Enteric Disease in Ottawa, 2011

Ottawa | Public Health / Santé publique




Knowledge to Action Report

Summer 2011

Contents

Preventing and controlling enteric diseases is an important aspect of protecting the health of Ottawa's residents.

An enteric disease is an illness of the gastrointestinal tract, most often caused by bacteria or viruses that enter the body primarily through eating or drinking contaminated food or water, or by contact with vomit or feces. People with an enteric illness most often experience symptoms such as nausea and vomiting, diarrhea, fever and abdominal pain.

Ottawa Public Health addresses both individual cases of enteric diseases as well as outbreaks, which can occur in institutions and in the community. Investigation of cases of enteric diseases is a key component of the three-year *Ottawa Public Health Outbreak Mitigation Strategy*, as many of the responsible pathogens can be transmitted to others and can potentially lead to outbreaks, thus further compounding the burden of infectious diseases in our community. Priority is given to cases that are deemed high-risk for complications, are hospitalized or are due to diseases monitored under a provincial enhanced surveillance directive.

Most cases of enteric diseases are mild. However, even mild disease can be a significant burden in our community as a result of lost productivity, hospitalization and other related costs. At a population level, the impact is significant.

Serious complications of enteric illnesses, such as the development of chronic conditions or death, are more likely to occur in young children, the elderly and people with suppressed immune systems, though they can develop even in healthy individuals. In Ontario, for example, *Escherichia coli* has been estimated to cause an average of 600 deaths and result in more than 450,000 cases of illness requiring medical attention every year (Ontario Burden of Infectious Disease Study, 2010).

To better inform the planning and implementation of strategies that address enteric illnesses in Ottawa, Ottawa Public Health compiled the *Enteric Disease in Ottawa, 2011* report, which provides data from 2010 about 15 reportable enteric diseases. The report includes the number of cases, incidence by age, sex and time of year, five-year averages and comparison with the rest of Ontario. Whenever possible, exposure sources and settings are included.

Impact on the health of Ottawa's residents

There were 689 cases of reportable enteric illness in Ottawa in 2010. As shown in Figure 1, the most commonly reported diseases were:

- *Campylobacter* enteritis – a bacterial infection (204 cases)
- Salmonellosis – a bacterial infection (176 cases)
- Giardiasis – a parasitic infection (125 cases)
- Amebiasis – a parasitic infection (81 cases)

Of note, there were more cases of cryptosporidiosis and cyclosporiasis (both parasitic infections) in 2010 than in the last five years, and fewer cases of *Campylobacter* enteritis and verotoxin-producing *E. coli* infections. Compared with the rest of Ontario, Ottawa had more cases of amebiasis.

These numbers are the tip of the iceberg. Cases are only reported to Ottawa Public Health when affected individuals seek medical attention and provide stool samples for testing. Because some of these diseases tend to run their course without treatment or medical attention, not all affected individuals are counted.

The most affected residents

Diseases most often reported in children under age 5 in 2010 were:

- Cryptosporidiosis
- Giardiasis
- Salmonellosis
- Shigellosis
- Verotoxin-producing *E. coli*

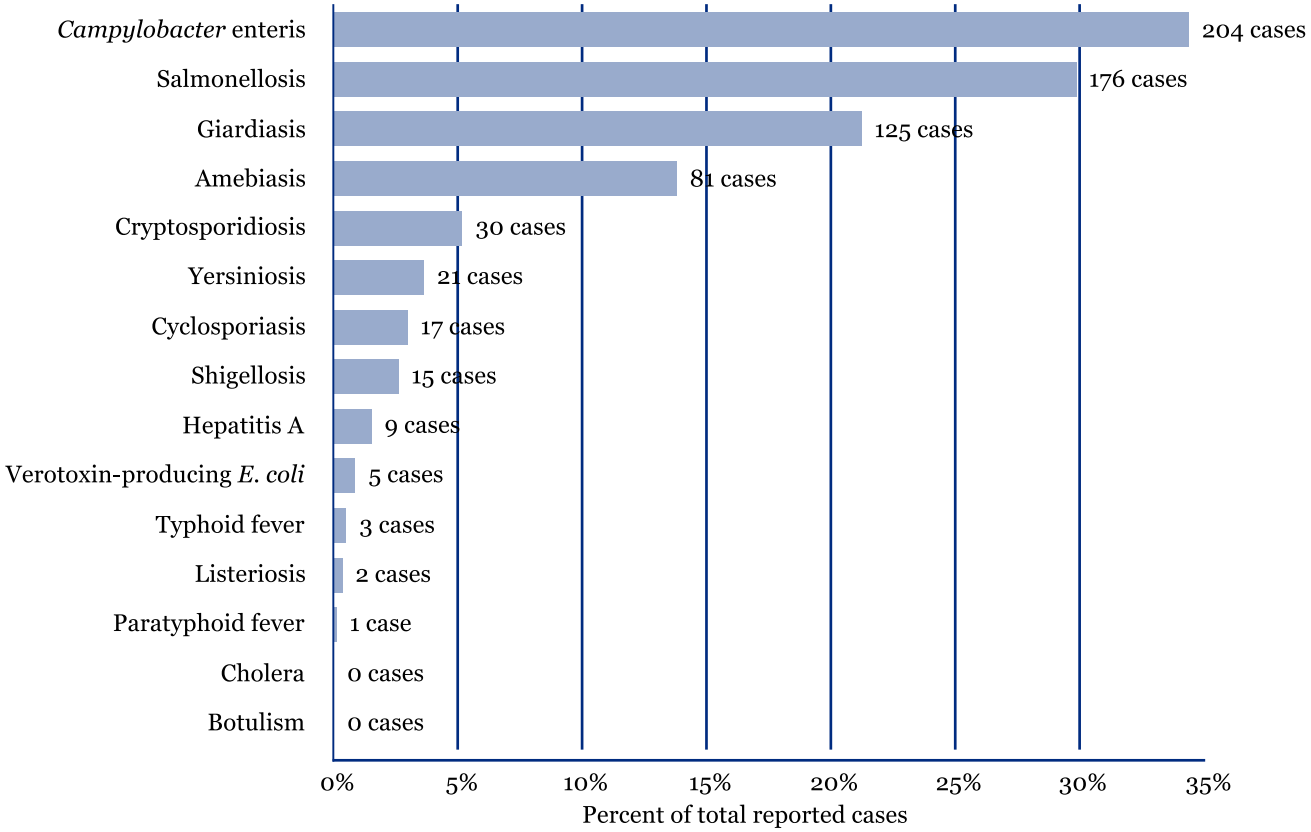
Diseases most often reported in older adults in 2010 were:

- Amebiasis
- Listeriosis

Diseases reported more often in males than females in 2010 were:

- Amebiasis
- *Campylobacter* enteritis
- Giardiasis

Figure 1 – Reported cases (% of all cases) of enteric illness, Ottawa, 2010



Source: iPHIS, Ottawa Public Health, data extracted 20 May 2011

Table 1 – Most affected residents

	Age <5	5-19	20-39	40-59	60+
Salmonellosis	X				
Giardiasis	X				
Amebiasis					X
Cryptosporidiosis	X				
Cyclosporiasis			X	X	X
Shigellosis	X				
Hepatitis A			X	X	
Verotoxin-producing *E. coli*	X				
Typhoid fever			X		
Listeriosis					X

When and how people are exposed

Some enteric diseases follow a seasonal pattern:

- *Campylobacter* enteritis cases typically peak in July, August and September
- Cryptosporidiosis typically peaks in August
- Cyclosporiasis peaks in the summer months (typically June)
- Giardiasis is historically reported most frequently in September
- Verotoxin-producing *E. coli* typically peaks in August

The source of exposure is not always identified, even when a thorough investigation is completed. Table 2 shows that food, water and contact with animals are frequent sources of exposure. Exposure setting is known for eight enteric diseases. For five of them (salmonellosis, cryptosporidiosis, shigellosis, hepatitis A and typhoid fever), a third of infections were acquired during travel outside of Canada in 2010.

Table 2 – Known sources of exposure, 2010

Disease	Source of exposure*
Salmonellosis	Food, especially chicken and eggs Animals, including reptiles
Cryptosporidiosis	Recreational water Contact with animals
Yersiniosis	Meat, typically pork products
Hepatitis A	Food Contact with infected person

*People could report more than one exposure.

Reducing enteric diseases in Ottawa

Ottawa Public Health's main role related to management of enteric disease is to investigate reportable cases of infectious disease to help lower potential risks to the public, by ensuring appropriate follow-up of cases and contacts, and by sharing information gained with the broader public to assist people to decrease their risk. Ottawa Public Health responds to reported cases of enteric disease in Ottawa by:

- **Investigating** cases to identify potential sources of exposure
- **Correcting** deficiencies when identified at the source of exposure
- **Managing cases** to prevent further spread of the disease by excluding them, as necessary, from high-risk occupations (such as food handlers, health care staff and child care staff) and by educating them in prevention measures
- **Identifying** symptomatic contacts of cases to prevent additional transmission of disease

A comprehensive enteric disease mitigation strategy in Ottawa includes building skills, raising awareness, creating supportive environments, strengthening community action, developing public health policy and re-orienting health services to better meet community needs.

Building skills

Enhancing the skills of professionals and service providers who work with vulnerable populations such as young children and seniors can equip them to effectively prevent the spread of enteric disease in their settings. Actions include:

- Continue to provide infection prevention and control (IPAC) consultation and resource development
- Continue to provide various educational sessions, including the annual IPAC Forum, quarterly IPAC 101 sessions for health care providers, and food handler training sessions

Raising awareness

To raise awareness, Ottawa Public Health will:

- Conduct ongoing *Ottawa's Health is in Your Hands* community awareness campaign activities (poster dissemination in public places, bus ads, website information, etc.)
- Enhance key enteric disease prevention messaging to seniors and their caregivers (i.e., on proper refrigerator and cooking temperatures, adherence to best-before dates, the importance of following manufacturers' food preparation instructions) through external partners, such as *Aging in Place* seniors apartment buildings and retirement homes
- Leverage the *Growing Healthy* e-bulletin to convey key messages to young children's service providers, such as proper diapering and hand washing practices, risks while swimming and playing in recreational waters, and risks associated with handling domestic pets and animals at petting zoos
- Increase use of social media (Twitter and Facebook) to disseminate key messages to the general public (e.g., safe food handling at home, risks of cross contamination)

Creating supportive environments

Supportive environments can be created through:

- Ongoing inspection of food establishments
- Ongoing inspection of small drinking water systems and monitoring of recreational water quality
- Ensuring provision of hand washing stations at local events (i.e., petting zoos, fairs)
- Liaising with physicians at travel clinics to educate people about risks of enteric diseases when travelling abroad

Strengthening community action

To strengthen community capacity to prevent and control enteric illnesses, Ottawa Public Health will:

- Continue to collaborate with external partners such as staff in long-term care homes, retirement homes, acute care facilities, schools and child care centres to identify and manage outbreaks of enteric illnesses, including provision of 24/7 consultation services
- Explore new partnerships (e.g., with Community Health Centres) to educate health care providers and their patients on risks of enteric illnesses, possible sources of exposure and key prevention measures

Developing public health policy

To ensure proper adherence of public health policies, Ottawa Public Health will:

- Continue to promote the requirement for Food Handler Training for all individuals employed in food premises and institutions in Ottawa
- Continue to inspect all food premises and institutions and ensure compliance with the "Food Premises Regulation (0.Reg.562)"

Re-orienting health services to better meet community needs

To meet community needs, Ottawa Public Health will continue to inform health care providers of best practices and pertinent epidemiological information (e.g., through articles in the *Physicians' Update* e-bulletin and ad hoc memos on emerging issues, in collaboration with the Academy of Medicine Ottawa, when appropriate).

By continuing to implement the three-year *Ottawa Public Health Outbreak Mitigation Strategy*, Ottawa Public Health aligns itself to better and more efficiently investigate, manage and identify cases of a broad spectrum of infectious diseases, including enteric diseases.

Monitoring of recreational water quality