

Shiga toxin-producing *E. coli* O157:H7 infections among children, adolescents, and adults of East African communities in King County – Unknown source

AT-A-GLANCE

- **Cases:** 7 cases
- **Hospitalizations:** 4
- **Deaths:** 0
- **Status:** In progress

Highlights

Posted August 22, 2022

Summary

Public Health is investigating a new outbreak of seven people infected with Shiga toxin-producing *E. coli* (also known as STEC) in King County. Cases have been among people ranging in age from 11 months old to 35 years old, with 5 cases occurring in those under 15 years of age. Cases have been reported during December 31, 2021–August 18, 2022, with 6 cases reported since June 26, 2022. Currently all 7 of the ill people are from East African communities.

The investigation is ongoing. The majority of ill people have reported eating multiple types of meat, including goat and ground beef, during their exposure period but we cannot rule out other possible sources at this time. Genetic fingerprinting results (whole genome sequencing) indicate that all 7 ill people have the same genetic strain meaning they likely have a common source of infection. Updates will be posted when more information is available.

Illnesses

All 7 people developed symptoms consistent with STEC, including diarrhea (often bloody), abdominal cramping, nausea, and vomiting. Six of the seven people had illness onsets from June 20–August 1, 2022. One additional person was identified by WGS with an onset in December 2021. Four people have been hospitalized; this includes three children who developed a type of kidney complication called hemolytic uremic syndrome (HUS). Six people have recovered, and one is currently recovering.

At this time, this outbreak does not appear to be related to a multistate outbreak initially found in at least 4 different states, as [reported on the CDC website](#).

Public Health actions

Public Health is conducting interviews with the people ill with STEC or their parents/guardians to identify any common exposures and provide guidance to help prevent further spread. We are working with the Washington State Department of Health to complete further testing, to identify related cases in other counties, and to begin traceback of products in common. We are also working closely with community partners to share information and guidance about this outbreak and how to prevent more infections.

Public Health Message

Raw meats like ground beef, goat, and lamb sometimes have germs like STEC, and have been associated with outbreaks in the past. Follow these four food safety steps to prevent getting sick from STEC.

- **Clean:** Wash your hands, utensils, and surfaces often. Rinse fruits and vegetables under running water before eating, cutting, or peeling.
- **Separate:** Keep food that won't be cooked separate from raw meat, poultry, and seafood.
- **Cook:** Use a food thermometer to make sure you have cooked your food to a temperature high enough to kill germs.
- **Chill:** Refrigerate perishable food (food that goes bad) within 2 hours. If the food is exposed to temperatures above 90°F (like a hot car or picnic), refrigerate within 1 hour. Thaw food in the refrigerator, not on the counter.

If you or your child develop painful or bloody diarrhea, diarrhea that lasts more than 3 days or is accompanied by a high fever or decreased urine, contact your healthcare provider to see if testing for STEC is indicated.

We want to make sure this illness does not spread to people at risk for severe or life-threatening infections. Children with symptoms should not attend childcare or preschool. Others who are sick should not go to work in food service, healthcare, or childcare settings. Public Health will help you do more testing to make sure you are no longer contagious to other people before returning to work, childcare or preschool.

Laboratory testing

All seven of the cases have confirmatory testing indicating infections with *E. coli* O157:H7 via culture. All seven cases have the same strain of STEC, based on genetic fingerprinting (whole genome sequencing or WGS) at the Washington State Public Health Laboratory.

About STEC

E. coli germs (bacteria) normally live in the intestines of humans and animals. Many strains of *E. coli* bacteria exist, and most of them are harmless or beneficial to human health. STEC are strains of *E. coli* that produce Shiga toxin (such as *E. coli* O157:H7) and can cause serious illness in people.

Infection with STEC can occur through consumption of undercooked ground beef and other beef products; unpasteurized (raw) milk, cheese, and juice; contaminated raw fruits, vegetables, sprouts and herbs; water contaminated with animal feces, or by

direct contact with farm animals or their environment. Ready-to-eat foods can also be contaminated with STEC through contact with raw beef or raw beef juices in the kitchen.

STEC and other foodborne infections occur throughout the year but may increase during late spring and summer months.

Symptoms of STEC include diarrhea (which often becomes bloody) and stomach cramps, with mild or no fever. Illness typically lasts several days and people can spread infection to others even after symptoms resolve.

- STEC infections usually resolve in 5-7 days but recovered individuals may still spread the bacteria. Up to one third of children may continue to shed STEC for as long as 3 weeks.
- Around 5–10% of those who are diagnosed with STEC infection develop a potentially life-threatening complication known as hemolytic uremic syndrome (HUS). Clues that a person is developing HUS include decreased frequency of urination and feeling very tired. People with HUS should be hospitalized because their kidneys may stop working and they may develop other serious problems. Most people with HUS recover within a few weeks, but some suffer permanent damage or die.
- Ill people with suspected STEC infection should not work in food handling, patient care, or childcare settings, and ill children with suspected STEC infection should not attend daycare until they have seen a healthcare provider and been tested for STEC infection, even if their illness is mild. People with STEC infections who work in or attend these sensitive settings must be cleared by Public Health before returning.

Prevention

General advice for reducing risk of getting STEC:

- Avoid eating high-risk foods, especially undercooked ground beef and other beef products, goat products, and sheep products, unpasteurized (raw) milk or juice or cheese, and raw sprouts.
- Wash hands with soap and water before preparing food for yourself or your children, before eating food, after handling raw meats, after going to the bathroom or changing diapers, and after contact with cows, sheep, or goats, their food or treats, or their living environment.
- If soap and water aren't available, use an alcohol-based hand sanitizer with at least 60% alcohol (check the product label to be sure). These alcohol-based products can quickly reduce the number of germs on hands in some situations, but they are not a substitute for washing with soap and running water.
- Thoroughly wash fresh produce before eating.
- If washing "pre-washed" or "ready to eat" produce items, be sure it does not come into contact with unclean surfaces or utensils.
- Wash cutting boards and counters used for meat or poultry preparation immediately after use to avoid cross contaminating other foods.

- Cook all meats thoroughly, especially ground beef. Use a food thermometer to make sure meats have reached a safe internal temperature.
 - Cook ground beef and pork to a minimum internal temperature of 160°F.
 - Cook beef steaks, beef roasts, goat, and lamb to an internal temperature of at least 145°F and allow to rest for 3 minutes after you remove meat from the grill or stove.