

Public Health Notice – United States outbreak of *E. coli* infections linked to romaine lettuce with implications for Canadians

January 15, 2020 - Final update

This notice has been updated to advise that the outbreak appears to be over and the outbreak investigation has been closed.

United States (U.S.) health officials have confirmed that contaminated romaine lettuce that made people sick in this outbreak from the Salinas, California growing region in the U.S. is no longer available for sale.

As a result of this new information, the Public Health Agency of Canada is no longer advising that people avoid eating, selling, or serving romaine lettuce harvested from the Salinas, California growing region in the U.S.

Why should you take note

The Public Health Agency of Canada collaborated with federal and provincial partners, the United States [Centers for Disease Control and Prevention](#) (U.S. CDC), and U.S health officials to investigate an outbreak of *Escherichia coli* O157, commonly called *E. coli*, that was linked to romaine lettuce coming from the Salinas, California growing region in the United States (U.S.). *E. coli* can cause a serious, life-threatening illness.

The majority of illnesses were reported in the U.S., but the Public Health Agency of Canada identified four Canadian illnesses with a similar genetic fingerprint to illnesses reported in the U.S. investigation. As a result, a Canadian outbreak investigation was initiated to further investigate the four illnesses reported in Canada.

U.S. health officials have confirmed that contaminated romaine lettuce that made people sick in this outbreak from the Salinas, California growing region is no longer available for sale. Romaine lettuce that is now in stores and restaurants comes from other growing regions.

As a result of this new information, the Public Health Agency of Canada is no longer advising that people avoid eating, selling, or serving romaine lettuce harvested from the Salinas, California growing region in the U.S.

Retailers and industry partners continue to bring romaine lettuce into the Canadian market from growing regions not associated with the outbreak.

As part of this outbreak investigation, the Canadian Food Inspection Agency (CFIA) implemented actions at the border on November 22, 2019, to ensure that any affected romaine lettuce products from Salinas, California were no longer being imported into Canada. These [measures](#) were taken to protect consumers and remain in effect at this time.

This was the fourth *E. coli* outbreak linked to romaine lettuce affecting Canadian consumers in the last two years. The Government of Canada, along with provincial and territorial governments and regional public health units, remains vigilant in its efforts to monitor for any new *E. coli* illnesses linked to romaine lettuce. If future risks are identified, the Public Health Agency of Canada and its partners will take the necessary steps to notify Canadians of any increased risk to their health and to provide updated advice on how to prevent illness.

Investigation summary

In total, there were four illnesses related to the [U.S. outbreak](#) that were identified in Canada: Alberta (1), Manitoba (1), New Brunswick (1), and Ontario (1). These individuals were ill in mid-October and mid-December 2019. One individual was hospitalized. No deaths were reported.

Laboratory analysis indicates that the illnesses reported in Canada are genetically related to illnesses reported in the U.S. and to previous *E. coli* outbreaks that occurred in 2017 and 2018 and were linked to romaine lettuce. This suggests that there may be a reoccurring source of contamination. Canadian and U.S. health officials are collaborating to

identify commonalities between the recent illnesses in an effort to identify the source of contamination affecting consumers.

How does lettuce become contaminated with *E. coli*

E. coli are bacteria that live naturally in the intestines of cattle, poultry and other animals. A common source of *E. coli* illness is raw fruits and vegetables that have come in contact with feces from infected animals. Leafy greens, such as lettuce, can become contaminated in the field by soil, water, animals or improperly composted manure. Lettuce can also be contaminated by bacteria during and after harvest from handling, storing and transporting the produce. Contamination in lettuce is also possible at the grocery store, in the refrigerator, or from counters and cutting boards through cross-contamination with harmful bacteria from raw meat, poultry or seafood. Most *E. coli* strains are harmless to humans, but some varieties cause illness.

Who is most at risk

E. coli O157 is more likely than other *E. coli* strains to cause severe illness. Pregnant women, those with weakened immune systems, young children and older adults are most at risk for developing serious complications.

Most people who become ill from an *E. coli* infection will recover completely on their own. However, some people may have a more serious illness that requires hospital care, or long-lasting health effects. In rare cases, some individuals may develop life-threatening symptoms, including stroke, kidney failure and seizures, which could result in death. It is possible for some people to be infected with the bacteria and to not get sick or show any symptoms, but to still be able to spread the infection to others.

What should you do to protect your health

The Public Health Agency of Canada has removed its advisory against romaine lettuce harvested from the Salinas, California growing region.

The Public Health Agency of Canada reminds people to properly wash and sanitize drawers or shelves in refrigerators where romaine lettuce from Salinas, California may have been previously stored.

Romaine lettuce can be a carrier of *E. coli* bacteria that can make people sick. For consumers of romaine lettuce, there is no way to fully eliminate the risk of an *E. coli* infection, but following [safe food handling practices for leafy greens](#) on a daily basis is the best way to avoid getting sick.

Symptoms

People infected with *E. coli* can have a wide range of symptoms. Some do not get sick at all, though they can still spread the infection to others. Others may feel as though they have a bad case of upset stomach. In some cases, individuals become seriously ill and must be hospitalized.

The following symptoms can appear within one to ten days after contact with the bacteria:

- nausea
- vomiting
- headache
- mild fever
- severe stomach cramps
- watery or bloody diarrhea

Most symptoms end within five to ten days. There is no real treatment for *E. coli* infections, other than monitoring the illness, providing comfort, and preventing dehydration through proper hydration and nutrition. People who develop complications may need further treatment, such as dialysis for kidney failure. You should contact your health care provider if symptoms persist.

What is the Government of Canada doing

The Government of Canada is committed to food safety. The Public Health Agency of Canada leads the human health investigation into an outbreak, and is in regular contact with its federal, provincial and territorial partners to monitor the situation and to collaborate on steps to address an outbreak.

Health Canada provides food-related health risk assessments to determine whether the presence of a certain substance or microorganism poses a health risk to consumers.

The Canadian Food Inspection Agency conducts food safety investigations into the possible food source of an outbreak.

The Government of Canada will continue to update Canadians as new information related to this investigation becomes available.

Epidemiological information

Figure 1 below is an epidemiological curve for this outbreak. Outbreak investigators use this information to show when illnesses begin, when they peak, and when they trail off. It can take several weeks from the time a person becomes ill to when the illness is reported and testing confirms a link to the outbreak. Data are available for four cases.

Figure 1: Number of people infected with *E. coli* O157:H7

