Foodborne and Waterborne Illness and Food Insecurity in Halton

Climate change & health

Climate change

is projected to alter the frequency, seasonality, and intensity of contamination events, and increase exposure to and transmission of foodborne and waterborne illness

Foodborne and waterborne illnesses involve gastrointestinal symptoms and are caused by bacteria, parasites, and viruses that contaminate a food and/or water source. It is estimated that a relatively small proportion of foodborne and waterborne illnesses are actually reported to public health officials.[1]

Did you know?

Hotter and drier summers, when followed by extreme precipitation events, are more likely to increase the risk of outbreaks of both food and waterborne illness due to increased chances of bacteria growth, contaminated water and compromised food safety practices.

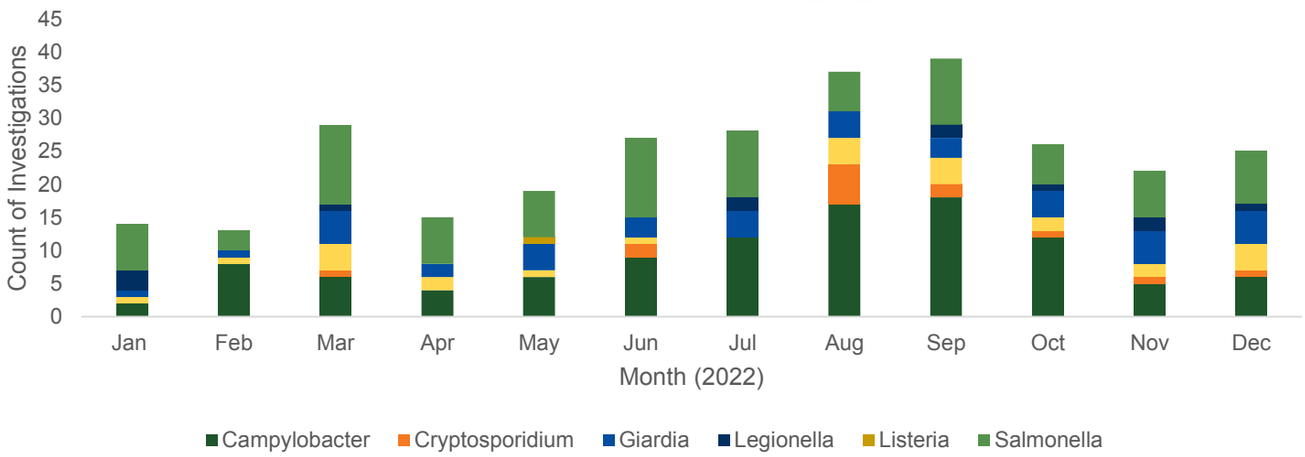

Figure 1. Count of Investigations for Commonly Reported Food and Waterborne Illnesses in Halton, 2022

Cases can fluctuate based on seasonality. Figure 1 shows the number of investigations for commonly reported foodborne and waterborne illnesses in Halton in 2022. There were more case investigations during the summer months.

Interruptions to electricity impact food access and food safety. Refrigerated or frozen foods may not be safe to eat after the loss of power. Power outages can also result in deficiencies in cold-chain management, which can encourage pathogen growth and result in foodborne illnesses.

Private Drinking Water Wells

Heavy rainfall leading to flooding is associated with drinking water-related illness, especially for individuals who drink from private wells.

In 2023, it was estimated that the number of residential private wells in Halton Region was 5,633.

Between 2018-2023, approximately 80% of all submitted private drinking water samples showed no significant evidence of bacterial contamination.

Recreational Water

Climate Change can impact recreational water areas, specifically beaches, through increased water levels, damage to beaches from intensifying waves, and storm surges.

Table 1. Summary of Beach Monitoring Data for Halton Region, 2019-2023

Year	# of Monitored Beaches	# of times Samples Collected	# of Unacceptable Samples
2019	7	61	7
2020	8	103	27
2021	8	132	51
2022	8	125	33
2023	8	102	18

After a big storm, a beach is not considered safe for swimming for two days as heavy rainfall increases the risk that the water will be contaminated by disease-causing pathogens.

Food Insecurity

The adaptive capacity of the food system locally, nationally and globally will be essential to ensure a sustainable food supply and support our community's adaptation to the health impacts of climate change

Data from the Canadian Income Survey showed that 13% of households in Halton were food insecure between 2018-2020.[2] Results from the 2019 Canadian Health Survey on Children and Youth indicate approximately 7% of Halton children aged one to 17 were food insecure.[3]

Halton Food Connect supports Ontario Works clients with their food needs. Eligible clients can get free food packages sent directly to their homes. For more information visit halton.ca.

Priority Populations

Food and waterborne illness

Older adults 65 years or over are at a higher risk of health complications from food and waterborne diseases, due to the diminished functionality of their immune response, and the fact that older populations are more likely to have chronic conditions.

Children under the age of five are sensitive to foodborne and waterborne illnesses as they have developing immune systems and are more reliant on caregivers to translate risk messaging and engage in protective behaviours such as avoiding potentially contaminated water sources.

Individuals with compromised immune systems (e.g., autoimmune disorders) are more susceptible to serious illness due to a suppressed immune response.

Food Insecurity

Older adults may have difficulty accessing affordable, safe, and nutritious food after extreme weather event disruptions. Older adults are more susceptible to poor nutritional status than the general population due to biological changes that can happen in the body with age.

Those living in poverty may be less able to prepare for, respond to, or recover from extreme weather events impacting the food system. For example, they may live in housing that does not have adequate insulation or cooling (if there are power outages, they may not have the resources to replace lost food).Rising food prices due to climate change may worsen existing household food insecurity.

Inadequate nutrient intake during pregnancy can increase risk of complications during delivery, and low birth weight; impact infant feeding behaviors and sustainability of breastfeeding or chestfeeding and increase risk of newborn death.

References

1. Public Health Ontario. (n.d.) Enteric Diseases and Food-Borne Diseases | Public Health Ontario. Retrieved from https://www.publichealthontario.ca/en/diseases-and-conditions/infectious-diseases/enteric-foodborne-diseases
2. Government of Canada, Statistics Canada. (2022) Canadian Income Survey – 2020 (CIS). Retrieved from https://www23.statcan.gc.ca/imdb/p2SV.pl?Function=getSurvey&SDDS=5200
3. Public Health Ontario. (2023). Canadian Health Survey on Children and Youth (CHSCY): Food Insecurity among children. Retrieved from https://www.publichealthontario.ca/-/media/Documents/C/2023/food-insecurity-children-youth-canada-survey.pdf?rev=a55120772eb047768ef680dc82015b5c&la=fr

This highlight report provides a high-level overview of this impact category. The full Climate Change and Health in Halton Region report is available upon request by contacting 311 or 905-825-6000 or by emailing accesshalton@halton.ca.

For more information on Halton Region's climate change initiatives visit halton.ca.

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