

Hemolytic Uremic Syndrome (HUS)

Agent: Serious sequelae associated with infection from Shiga toxin-producing *Escherichia coli* (STEC). *E. coli* O157:H7 is the STEC serotype most commonly associated with HUS.

Mode of Transmission: Ingestion of food or water contaminated with human or animal feces, or direct transmission from infected persons or animals. Fomites and contaminated environment may also play a role in transmission.

Signs/Symptoms: Classic signs of hemolytic uremic syndrome include red blood cell destruction (hemolytic anemia), low number of platelets (thrombocytopenia), and acute kidney failure. Symptoms include decreased frequency of urination, fatigue, progression to kidney failure, often requiring dialysis, as well as neurological impairment (e.g., stroke or seizures). HUS, if it occurs, develops on average seven days after the first symptoms of infection.

Prevention: Hands should be washed carefully after using the bathroom, after changing diapers or cleaning a child who has used the bathroom, after handling animals or their feces, and before preparing and eating food. All ground beef should be cooked thoroughly to an internal temperature of at least 160°. Raw milk, unpasteurized dairy products, and unpasteurized juices should not be consumed. Persons with diarrhea caused by *E. coli* O157:H7 should not use recreational waters for 2 weeks after symptoms have resolved. Outbreaks occurring in child care centers should immediately involve public health authorities to prevent further disease.

Other Important Information: Five to ten percent of persons diagnosed with Shiga toxin-producing *E. coli* infection develop HUS. The syndrome occurs in up to 15% of children with *E. coli* O157:H7 infection. For more information, see section on *E. coli* Infection, Shiga Toxin-Producing.

Three cases of HUS were reported during 2011. This is similar to the five-year average of 1.8 cases per year. Two of the reported cases followed an infection with Shiga toxin-producing *E. coli* O157:H7, but the causative organism was not identified for the third case. All three illnesses occurred in white children in the 1-9 year age group; one was male and two were female. Two of the cases were from the southwest region and the remaining case was from the northern region. All three had illness onset during the second quarter of the year. Information on risk factors included contact with multiple animals, as well as association with a similarly ill person. One of the children died as a result of the infection.