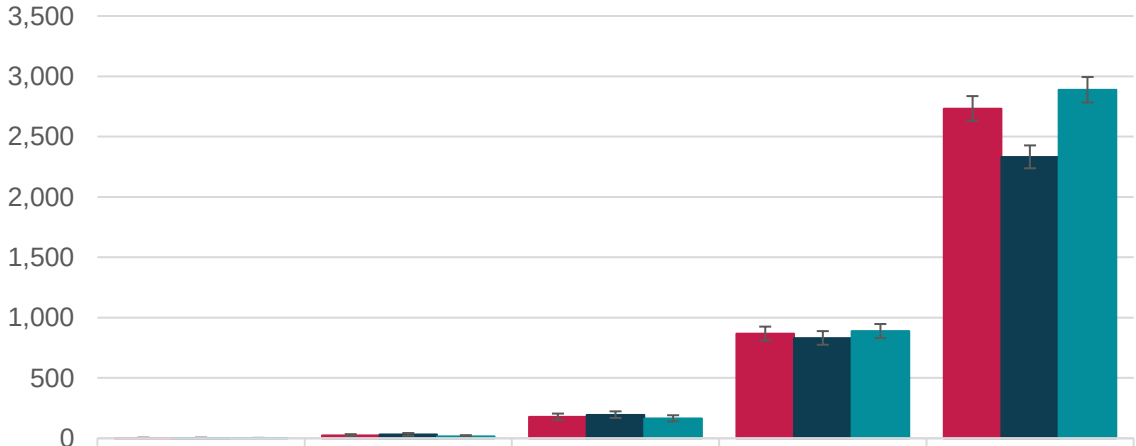
Figure 55. Most common types of dementia leading to death, residents 50 years and older, Southwestern Public Health, 2011-2015 (combined)



Source: Ontario Mortality Data (2011-2015), Ontario Ministry of Health and Long-Term Care, IntelliHEALTH ONTARIO, Date Extracted: March 6, 2019.

The rates of death from dementia increased with each age group (Figure 56). Among people aged 90 years and older, the rate of death from dementia was 2,732.1 per 100,000 population aged 90 years and older. In the 90 year and older age group, the rate of death was higher among females compared to males. Otherwise, there were no differences between females and males.

Figure 56. Five-year average rate of deaths from dementia (per 100,000 population) by sex and age group, Southwestern Public Health, 2011-2015 (combined)



	50 to 64	65 to 74	75 to 84	85 to 89	90+
Overall	1.4	23.7	177.5	866.6	2732.1
Males	1.9	31.4	194.4	830.8	2331.1
Females	0.9	16.6	164.0	887.3	2887.1

Source: Ontario Mortality Data (2011-2015), Ontario Ministry of Health and Long-Term Care, IntelliHEALTH ONTARIO, Date Extracted: March 6, 2019 & Population Estimates (2011-2015), Ontario Ministry of Health and Long-Term Care, IntelliHEALTH ONTARIO, Date Extracted: March 6, 2019.

References

1. MacLeod M, Hussain H. Understanding our communities' health: current health status of people residing in the Southwestern Public Health region. Southwestern Public Health; 2019.

2. Colley R, Butler G, Garriguet D, Prince S, Roberts K. Comparison of self-reported and accelerometer-measured physical activity in Canadian adults. Ottawa, ON: Statistics Canada; 2018.

3. Statistics Canada. Life tables, Canada, provinces and territories, catalogue no. 84-537-X: Accessed: January 2, 2019.

4. Statistics Canada. 2016 Census of Population collection response rates [Internet]. Ottawa, ON: Statistics Canada; 2017 [cited 2019 Feb 27]. Available from: https://www12.statcan.gc.ca/census-recensement/2016/ref/response-rates-eng.cfm

5. Statistics Canada. Incompletely enumerated Indian reserves and Indian settlements [Internet]. Ottawa, ON: Statistics Canada; 2019 [cited 2019 Feb 27]. Available from: https://www12.statcan.gc.ca/census-recensement/2016/ref/dq-qd/iir-rii-eng.cfm

Appendix A: Technical Notes

This report summarizes information from a variety of data sources available to Public Health. The methods used, and geography presented depends on the data source. More detail about the data sources can be found below.

Canadian Community Health Survey (CCHS)

The Canadian Community Health Survey (CCHS) is a national telephone survey that collects information about health from the population aged 12 years and older. The CCHS excludes people living on reserves and other Indigenous settlements, full-time members of the Canadian Forces and people living in institutions. Data is self-reported and may be subject to recall bias and social desirability bias. 'Don't know' and 'not stated' responses were removed from analysis when they represented less than 10% (combined) of the unweighted sample. This assumes that data are missing at random, which is not always the case. Data from 2015-2016 onwards is not comparable to previous years due to substantial changes in sampling methodology and content.

The 2016 CCHS was the first cycle of the CCHS to link survey responses to individual's tax records. Therefore, income questions were only asked for participants that refused to have their records linked or where there was a low probability of finding a link based on preliminary work. For self-reported income, responses were adjusted by Statistics Canada based on statistical models to provide health units with the most accurate income groups possible. Household income before tax was then grouped into quintiles (five equal sized groups containing 20% of the population) based on provincial data. Therefore, people in the lowest income quintile (Q1) have the lowest 20% of household incomes before tax in the province.

The error bars in figures are the confidence intervals (CIs). Each estimate is based on the survey sample and a CI is a range of values that describes the uncertainty surrounding an estimate. The 95% CI shows a range of values that have a 95% chance of including the true estimate in the population if the survey was repeated. The larger a 95% CI, the more caution should be used when using the estimate. CIs that don't overlap show statistically significant differences between groups. Statistically significant results indicate the finding is unlikely to be due to chance alone. Only statistically significant differences are presented in the report.

Census

The 2016 Census gathered information from most people living in Canada. Statistics Canada is required by law to conduct a Census of Population every five years and people living in Canada are required by law to complete their Census questionnaires. Overall, the 2016 Census had a response rate of 98.6% in Ontario.[4] However, there are some groups of people who may not be well represented in the Census, including people living on eight Indigenous reserves in Ontario that did not permit Statistics Canada to administer the questionnaire.[5] There are some questions in the Census that are based on 25% sample data (i.e., the long form Census, which not everyone was asked to complete). These indicators include labour force participation.

Discharge Abstract Database (DAD)

DAD contains information about hospital discharges and therefore does not capture people treated and released from emergency departments, those treated in doctors' offices or clinics or those who did not seek treatment in a hospital. This may underestimate the burden of chronic diseases and malnutrition. The data submitted by hospitals is validated by CIHI and released to public health units through IntelliHEALTH ONTARIO. Table 3 outlines the ICD-10-CA codes used to capture hospitalizations from malnutrition. An individual may be hospitalized for the same reason more than once so hospitalizations cannot measure incidence.

Table 3. Malnutrition ICD-10-CA codes and description

Description	ICD-10-CA code
Kwashiorkor	E40
Nutritional marasmus	E41
Marasmic kwashiorkor	E42
Unspecified severe protein-energy malnutrition	E43
Protein-energy malnutrition of moderate and mild degree	E44
Retarded development following protein-energy malnutrition	E45
Unspecified protein-energy malnutrition	E46
Sequelae of protein-energy malnutrition	E64.0
Starvation	T73.0

Ontario Mortality Data (Vital Statistics)

Ontario Mortality Data is obtained through the Office of the Registrar General, Service Ontario, which receives information from death certificates completed by physicians. This information is released to public health units through IntelliHEALTH ONTARIO and includes only the primary (i.e., underlying) cause of death. There may be some uncertainty when classifying the underlying cause of death when comorbidities are present.

Population Estimates and Projections

Population estimates and projections were used as the denominator to calculate rates. Population estimates are produced by the Demography Division at Statistics Canada and were obtained through IntelliHEALTH ONTARIO.

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