Food Safety and Safe Water

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 and sex, where possible. These indicators were chosen based on the data needs of SWPH's Environmental Health team and Infectious Disease Prevention and Control 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 for each topic are summarized below.

Food Safety

- Children under five years of age had higher incidence rates of campylobacter enteritis, cryptosporidiosis, verotoxin-producing E. coli and giardiasis. There were no differences in the rates between males and females.

Safe Water

- The number of boil water advisories for drinking water have been relatively stable for the past four years (2014 to 2017), with between 7 to 11 advisories per year in the SWPH region.
- Pittock Lake (Oxford County) and Port Glasgow (Elgin St. Thomas) had the highest proportion of days posted as unsafe for swimming for the previous season (summer 2018) due to levels of E. coli.

Food Safety and Safe Water

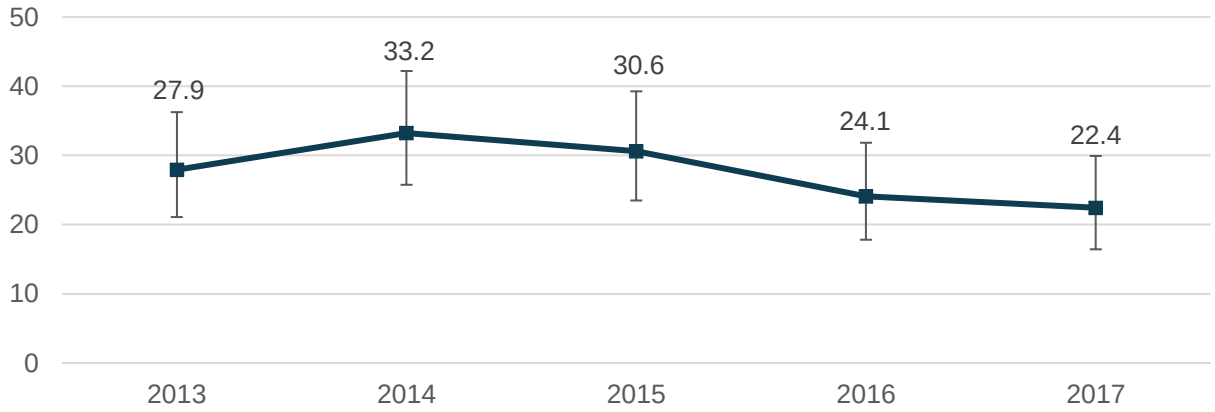
Food Safety

The food safety section of the report includes data about confirmed cases of enteric diseases, including campylobacteriosis, salmonellosis, cryptosporidiosis, giardiasis and verotoxin-producing Escherichia coli (VTEC), with data presented by age group and sex where possible. Several enteric diseases with small numbers of reported cases (e.g., shigellosis, listeriosis, amebiasis) are not included in this report, but information can be found in the report titled Understanding our Communities' Health.[1] This report is ordered by most common to least common enteric diseases in the SWPH region.

Campylobacteriosis

The rate of campylobacteriosis in the SWPH region was relatively stable between 2013 and 2017 (Figure 1). The five-year average crude rate of campylobacteriosis in the SWPH region was 27.6 cases per 100,000 population (95% CI: 24.5-31.1).

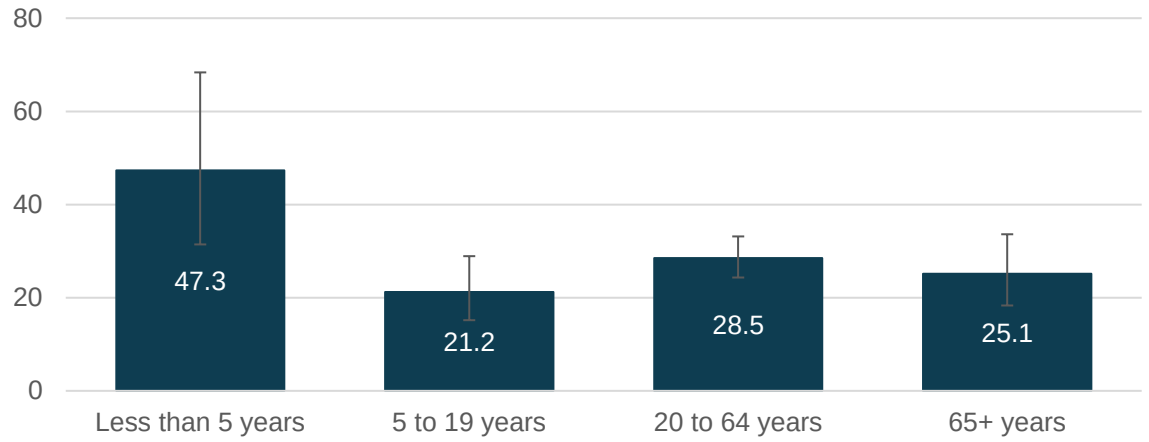
Figure 1. Crude rate (per 100,000 population) of campylobacteriosis, Southwestern Public Health, 2013-2017



Source: Public Health Ontario. Infectious disease query. Toronto, ON: Ontario Agency for Health Protection and Promotion (Public Health Ontario), Date Extracted: March 5, 2019 & Population Estimates (2013-2016), Ministry of Health and Long-Term Care, IntelliHEALTH ONTARIO, Date Extracted: August 9, 2018 & Population Projections (2017), Ministry of Health and Long-Term Care, IntelliHEALTH ONTARIO, Date Extracted: August 9, 2018.

The rate of campylobacteriosis in the SWPH region was higher among children aged less than five years compared to those aged 5 to 19 years (Figure 2).

Figure 2. Age-specific rate (per 100,000 population) of campylobacteriosis, Southwestern Public Health, 2013-2017 (combined)



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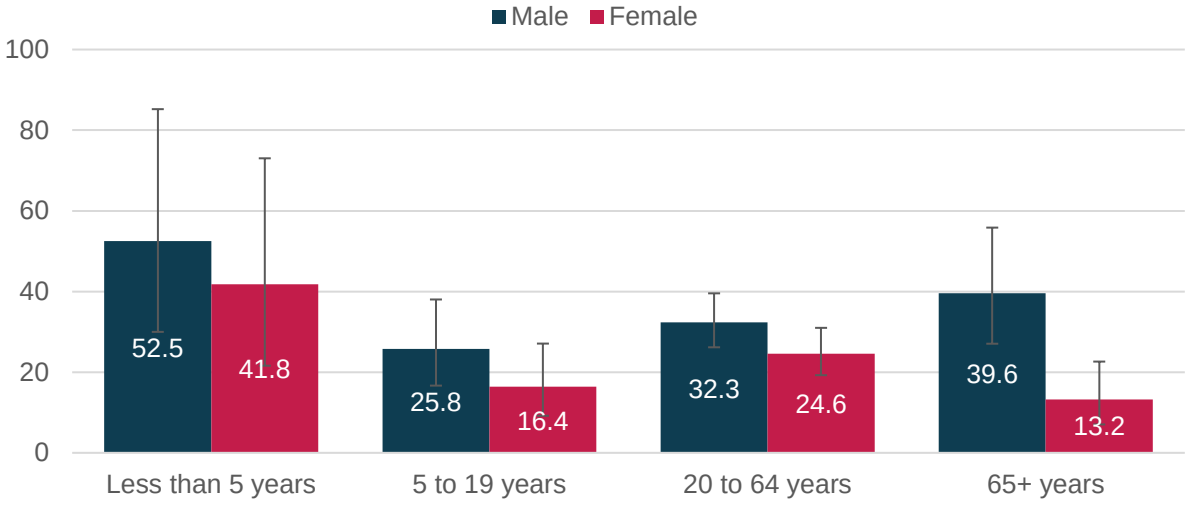
The rate of campylobacteriosis was similar between males and females among age groups, except among people aged 65 and older, for which the rate among males was higher than the rate among females (Figure 3).

Figure 3. Age-specific rate (per 100,000 population) of campylobacteriosis by sex, Southwestern Public Health, 2013-2017 (combined)



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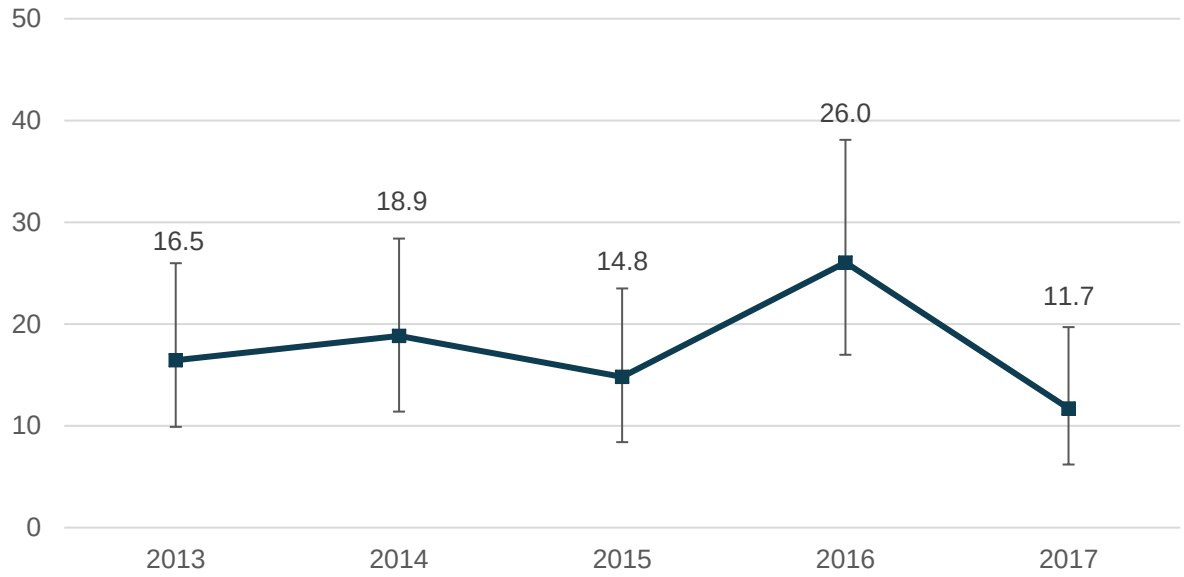
Salmonellosis

The rate of salmonellosis in the SWPH region remained relatively stable during between 2013 and 2017 (Figure 4). The five-year average crude rate (2013 to 2017) of salmonellosis in the SWPH region was 17.6 cases per 100,000 population (95% CI: 15.1-20.4).

Figure 4. Crude rate (per 100,000 population) of salmonellosis, Southwestern Public Health, 2013-2017



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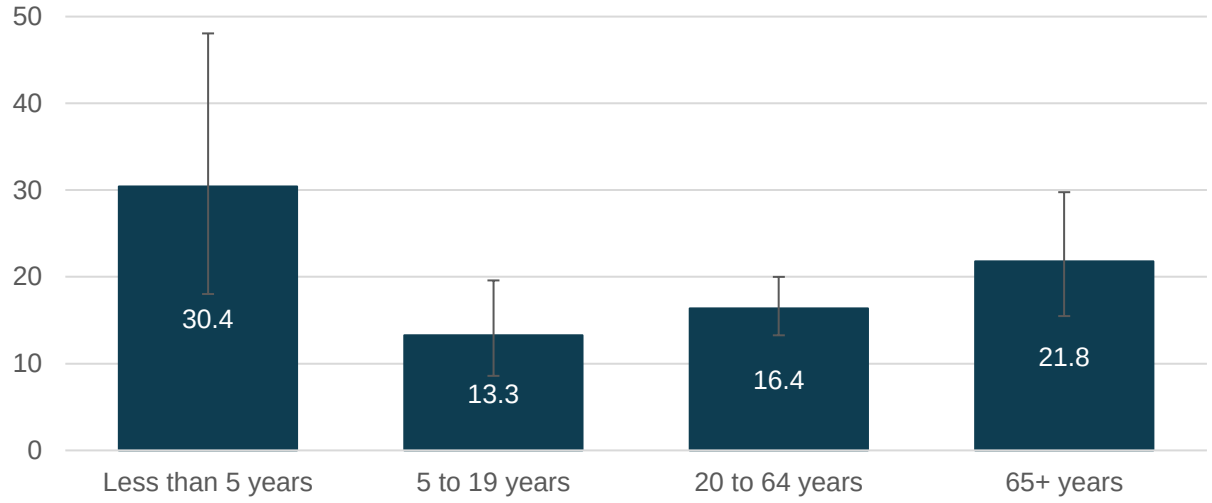
The rate of salmonellosis in the SWPH region was highest among children aged less than five years compared older age groups, although the difference was not statistically significant (Figure 5). There was no difference in the five-year average crude rate of salmonellosis between males and females.

Figure 5. Age-specific rate (per 100,000 population) of salmonellosis, Southwestern Public Health, 2013-2017 (combined)



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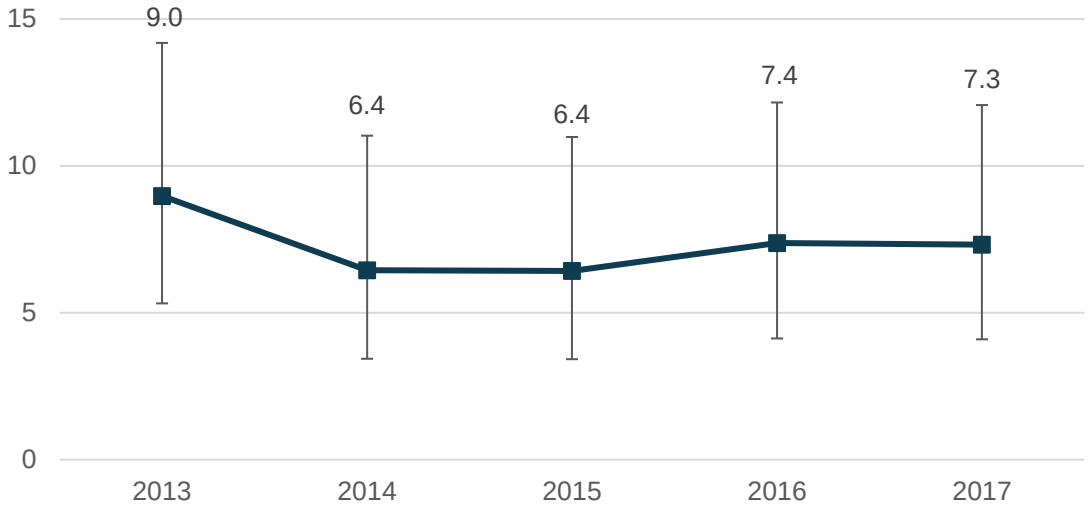
Cryptosporidiosis

The crude rate of cryptosporidiosis in the SWPH region was relatively stable between 2013 and 2017 (Figure 6).

Figure 6. Crude rate (per 100,000 population) of cryptosporidiosis, Southwestern Public Health, 2013-2017



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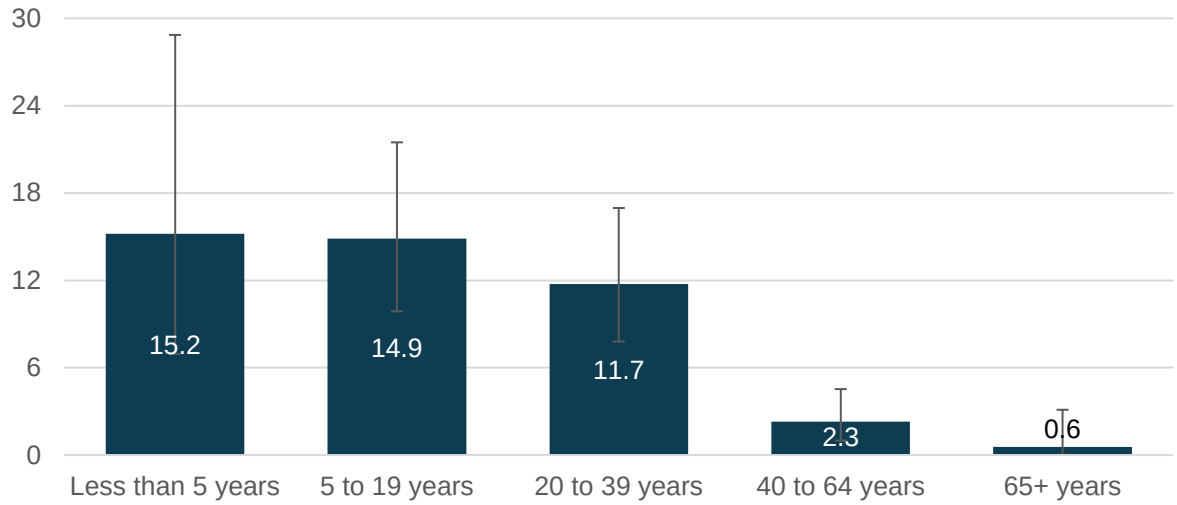
The rate of cryptosporidiosis was higher among children less than five years, people aged 5 to 19 years and 20 to 39 years compared to those 40 years and older (Figure 7). This finding may indicate transmission from young children to their caregivers.[2] There was no difference in the five-year average crude rate of cryptosporidiosis among males compared to females.

Figure 7. Age-specific rate (per 100,000 population) of cryptosporidiosis, Southwestern Public Health, 2013-2017 (combined)



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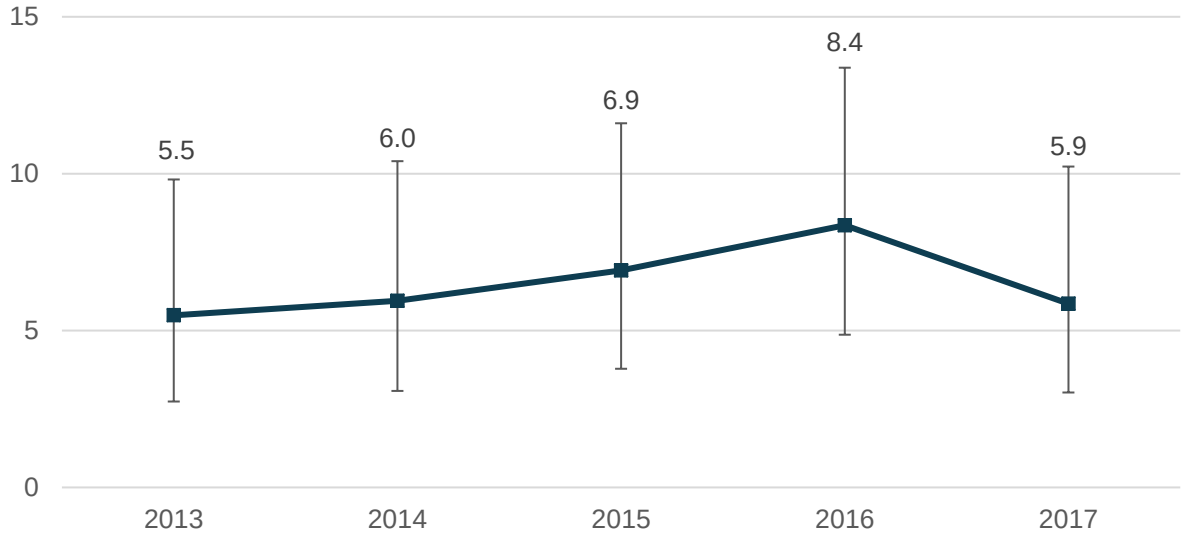
Giardiasis

The crude rate of giardiasis in the SWPH region was relatively stable between 2013 and 2017 (Figure 8).

Figure 8. Crude rate (per 100,000 population) of giardiasis, Southwestern Public Health, 2013-2017



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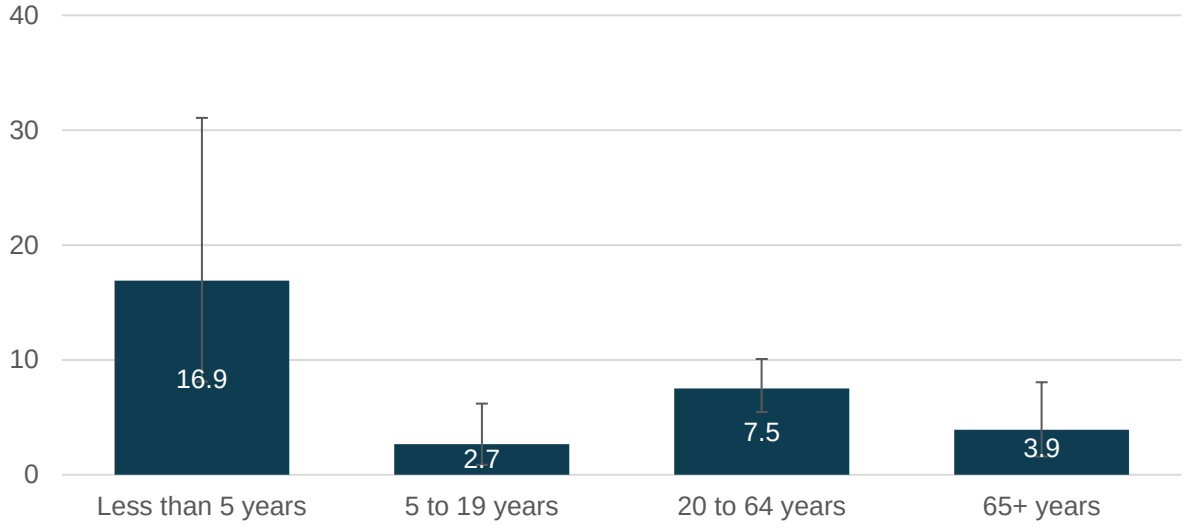
The rate of giardiasis in the SWPH region was higher among children aged less than five years compared to people aged 5 to 19 years and those 65 years and older (Figure 9). There was no difference in the rate of giardiasis between males and females.

Figure 9. Age-specific rate (per 100,000 population) of giardiasis, Southwestern Public Health, 2013-2017 (combined)



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Verotoxin-producing Escherichia coli

The crude rate of verotoxin-producing *Escherichia coli* (VTEC) in the SWPH region was relatively stable between 2013 and 2017 (Figure 10). The rate of VTEC in the SWPH region was higher among children under five years compared to people aged 20 to 64 years (Figure 11). There was no difference in the rate between males and females.

Figure 10. Crude rate (per 100,000 population) of VTEC, Southwestern Public Health, 2013-2017

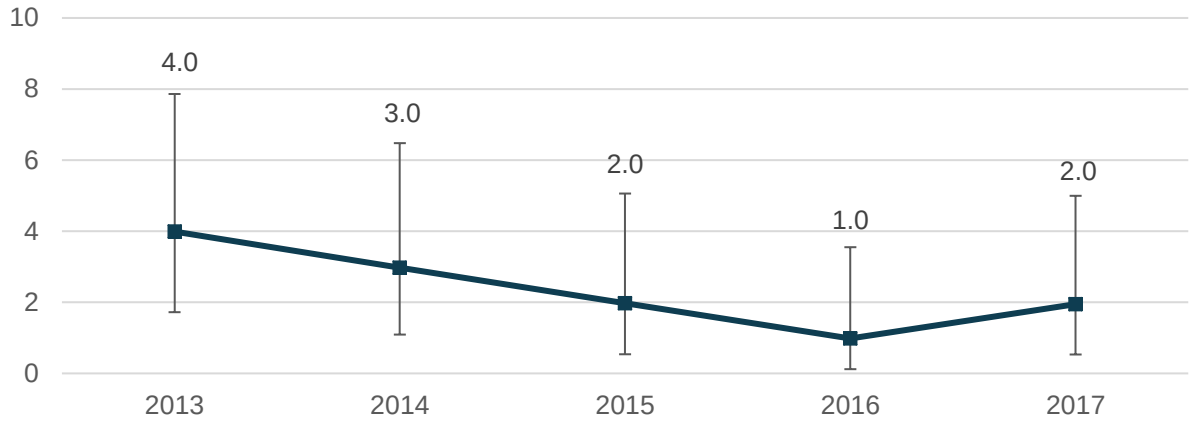

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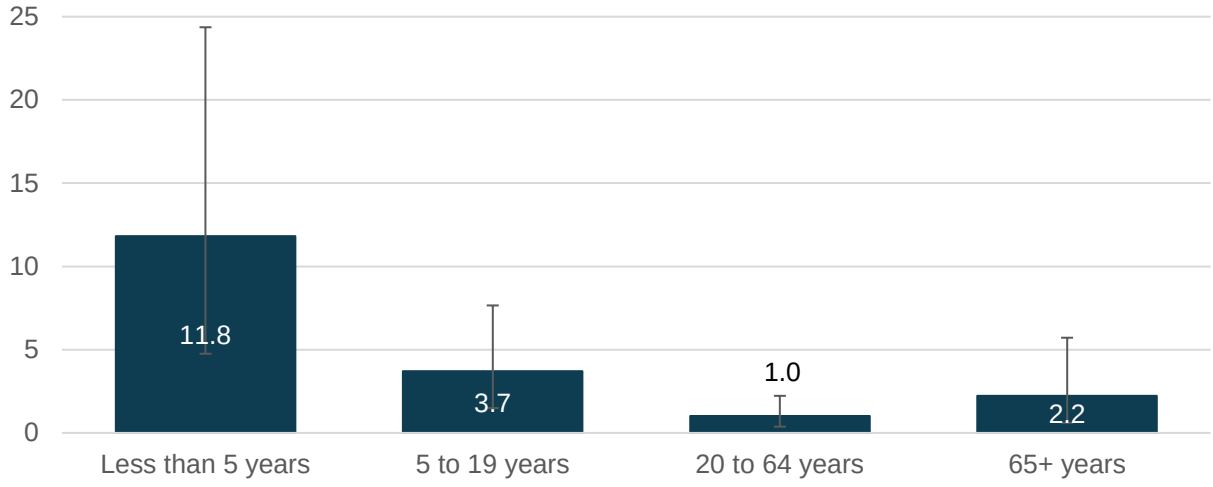
Figure 11. Age-specific rate (per 100,000 population) of VTEC, Southwestern Public Health, 2013-2017 (combined)



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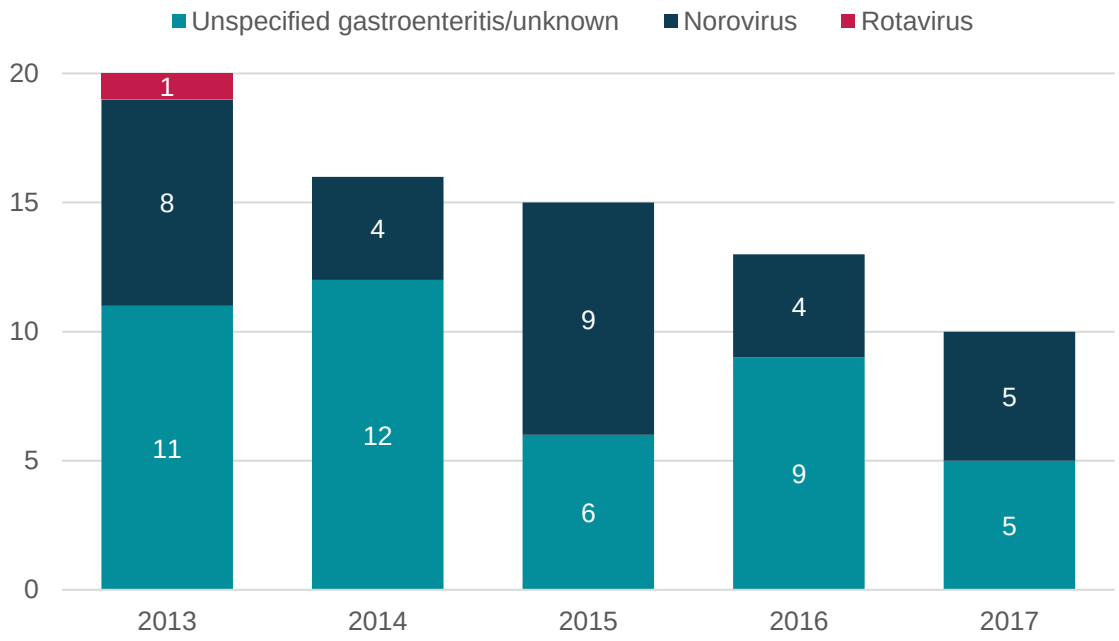
Institutional and Community Enteric Disease Outbreaks

The number of enteric disease outbreaks in institutions (i.e., hospitals, long-term care homes and retirement homes) appears to be decreasing over time between 2013 and 2017. Most of these outbreaks were unspecified gastroenteritis or unknown. The most commonly identified cause was norovirus (Figure 12).

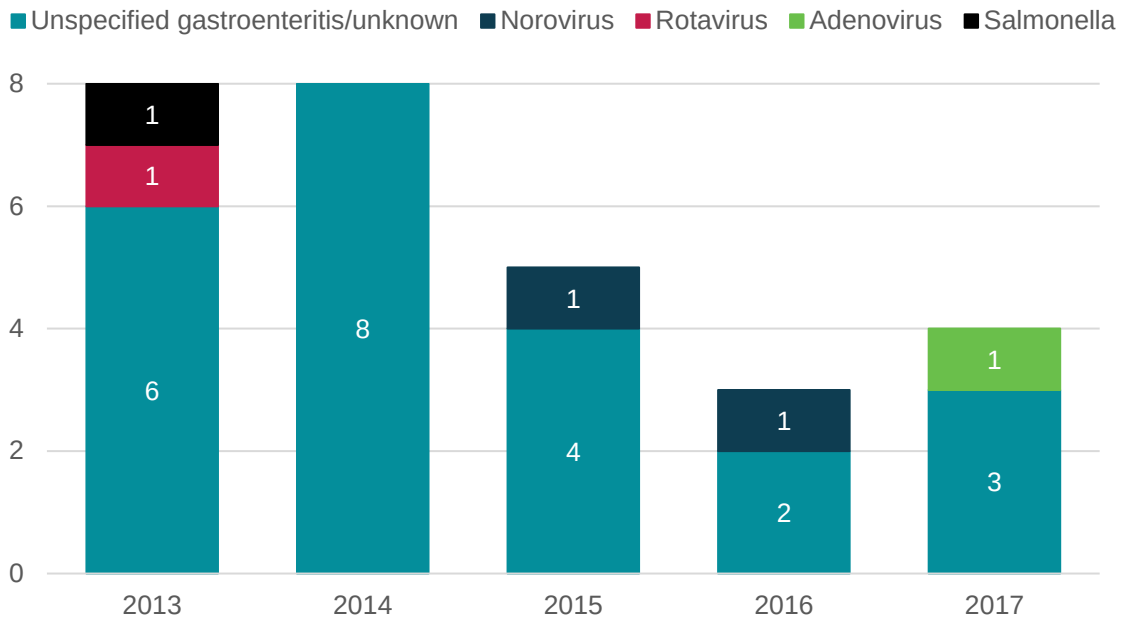
Figure 12. Number and type of confirmed institutional enteric disease outbreaks, Southwestern Public Health, 2013-2017



Source: iPHIS (2013-2017). Date Extracted: January 28, 2019.

The number of enteric disease outbreaks in community childcare facilities appears to be decreasing over time between 2013 and 2017. Most of these outbreaks were unspecified gastroenteritis or unknown (Figure 13).

Figure 13. Number and type of confirmed community childcare facility enteric disease outbreaks, Southwestern Public Health, 2013-2017



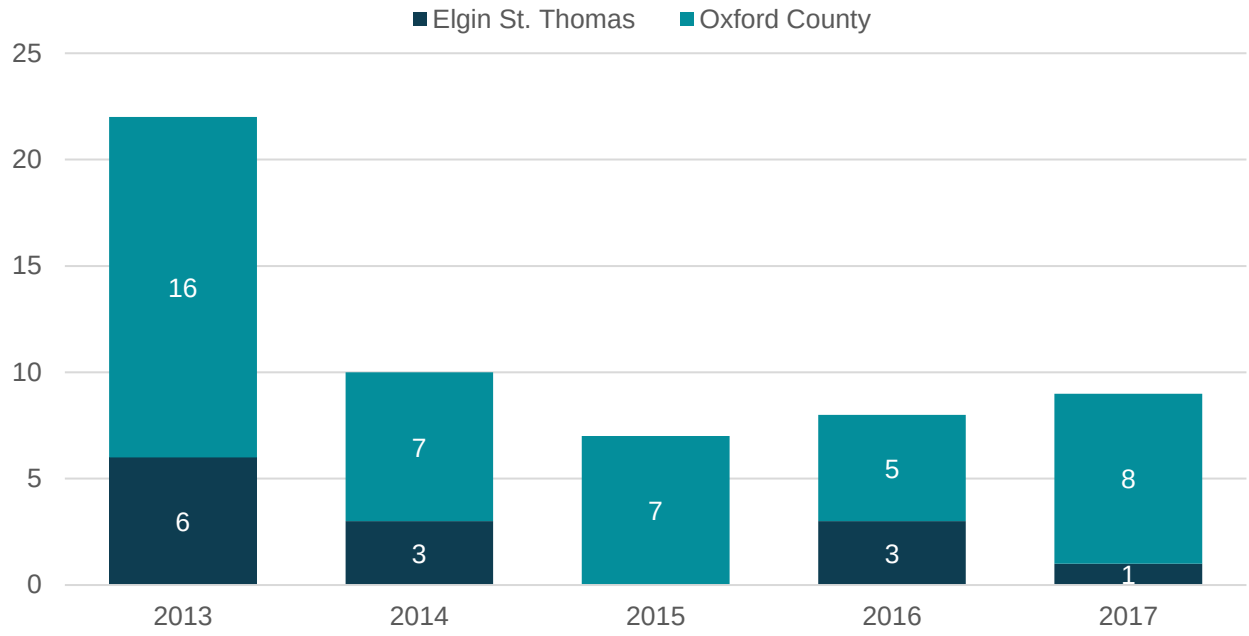
Source: iPHIS (2013-2017). Date Extracted: January 28, 2019.

Safe Water

Boil Water Advisories

The number of boil water advisories has been relatively stable for the past four years (2014 to 2017), with a higher number (22 advisories) issued in 2013 (Figure 14).

Figure 14. Number of boil water advisories issued by year, Elgin St. Thomas and Oxford County, 2013-2017

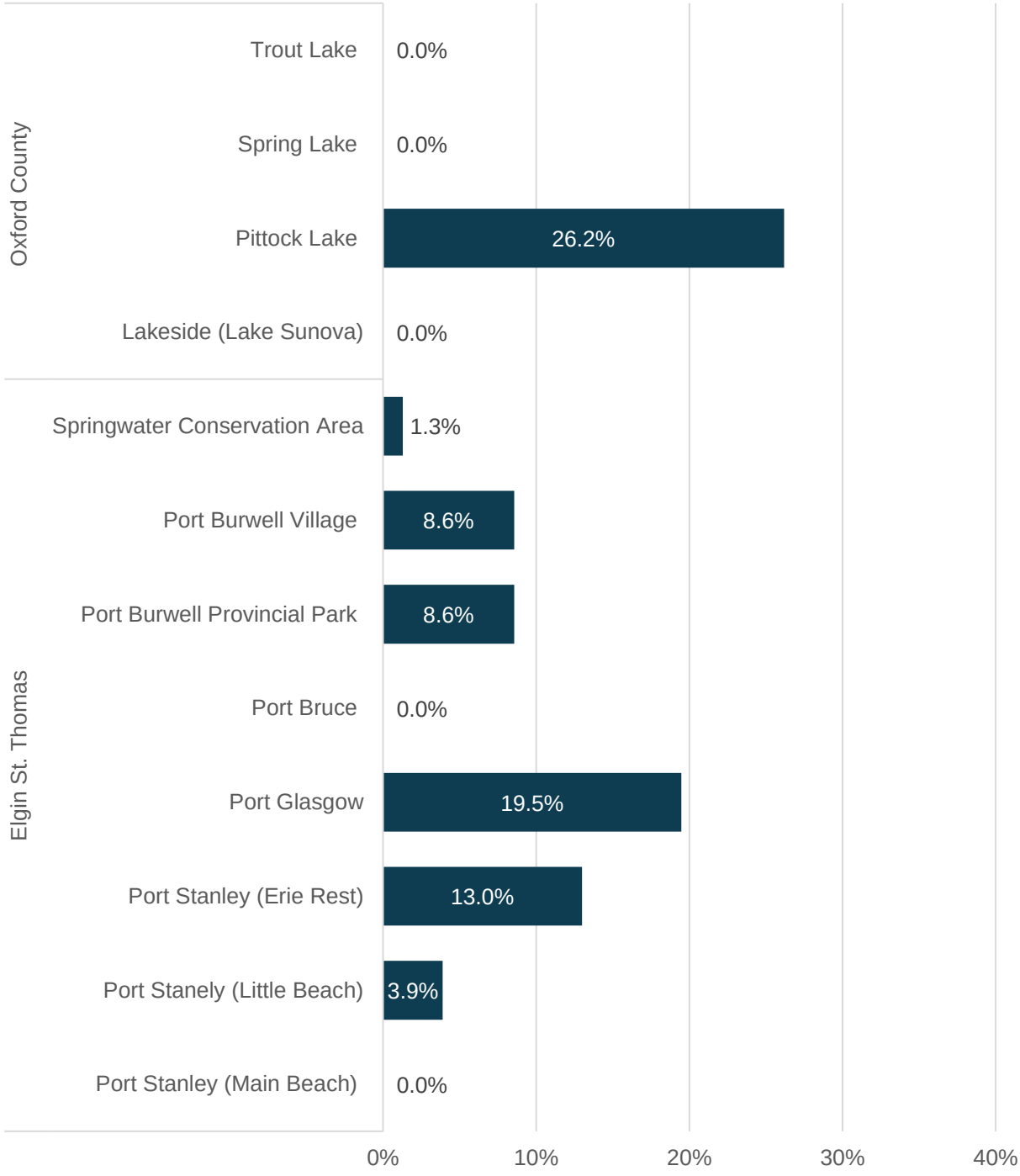


Source: Southwestern Public Health (2013-2017)

Recreational Water: Beach Surveillance

Pittock Lake had the highest proportion of days posted as unsafe for swimming in the 2018 bathing season due to *E. coli* levels (Figure 15), followed by Port Glasgow and Erie Rest in Port Stanley. Three beaches in Oxford County (Trout Lake, Spring Lake and Lake Sunova) and two beaches in Elgin St. Thomas (Port Bruce and Main Beach in Port Stanley) were not posted as unsafe for swimming during the previous season. The length of the bathing season varies from beach to beach and ranged from 11 to 13 weeks in 2018.

Figure 15. Proportion of days during the bathing season that beaches were posted as unsafe for swimming due to E. coli levels, Southwestern Public Health, 2018



Source: Southwestern Public Health (2018)

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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. Centers for Disease Control and Prevention. Sources of infection and risk factors [Internet]. Atlanta, GA; CDC: 2015 [cited 2019 April 1]. Available from: https://www.cdc.gov/parasites/crypto/infection-sources.html#two

3. Public Heath Ontario. Listeriosis [Internet]. Toronto, ON; PHO: 2019 [cited 2019 April 3]. Available from: https://www.publichealthontario.ca/en/diseases-and-conditions/infectious-diseases/enteric-foodborne-diseases/listeriosis

Appendix: Technical Notes

Integrated Public Health Information System (iPHIS)

The integrated Public Health Information System (iPHIS) is used to report case information on all reportable communicable diseases for provincial surveillance, as per the *Health Protection and Promotion Act (HPPA)*. Cases in iPHIS are classified according to the case definitions by the Ontario Ministry of Health and Long-Term Care (MOHLTC). The data represents only cases reported to public health and recorded in iPHIS. Therefore, due to differences in medical seeking and reporting behaviours, there may be some degree of underreporting. iPHIS was used to extract data regarding confirmed cases of enteric disease in the SWPH region as well as the number of institutional and community childcare facility enteric disease outbreaks.

Boil Water Advisories

SWPH maintains a database to track boil water advisories issued in the region. A boil advisory is issued when the health unit suspects or has confirmed the presence of harmful bacteria in drinking water and boiling the water will kill the bacteria. Advisories remain in effect until laboratory tests show that water is safe for consumption.

Recreational Beach Surveillance

SWPH conducts weekly assessments in the regions' public beaches to determine the level of E. coli found in the water during the summer months (typically beginning in May and continuing until Labour Day). Starting in 2018, a beach is posted as unsafe for swimming if the geometric mean was over 200 E. coli/100mL whereas prior to 2018 the threshold was 100 E. coli/100mL. Data prior to 2018 was not presented because of this change in practice. Due to variances in the reporting methods between Elgin St. Thomas and Oxford County, beach surveillance statistics are presented separately for each beach. For example, if the geometric mean of a beach sample was over 200 E. coli/100mL, it is posted as unsafe for swimming in Elgin St. Thomas whereas the beach is re-sampled in Oxford County and posted as unsafe for swimming if the re-sample tests over 200 E. coli/100mL. This might result in differences in the proportion of days posted as unsafe for swimming between the two regions.

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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