



E. coli (Escherichia coli)

Multistate Outbreak of Shiga toxin-producing *Escherichia coli* O157:H7 Infections Linked to Ground Beef

Posted May 19, 2014 7:45 PM ET

At a Glance:

- **Case Count:** **11** (</ecoli/2014/O157H7-05-14/epi.html>)
- **States:** **4** (</ecoli/2014/O157H7-05-14/map.html>)
- **Deaths:** **0**
- **Hospitalizations:** **60%**
- **Recall:** **Yes** (</ecoli/2014/O157H7-05-14/advice-consumers.html>)

More Information:

- [Recall & Advice to Consumers \(/ecoli/2014/O157H7-05-14/advice-consumers.html\)](/ecoli/2014/O157H7-05-14/advice-consumers.html)
- [Signs & Symptoms \(/ecoli/2014/O157H7-05-14/signs-symptoms.html\)](/ecoli/2014/O157H7-05-14/signs-symptoms.html)
- [Key Resources \(/ecoli/2014/O157H7-05-14/key-resources.html\)](/ecoli/2014/O157H7-05-14/key-resources.html)

Latest Case Count Map



[\(/ecoli/2014/O157H7-05-14/map.html\)](/ecoli/2014/O157H7-05-14/map.html)

[Click map to view case count map. \(/ecoli/2014/O157H7-05-14/map.html\)](/ecoli/2014/O157H7-05-14/map.html)

Latest Epi Curve



[\(/ecoli/2014/O157H7-05-14/epi.html\)](/ecoli/2014/O157H7-05-14/epi.html)

[Click graph to view epi curve graph. \(/ecoli/2014/O157H7-05-14/epi.html\)](/ecoli/2014/O157H7-05-14/epi.html)

Highlights

- **[Read the Advice to Consumers and Restaurants » \(/ecoli/2014/O157H7-05-14/advice-consumers.html\)](/ecoli/2014/O157H7-05-14/advice-consumers.html)**
- As of May 16, 2014, a total of 11 persons infected with the outbreak strains of Shiga toxin-producing *Escherichia coli* O157:H7 (STEC O157:H7) have been reported from 4 states.
 - The number of ill persons identified in each state is as follows: Massachusetts (1), Michigan (5), Missouri (1), and Ohio (4).

- 60% of ill persons have been hospitalized. No ill persons have developed hemolytic uremic syndrome (HUS), and no deaths have been reported.
- Epidemiologic and traceback investigations conducted by local, state, and federal officials indicate that contaminated ground beef produced by Wolverine Packing Company is the likely source of this outbreak of STEC O157:H7 infections.
- On May 19, 2014, Wolverine Packing Company voluntarily recalled (<http://www.fsis.usda.gov/wps/portal/fsis/topics/recalls-and-public-health-alerts/recall-case-archive/archive/2014/recall-030-2014>)  (<http://www.cdc.gov/Other/disclaimer.html>) approximately 1.8 million pounds of ground beef products that may be contaminated with STEC O157:H7.
 - The products subject to recall bear the establishment number “2574B.”
 - The recalled ground beef was shipped to distributors for retail and restaurant use nationwide. There was no distribution of the products to the Department of Defense, the National School Lunch Program, or catalog/internet sales.
 - Read the full list of products (<http://www.fsis.usda.gov/wps/wcm/connect/3a3ed84a-f07f-4cb5-b321-b07ddb9d650/recall-030-2014-products.pdf?MOD=AJPERES>)  (<http://www.cdc.gov/Other/disclaimer.html>) that were recalled.
- Restaurants should check their ground beef products for the recalled establishment number.
 - Do not serve or sell the recalled ground beef.
 - Do not attempt to cook the recalled ground beef and serve it.
 - People who have eaten the recalled ground beef should look for signs of STEC infection.

Initial Announcement

May 19, 2014

CDC is collaborating with public health officials in several states and the U.S. Department of Agriculture’s Food Safety and Inspection Service (USDA-FSIS) to investigate a multistate outbreak of Shiga toxin-producing *Escherichia coli* O157:H7 (STECO157:H7) infections. Public health investigators are using the PulseNet (<http://www.cdc.gov/pulsenet/index.html>) system to identify cases of illness that may be part of this outbreak. PulseNet, the national subtyping network of public health and food regulatory agency laboratories coordinated by CDC, obtains DNA “fingerprints” of *E. coli* bacteria through diagnostic testing with pulsed-field gel electrophoresis, or PFGE.

The type of bacteria responsible for this outbreak is among those referred to as Shiga toxin-producing *E. coli*, or STEC. Some types of STEC frequently cause severe disease, including bloody diarrhea and hemolytic uremic syndrome (HUS), which is a type of kidney failure. STEC bacteria are divided into serogroups (e.g., O157 or O121). *E. coli* O157 is the STEC serogroup found most commonly in U.S. patients.

A total of 11 individuals infected with the outbreak strains of STEC O157:H7 have been reported from 4 states. The number of ill persons identified in each state is as follows: Massachusetts (1), Michigan (5), Missouri (1), and Ohio (4).

Among persons for whom information is available, illness onset dates range from April 22, 2014 to May 2, 2014. Ill persons range in age from 19 years to 46 years, with a median age of 26 years. Fifty-four percent of ill persons are male. Among 10 persons with available information, 6 (60%) reported being hospitalized. No ill persons have developed HUS, and no deaths have been reported.

This outbreak can be visually described with a chart showing the number of persons who became ill each day. This chart is called an epidemic curve or epi curve ([/foodsafety/outbreaks/investigating-outbreaks/epi-curves.html](http://foodsafety/outbreaks/investigating-outbreaks/epi-curves.html)). Illnesses that began after May 1, 2014 might not yet be reported due to the time it takes between when a person becomes ill and

when the illness is reported. This takes an average of 2 to 4 weeks. Please see the [Timeline for Reporting Cases of *E. coli* O157 Infection \(/ecoli/reporting-timeline.html\)](/ecoli/reporting-timeline.html) for more details.

Investigation of the Outbreak

Epidemiologic and traceback investigations conducted by officials in local, state, and federal public health, agriculture, and regulatory agencies indicate that ground beef produced by Wolverine Packing Company is the likely source of this outbreak of *STEC* O157:H7 infections.

As of May 16, 2014, in interviews, ill persons answered questions about foods eaten and other exposures during the week before becoming ill. Ten (100%) of ten ill persons interviewed reported eating ground beef prepared at a restaurant before becoming ill.

Findings of multiple traceback investigations of the ground beef used at restaurants where ill persons reported they had dined identified Wolverine Packing Company as the source of the ground beef. On May 19, 2014, Wolverine Packing Company, a Detroit, Michigan firm, voluntarily recalled (<http://www.fsis.usda.gov/wps/portal/fsis/topics/recalls-and-public-health-alerts/recall-case-archive/archive/2014/recall-030-2014>) <http://www.cdc.gov/Other/disclaimer.html>) approximately 1.8 million pounds of ground beef that may be contaminated with *STEC* O157:H7. The ground beef was shipped to distributors for retail and restaurant use nationwide. There was no distribution of the products to the Department of Defense, the National School Lunch Program, or catalog/internet sales. Products are regulated by USDA-FSIS and bear the establishment number "2574B" inside the USDA mark of inspection and have a production date code in the format "Packing Nos: MM DD 14" between "03 31 14" and "04 18 14." A full list of recalled ground beef products is available from the USDA-FSIS website (<http://www.fsis.usda.gov/wps/wcm/connect/3a3ed84a-f07f-4cb5-b321-b07ddba9d650/recall-030-2014-products.pdf?MOD=AJPERES>) <http://www.cdc.gov/Other/disclaimer.html>).

CDC and state and local public health partners are continuing laboratory surveillance through PulseNet (<http://www.cdc.gov/pulsenet/>) to identify additional ill persons and to interview them about foods eaten before becoming ill. USDA-FSIS is continuing to work closely with CDC and state partners during this investigation to determine the source of contamination and identify any other potentially contaminated products still on the market. CDC will update the public when additional information is available.

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