School Health

Health Status by Program Area

Population Health Assessment
Southwestern Public Health
June 2019

Authors

Hadia Hussain, MPH
Epidemiologist/Program Evaluator
Foundational Standards
Southwestern Public Health

Melissa MacLeod, M.Sc.
Epidemiologist
Foundational Standards
Southwestern Public Health

Acknowledgements

Contributor

Sarah Croteau, MPH
Data Analyst
Foundational Standards
Southwestern Public Health

We would like to thank the School Health team for their engagement as well as our reviewers:

- Angela Kelly, Public Health Nurse, School Health
- Kelly Ferguson, Dietitian, School Health
- Linda Funk, Dental Hygienist, School Health
- Joanne Sylvester, Public Health Nurse, School Health
- Laura Gibbs, Program Manager, Foundational Standards
- Jaime Fletcher, Program Manager, School Health
- Mary Van Den Neucker, Program Manager, School Health
- David Smith, Program Director, School Health
- Cynthia St. John, Chief Executive Officer (CEO)

How to cite this document:

Hussain H, MacLeod M. School health: health status by program area. Southwestern Public Health; 2019.

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.[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 School Health team. The information included in this report may assist in program planning and be used to increase community awareness of health issues. The data may be used to develop other knowledge translation products as needed. The overarching trends are summarized below.

Oral Health

- Groups with higher rates of day surgeries for cavities included children under seven years and children under 17 years who live in urban municipalities.
- A higher proportion of children aged 12 to 19 years reported visiting a dentist in the past year in Oxford County compared to Elgin St. Thomas.
- A higher proportion of females reported brushing their teeth at least twice a day compared to males.

Visual Health

- Although the proportion of 4- and 5-year-old children with at least one visit in a year to a family physician, ophthalmologist or optometrist for a visual assessment increased over time, this proportion was lower among those living in the rural municipalities.

Sun Safety

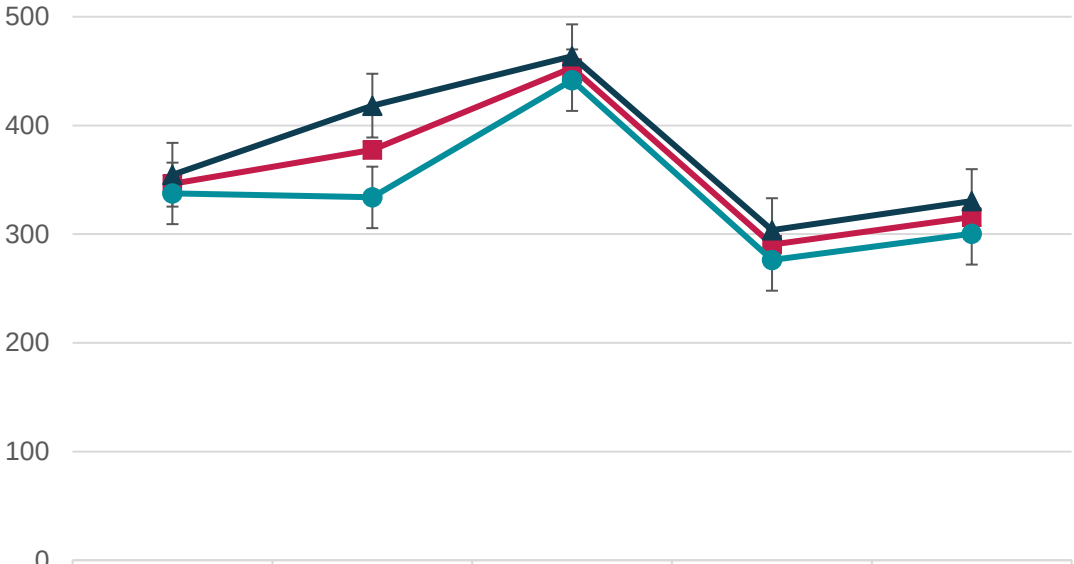
- Compared to males, females were more likely to report appropriate self-protection from the sun (e.g., using sunscreen and seeking shade), but were also more likely to report using tanning beds.

School Health

Oral Health

Overall, the rate of day surgeries occurring in hospitals for cavities among children aged less than 18 years typically did not differ by sex from 2013 to 2017. However, in 2014, the rate of day surgeries for cavities was higher for males compared to females.

Figure 1. Crude rate (per 100,000 population) of day surgeries in hospitals for cavities by sex, children less than 18 years old, Southwestern Public Health, 2013-2017

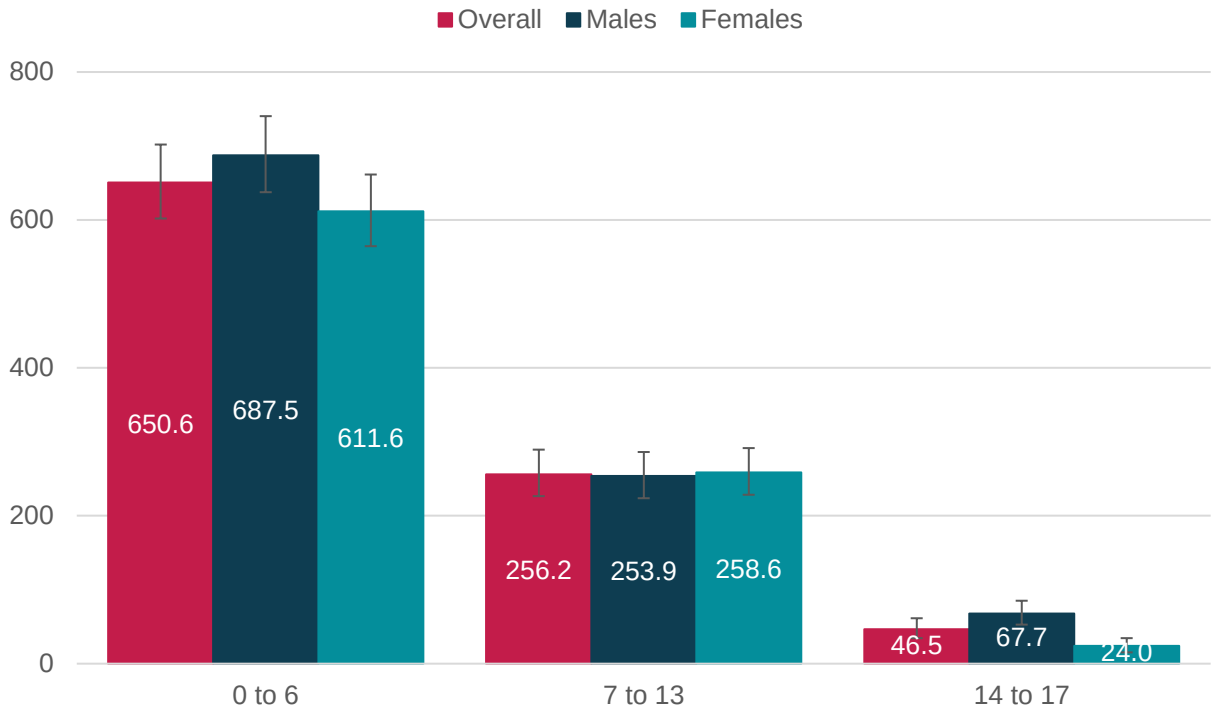


	2013	2014	2015	2016	2017
Overall	346.4	377.4	453.0	290.4	315.8
Males	354.7	418.2	463.7	303.7	330.5
Females	337.5	333.8	441.7	276.3	300.3

Source: Ambulatory Emergency External Cause (2013-2017), Ontario Ministry of Health and Long-Term Care, IntelliHEALTH ONTARIO, Date Extracted: March 29, 2019 & Population Estimates (2013-2016), Ministry of Health and Long-Term Care, IntelliHEALTH ONTARIO, Date Extracted: March 29, 2019 & Population Projections (2017), Ministry of Health and Long-Term Care, IntelliHEALTH ONTARIO, Date Extracted: March 29, 2019

The rate of day surgeries for cavities decreased as age increased. The rate was highest among children aged 0 to 6 years compared to the older age groups and the rate among children aged 7 to 13 years was higher than children aged 14 to 17 years. Boys aged 14 to 17 years had a higher rate of day surgeries for cavities than girls aged 14 to 17 years. The rate did not differ by sex for the remaining age groups.

Figure 2. Crude rate (per 100,000 population) of day surgeries in hospitals for cavities by age and sex, children less than 18 years old, Southwestern Public Health, 2013-2017 (combined)



Source: Ambulatory Emergency External Cause (2013-2017), Ontario Ministry of Health and Long-Term Care, IntelliHEALTH ONTARIO, Date Extracted: March 29, 2019 & Population Estimates (2013-2016), Ministry of Health and Long-Term Care, IntelliHEALTH ONTARIO, Date Extracted: March 29, 2019 & Population Projections (2017), Ministry of Health and Long-Term Care, IntelliHEALTH ONTARIO, Date Extracted: March 29, 2019

The crude rate of day surgeries for cavities was higher among children aged 0 to 17 years living in the urban municipalities of the SWPH region compared to the rural municipalities (Figure 3).

Figure 3. Crude rate of day surgeries for cavities in hospitals among children aged 17 years and under by urban or rural residence, Southwestern Public Health, 2013-2016 (combined)

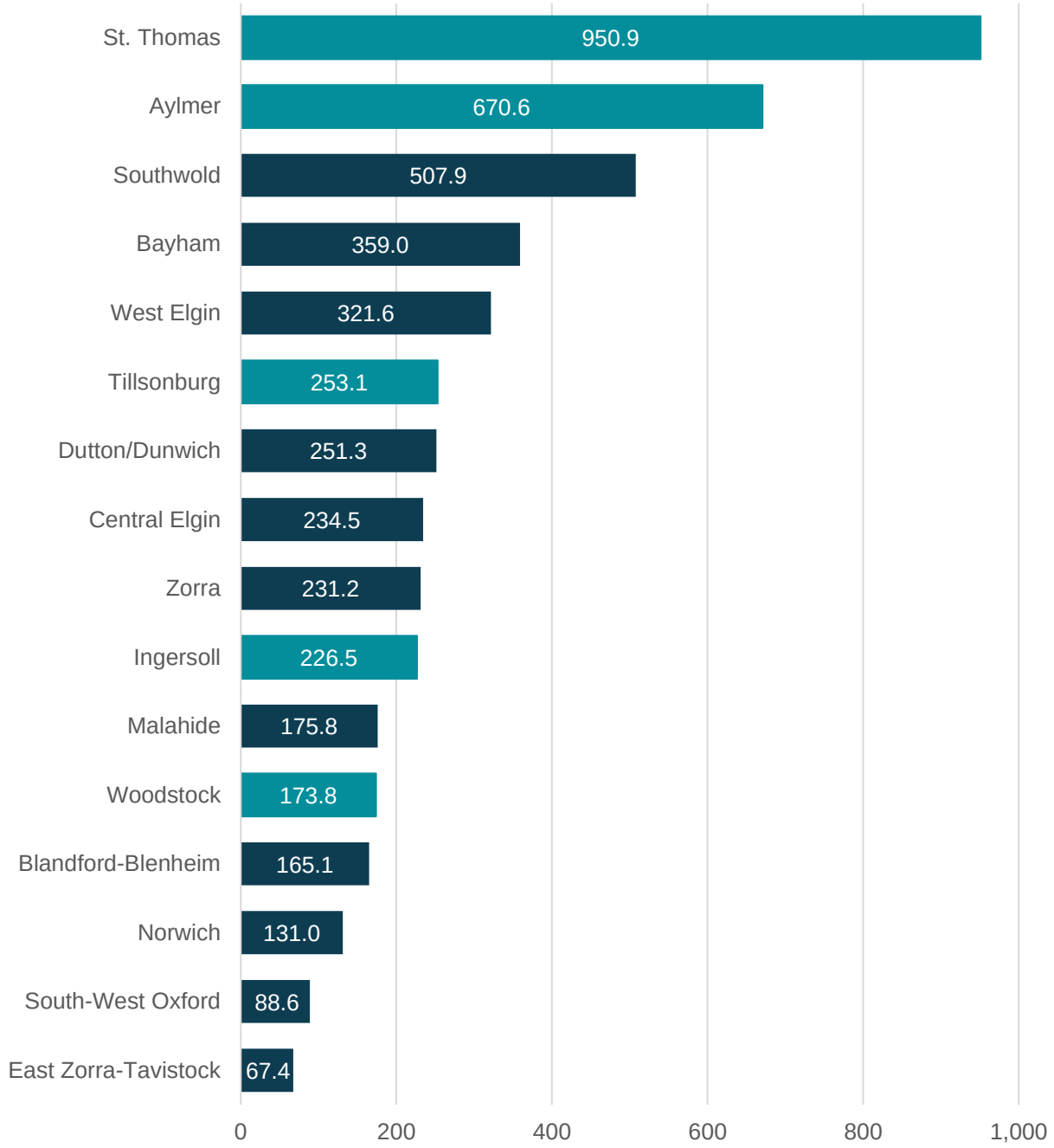
Between 2013 and 2016, there were on average 506.5 (95% CI: 462.0-554.1) day surgeries for cavities per 100,000 population aged 17 years and under per year living in the urban municipalities of St. Thomas, Aylmer, Ingersoll, Tillsonburg and Woodstock.

Between 2013 and 2016, there were on average 208.1 (95% CI: 178.1-241.7) day surgeries for cavities per 100,000 population aged 17 and under per year 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.

Source: Ambulatory Emergency External Cause (2013-2016), Ontario Ministry of Health and Long-Term Care, IntelliHEALTH ONTARIO, Date Extracted: March 29, 2019 & Population Estimates (2013-2016), Ministry of Health and Long-Term Care, IntelliHEALTH ONTARIO, Date Extracted: March 29, 2019.

The rate of day surgeries for cavities was highest in St. Thomas followed by Aylmer and Southwold (Figure 4). The higher rate among people living in urban municipalities in the SWPH region is likely being driven by the rates in St. Thomas and Aylmer. Municipalities in Elgin St. Thomas had higher rates of day surgeries for cavities relative to municipalities in Oxford County (i.e., municipalities in Elgin St. Thomas appear higher in the chart compared to municipalities in Oxford County). Between 2013 and 2016, the rate of day surgeries for cavities was higher in Elgin St. Thomas (583.3 day surgeries for cavities per 100,000 population; 95% CI: 531.0-636.8) compared to Oxford County (180.1 day surgeries for cavities per 100,000 population; 95% CI: 155.0-210.5).

Figure 4. Crude rate of day surgeries for cavities in hospitals among children aged 17 years and under by municipality, Southwestern Public Health, 2013-2016 (combined)



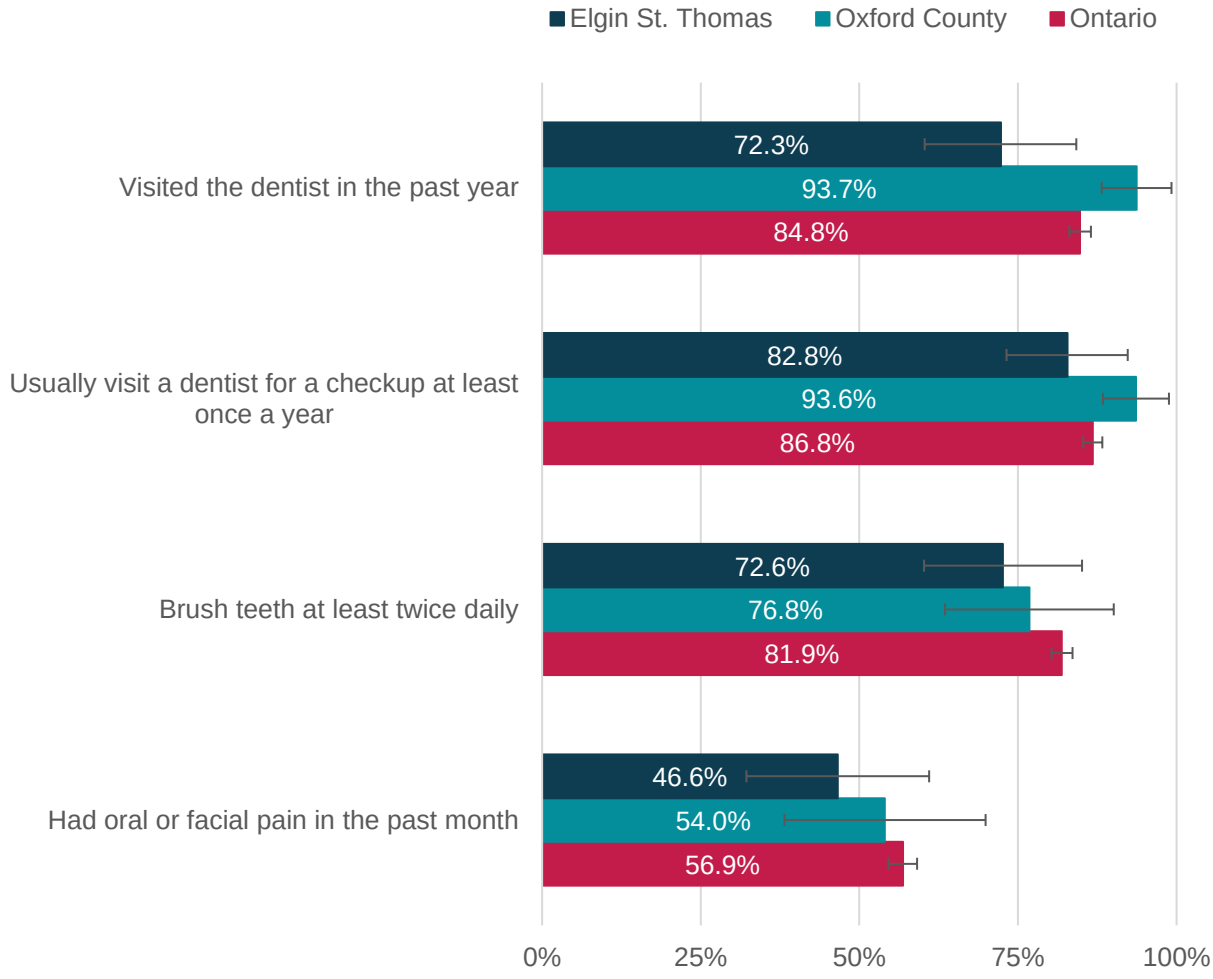
Note: The urban municipalities are highlighted in a lighter blue and the rural municipalities are highlighted in a darker blue.

Source: Ambulatory Emergency External Cause (2013-2017), Ontario Ministry of Health and Long-Term Care, IntelliHEALTH ONTARIO, Date Extracted: March 29, 2019 & Population Estimates (2013-2016), Ministry of Health and Long-Term Care, IntelliHEALTH ONTARIO, Date Extracted: March 29, 2019 & Population Projections (2017), Ministry of Health and Long-Term Care, IntelliHEALTH ONTARIO, Date Extracted: March 29, 2019

The proportion of youth (12 to 19 years) that reported visiting a dentist in the past year was higher in Oxford County (93.7%) compared to Elgin St. Thomas (72.3%) and Ontario (84.8%; Figure 5). The proportion of youth visiting the dentist in the past year was similar in Elgin St. Thomas and Ontario. The proportion of the population aged 12 to 19 years who reported usually visiting a dentist for a checkup at least once a year was higher in Oxford County (93.6%) compared to Ontario (86.8%) but was not different from Elgin St. Thomas (82.8%; Figure 5).

There was no difference between Elgin St. Thomas, Oxford County and Ontario in the proportion of the population aged 12 to 19 years who reported brushing their teeth at least twice daily or reported having had oral or facial pain in the past month (Figure 5).

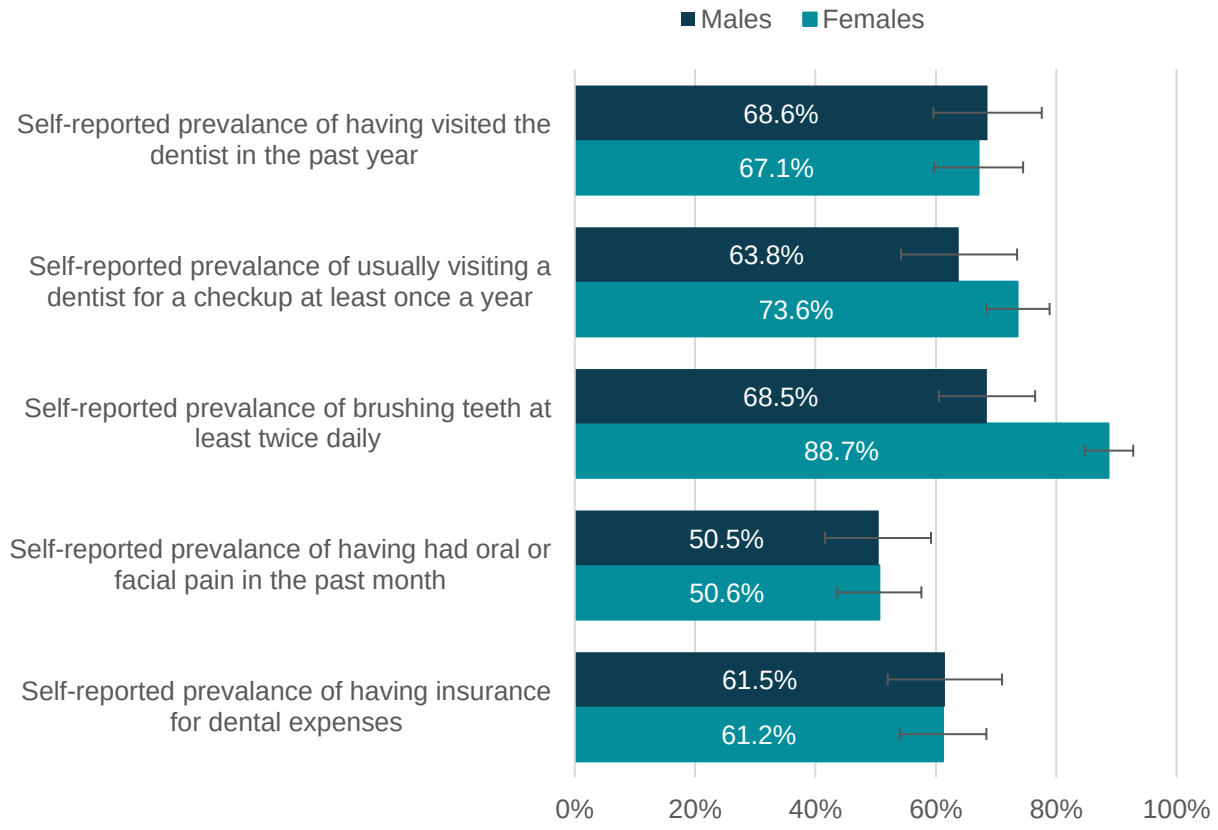
Figure 5. Self-reported oral health indicators, children aged 12 to 19 years, Elgin St. Thomas, Oxford County and Ontario, 2013-2014



Source: Ontario Agency for Health Protection and Promotion (Public Health Ontario). Oral Health snapshot [Internet]. Toronto, ON: Queen's Printer for Ontario; 2018 [updated 2017 April 11; cited 2019 April 2]. Available from: https://www.publichealthontario.ca/en/data-and-analysis/health-behaviours/oral-health

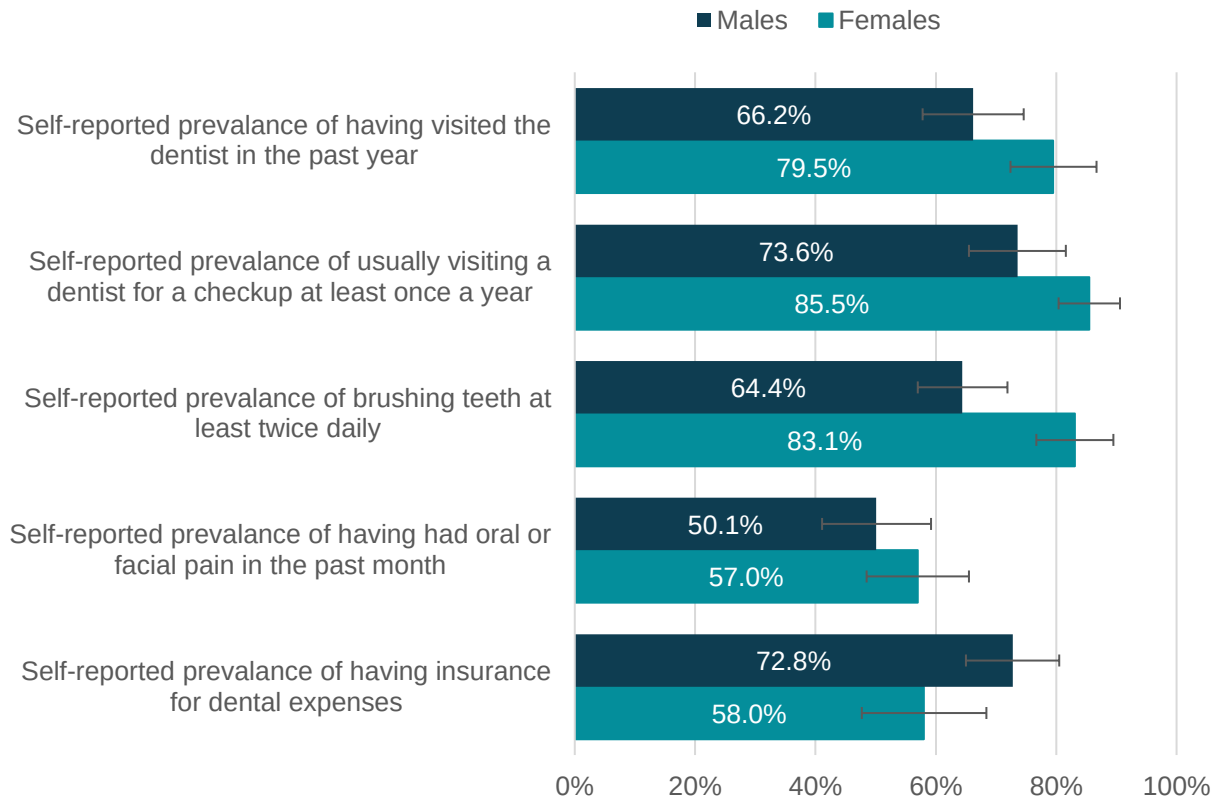
From 2013 to 2014, a higher proportion of females reported brushing their teeth at least twice a day compared to males (Figures 6 and 7). A similar proportion of males and females reported visiting the dentist in the past year, usually visiting a dentist for a checkup at least once a year, having had oral or facial pain in the past month and having insurance for dental expense (Figures 6 and 7).

Figure 6. Self-reported prevalence of oral health indicators by sex, individuals aged 12 and over, Elgin St. Thomas, 2013-2014



Source: Ontario Agency for Health Protection and Promotion (Public Health Ontario). Oral Health snapshot [Internet]. Toronto, ON: Queen's Printer for Ontario; 2018 [updated 2017 April 11; cited 2019 April 2]. Available from: https://www.publichealthontario.ca/en/data-and-analysis/health-behaviours/oral-health

Figure 7. Self-reported prevalence of oral health indicators by sex, individuals aged 12 and over, Oxford County, 2013-2014

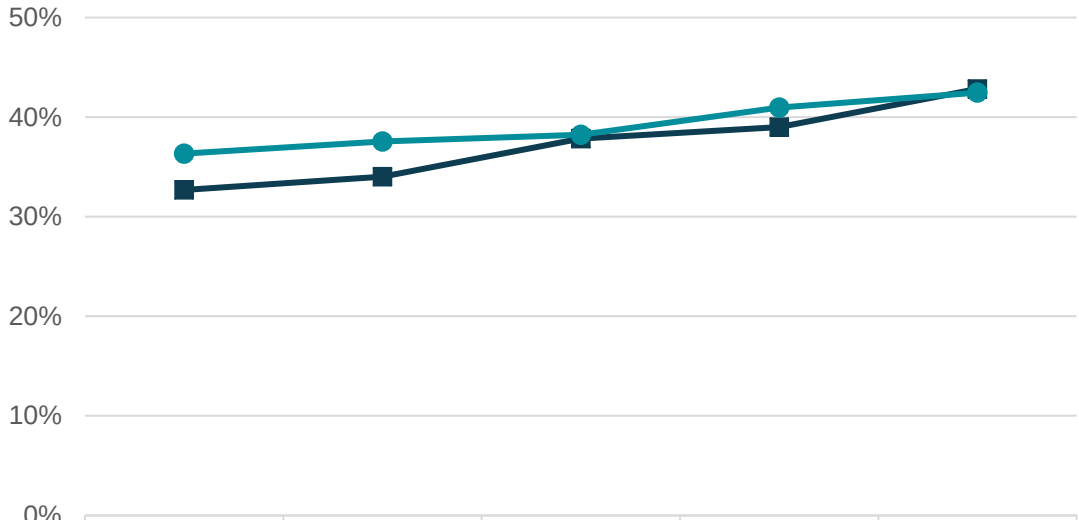


Source: Ontario Agency for Health Protection and Promotion (Public Health Ontario). Oral Health snapshot [Internet]. Toronto, ON: Queen's Printer for Ontario; 2018 [updated 2017 April 11; cited 2019 April 2]. Available from: https://www.publichealthontario.ca/en/data-and-analysis/health-behaviours/oral-health

Visual Health

From 2012 to 2016, the per cent of 4- and 5-year-old children with at least one visit in that year to a family physician, ophthalmologist or optometrist for a visual assessment increased over time for both males and females (Figure 8). The per cent of 4- and 5-year-old children receiving visual assessments in each of these years was consistently similar between males and females during this time.

Figure 8. Visual assessments among children aged 4 and 5 years old by sex, Southwestern Public Health, 2012-2016

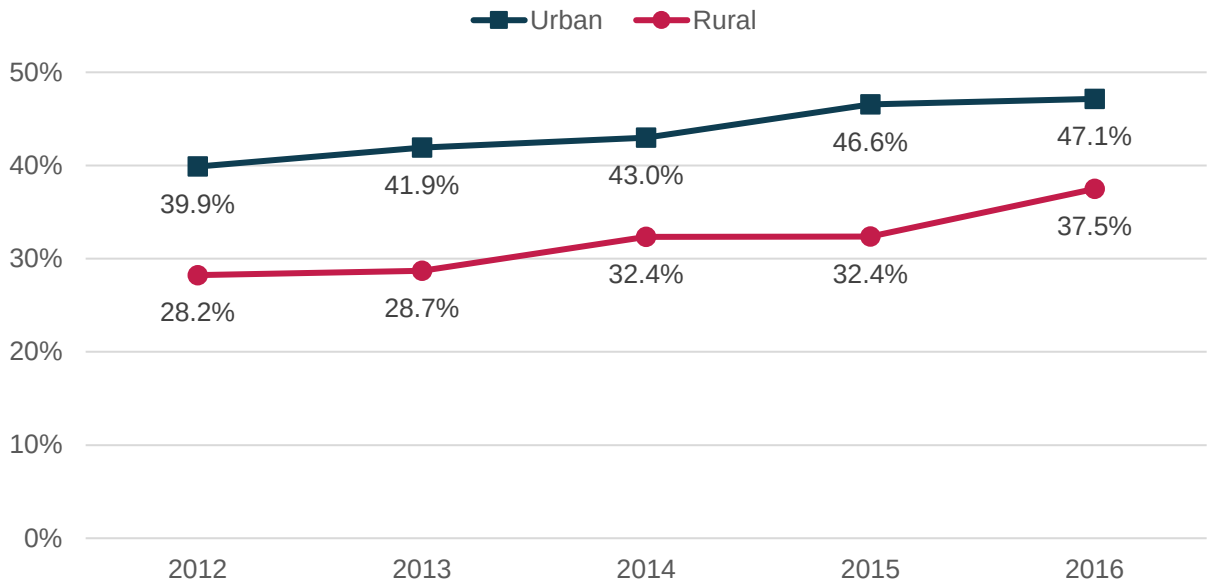


	2012	2013	2014	2015	2016
Males	32.7%	34.0%	37.9%	39.0%	42.8%
Females	36.3%	37.5%	38.2%	41.0%	42.5%

Source: Medical Services (2012-2016), Ministry of Health and Long-Term Care, IntelliHEALTH ONTARIO, Date Extracted: April 11, 2019 & Population Estimates (2012-2016), Ministry of Health and Long-Term Care, IntelliHEALTH ONTARIO, Date Extracted: April 11, 2019.

From 2012 to 2016, the per cent of 4- and 5-year-old children with at least one visit in that year to a family physician, ophthalmologist or optometrist for a visual assessment increased over time for children living in urban and rural municipalities (Figure 9). The per cent of 4- and 5-year-old children receiving visual assessments in each of these years was consistently higher among the children living in the urban municipalities (i.e., Aylmer, Ingersoll, St. Thomas, Tillsonburg and Woodstock) compared to the rural municipalities (i.e., Bayham, Blandford-Blenheim, Central Elgin, Dutton/Dunwich, East Zorra-Tavistock, Malahide, Norwich, Southwold, Southwest-Oxford, West Elgin and Zorra). This difference in rates may be due to access barriers to health-care providers.

Figure 9. Visual assessments among children aged 4 and 5 years old by urban and rural residence, Southwestern Public Health, 2012-2016



Source: Medical Services (2012-2016), Ministry of Health and Long-Term Care, IntelliHEALTH ONTARIO, Date Extracted: April 11, 2019 & Population Estimates (2012-2016), Ministry of Health and Long-Term Care, IntelliHEALTH ONTARIO, Date Extracted: April 11, 2019.

Immunization

In the 2017/2018 school year, there were 336 clients in Oxford County and 160 clients in Elgin St. Thomas that uploaded at least one immunization record online through Immunization Connect Ontario (ICON), which is an online tool that can be accessed on the SWPH website.[a] This tool was implemented at the Woodstock site and St. Thomas site at different times during the 2017/2018 school year, therefore, these numbers may not represent a full year of data.

Sun Safety

Overall, 68.0% of the population aged 12 years and over reported that they protected themselves appropriately from the sun (sought shade, wore a hat, used sunscreen, etc.). A

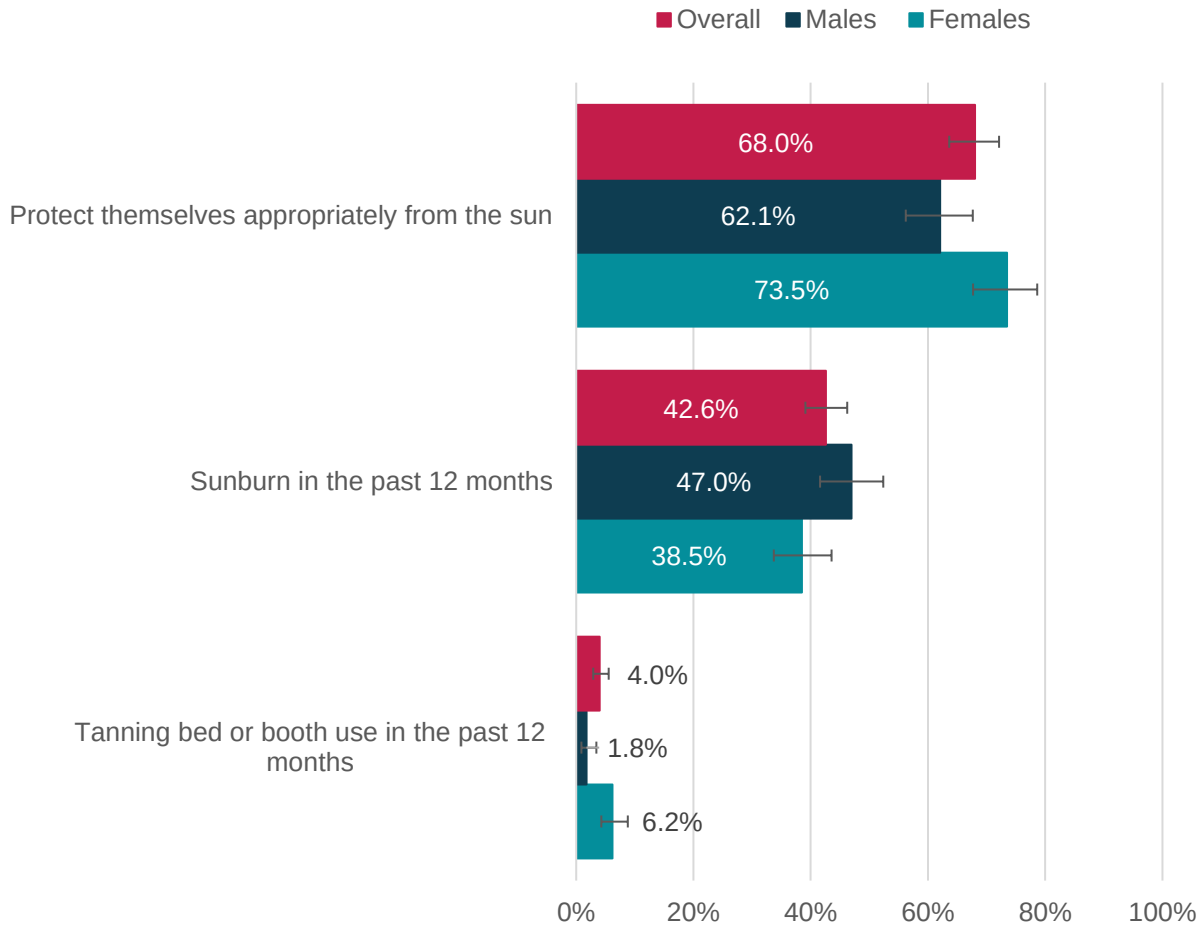
[a] https://www.swpublichealth.ca/your-health/immunization/immunization-reporting

higher proportion of females reported using appropriate self-protection from the sun compared to males (73.5% versus 62.1%; Figure 10).

Less than half (42.6%) of the population aged 12 and over in the SWPH region reported that they had a sunburn in the past 12 months; there was no difference between males and females (Figure 10).

Tanning bed use in the SWPH region was minimal, with 4.0% of the population aged 12 years and over reporting tanning bed use in the past 12 months. A higher proportion of females reported using tanning beds in the past 12 months compared to males (6.2% versus 1.8%; Figure 10).

Figure 10. Sun safety and tanning bed use in the past 12 months, residents 12 years and older, Southwestern Public Health, 2015-2016

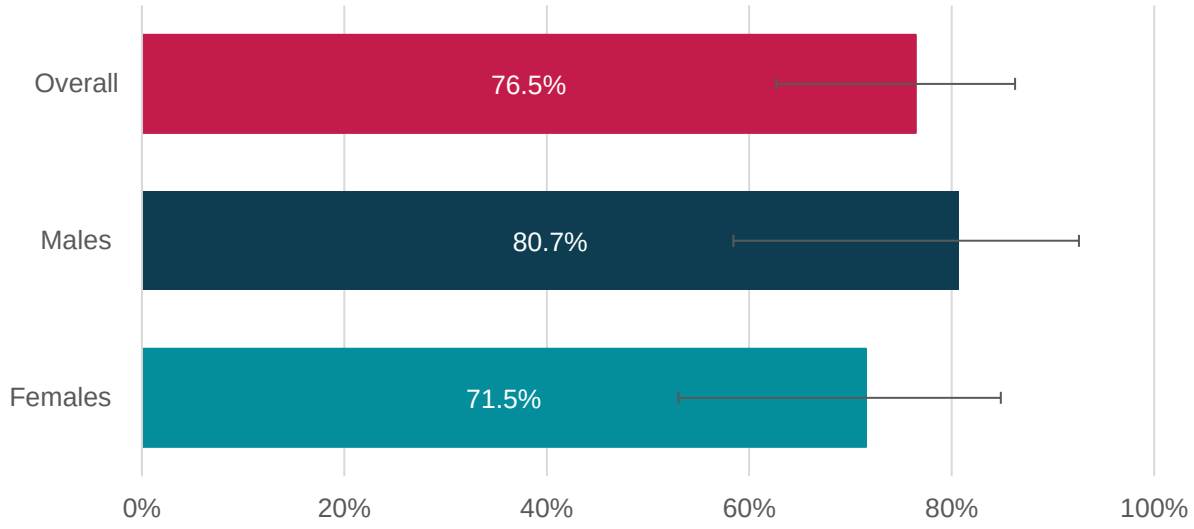


Source: Canadian Community Health Survey (2015-2016), Statistics Canada, Share File, Ontario MOHLTC

Fruit and Vegetable Consumption

Overall, 76.5% of youth (12 to 17 years) in the SWPH region reported eating fruits and vegetables less than five times per day. There was no difference between males and females (Figure 11).

Figure 11. Proportion of youth (12 to 17 years) that reported eating fruits and vegetables less than five times per day, Southwestern Public Health, 2015-2016



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

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. Ontario. Ministry of Health and Long-Term Care. Vaccines for children at school [Internet]. Toronto, ON; Queen's Printer for Ontario; 2019 [cited 2019 Apr 17]. Available from: https://www.ontario.ca/page/vaccines-children-school#section-4

3. Ontario. Ministry of Health and Long-Term Care. Schedule of benefits: physician services under the health insurance act (October 1, 2005 (as most recently amended May 1, 2015)) [Internet]. Toronto, ON: Queen's Printer for Ontario; 2015 [cited 2018 Jun 27]. Available from: http://www.health.gov.on.ca/en/pro/programs/ohip/sob/physserv/sob_master11062015.pdf

4. Ontario. Ministry of Health and Long-Term Care. Schedule of benefits: for optometry services (April 1, 2009) [Internet]. Toronto, ON: Queen's Printer for Ontario; 2009 [cited 2018 Jun 27]. Available from: http://www.health.gov.on.ca/en/pro/programs/ohip/sob/optometry/sob_optometrist_services_20090401.pdf

Appendix A: Technical Notes

This section 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.

National Ambulatory Care Reporting System (NACRS)

NACRS contains information about unscheduled emergency department visits. The data submitted by emergency departments is validated by CIHI and released to public health units on a quarterly basis through IntelliHEALTH ONTARIO. NACRS can also be used to obtain information about inpatients that were admitted from the emergency room to critical care units/operating rooms, other units within a hospital or to another acute care facility. This information was used to capture the rate of day surgeries due to cavities. Table 1 outlines the International Statistical Classification of Diseases and Related Health Problems, 10th Revision, Canada (ICD-10-CA) codes included. Many of the ICD-10-CA codes are external causes and an individual can have more than one external cause diagnosis for each hospitalization. However, only one hospitalization will be counted within each of the categories. There may be some overlap between the categories.

Table 1. Cavities-related day surgery ICD-10-CA codes

Code	Description
K020	Caries limited to enamel
K021	Caries of dentine
K022	Caries of cementum
K023	Arrested dental caries
K025	Caries with pulp exposure
K028	Other dental caries
K029	Dental caries, unspecified

Medical Services Data

The visual assessment data includes assessments conducted by family physicians, ophthalmologists and optometrists. This data is based on the Ministry of Health and Long-Term Care schedule of benefits (i.e., fee codes) outlined in Table 2. This data was limited to children, specifically 4- and 5-year-olds, as a proxy for the JK and SK school cohort. The population of children aged 4 to 5 years was used as the denominator to calculate the per cent of children who had a visual assessment in each year.

Table 2. Visual assessment schedule of benefits codes[3,4]

Schedule of Benefits	Code	Description
Physician Services	A110, A237	A periodic oculo-visual assessment for people aged 19 years or less
	A251	Special ophthalmologic assessment for people with a psychological problem, developmental delay, learning disability, or significant physical disability that limits their ability to participate in the assessment
Optometry Services	V402	Oculo-visual minor assessment (i.e., assessing a single ocular condition) for people aged 19 years or less
	V404	A periodic oculo-visual assessment for people aged 19 years or less

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 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 between groups are presented in this report.

Panorama Enhanced Analytical Reporting (PEAR)

The Panorama Enhanced Analytical Reporting (PEAR) is a provincial database that houses immunization information, particularly for school-aged children, as well as immunization inventory information (e.g., doses available, adverse storage conditions). The number of immunization records uploaded through ICON was obtained through PEAR.

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.

Southwestern Public Health
www.swpublichealth.ca

St. Thomas Site
1230 Talbot Street
St. Thomas, ON N5P 1G9

Woodstock Site
410 Buller Street
Woodstock, ON N4S 4N2