FACT SHEET

Shiga Toxin *Escherichia coli* (STEC):

Many types of E.coli exist in a normal intestinal tract but there are at least five that are shiga toxin producing (STEC) and will cause diarrheal illness. Escherichia coli *serotype O157:H7* is one of the most toxic and can often lead to Hemolytic Uremic Syndrome (HUS), the most severe form of STEC. http://www.cdc.gov/ecoli/general/index.html/

Cause: A group of bacterium that produce potent shiga toxins.

Symptoms: Symptoms range from mild and non-bloody diarrhea to diarrhea that is almost all blood. With E. coli O157:H7 there is a sudden onset of severe bloody diarrhea and abdominal cramps. Usually little or no fever is present, and the illness resolves in 5-10 days.

Children under 5 years of age and the elderly are more at risk and the infection can lead to a more serious illness called hemolytic uremic syndrome (HUS), in which the red blood cells are destroyed and the kidneys fail in keeping up with clearing destroyed cells from the blood. About 8% of infections lead to this complication. In the United States, HUS is the principal cause of acute kidney failure in children, and most cases of HUS are caused by E. coli O157:H7.

Spread: A major source of STEC infection is undercooked ground beef; other sources include consumption of unpasteurized milk, juice or cider, sprouts, lettuce, spinach, salami, and contact with cattle. Waterborne transmission occurs through swimming in contaminated lakes, pools, or drinking inadequately chlorinated water. The bacteria is easily transmitted from person to person and has been difficult to control in child day-care centers.

Incubation: Onset of illness ranges from 2-10 days after exposure, most commonly in the 3-4 day range.

Precautions: Wear gloves in handling diapered or incontinent children or adults for the duration of illness.

Reportable: Reportable by the health care provider within seven days of detection or diagnosis to the local Health Department or the State Health Department.

Diagnosis and Treatment: Infection with E. coli O157:H7 is diagnosed by detecting the bacterium and shiga toxin or antigen in the stool. Anyone having sudden onset of bloody diarrhea needs to be seen by their physician and get their stool tested for E. coli.

Most people recover without antibiotics or other specific treatment in 5-10 days. There is no evidence that antibiotics improve the course of disease, and it is thought that treatment with some antibiotics may further complicate the kidneys. Antidiarrheal agents, such as loperamide (Imodium), should also be avoided because the body is attempting to rid the bacteria whereas the antidiarrheal agent slows the diarrhea harbors the E. coli in the intestinal tract.

HUS is a life-threatening condition usually treated in an intensive care unit. Blood transfusions and kidney dialysis are often required. With intensive care, the death rate for HUS is 3%-5%.

Prevention:

- Because of the small amount of infective dose, food handlers, healthcare workers and childcare workers, or childcare attendees should not return to work/daycare until 2 successive stools or rectal swabs 24 hours apart have been collected and are negative. (And collection not sooner than 48 hours after the last dose of antibiotics if taken)
- Cook all ground beef or hamburger thoroughly. Make sure that the cooked meat is gray or brown throughout (not pink), any juices run clear, and the inside is hot.
- If you are served an undercooked hamburger in a restaurant, send it back for further cooking.
- Consume only pasteurized milk and milk products. Avoid raw milk.
- Make sure that infected people, especially children, wash their hands carefully and frequently with soap to reduce the risk of spreading the infection.
- People with proven STEC infections should not go swimming recreational areas for 2 weeks after symptoms resolve.
- Drink municipal water that has been treated with adequate levels of chlorine or other effective disinfectants.