



E. coli (Escherichia coli)

Multistate Outbreak of Shiga toxin-producing *Escherichia coli* O121 Infections Linked to Raw Clover Sprouts

Posted June 10, 2014 3:30 PM ET

At a Glance:

- **Case Count:** 17 (</ecoli/2014/O121-05-14/epi.html>)
- **States:** 5 (</ecoli/2014/O121-05-14/map.html>)
- **Deaths:** 0
- **Hospitalizations:** 47%
- **Recall:** No

More Information:

- [Advice to Consumers \(/ecoli/2014/O121-05-14/advice-consumers.html\)](/ecoli/2014/O121-05-14/advice-consumers.html)
- [Signs & Symptoms \(/ecoli/2014/O121-05-14/signs-symptoms.html\)](/ecoli/2014/O121-05-14/signs-symptoms.html)
- [Key Resources \(/ecoli/2014/O121-05-14/key-resources.html\)](/ecoli/2014/O121-05-14/key-resources.html)

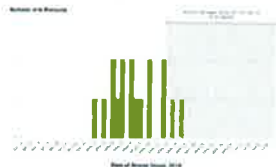
Latest Case Count Map



[\(/ecoli/2014/O121-05-14/map.html\)](/ecoli/2014/O121-05-14/map.html)

[Click map to view case count map. \(/ecoli/2014/O121-05-14/map.html\)](/ecoli/2014/O121-05-14/map.html)

Latest Epi Curve



[\(/ecoli/2014/O121-05-14/epi.html\)](/ecoli/2014/O121-05-14/epi.html)

[Click graph to view epi curve graph. \(/ecoli/2014/O121-05-14/epi.html\)](/ecoli/2014/O121-05-14/epi.html)

Highlights

- **[Read the Advice to Consumers » \(/ecoli/2014/O121-05-14/advice-consumers.html\)](/ecoli/2014/O121-05-14/advice-consumers.html)**
- As of June 9, 2014, a total of 17 persons infected with the outbreak strain of Shiga toxin-producing *Escherichia coli* O121 (STEC O121) have been reported from five states.
 - The number of ill persons identified in each state is as follows: Idaho (3), Michigan (1), Montana (2), Utah (1), and Washington (10).
 - 47% of ill persons have been hospitalized. No ill persons have developed hemolytic uremic syndrome (HUS), and no deaths have been reported.
- Epidemiology and traceback investigations conducted by local, state, and federal officials indicated that contaminated raw clover sprouts produced by Evergreen Fresh Sprouts, LLC of Idaho are the likely source of this outbreak.
 - In interviews, 12 (86%) of 14 ill persons reported eating raw clover sprouts in the week before becoming ill.
- Raw clover sprouts have not been recalled from Evergreen Fresh Sprouts. Because contaminated sprouts may still be available on the market, CDC recommends that consumers do not eat any raw clover sprouts produced by Evergreen Fresh Sprouts.
 - The Washington State Department of Health (<http://www.doh.wa.gov/Newsroom/2014NewsReleases/14070CloverSproutsSourceofEColiOutbreak.aspx>) [and the Idaho Department of Health and Welfare](http://www.cdc.gov/Other/disclaimer.html) (<http://healthandwelfare.idaho.gov/AboutUs/Newsroom/tabid/130/ctl/ArticleView/mid/3061/articleId/1759/North-Idaho-E-coli-Infections-Linked-to-Raw-Clover-Sprouts.aspx>) [are also advising people not to eat raw clover sprouts produced by Evergreen Fresh Sprouts.](http://www.cdc.gov/Other/disclaimer.html)

- This investigation is ongoing and CDC will update the public when more information becomes available.

June 10, 2014

Case Count Update

As of June 9, 2014, a total of 17 persons infected with the outbreak strain of Shiga toxin-producing *Escherichia coli* O121 (STEC O121) have been reported from five states. The number of ill persons identified in each state is as follows: Idaho (3), Michigan (1), Montana (2), Utah (1), and Washington (10).

Among persons for whom information is available, dates that illnesses began range from May 1, 2014 to May 20, 2014. Ill persons range in age from 11 years to 45 years, with a median age of 27 years. Seventy-six percent of ill persons are female. Among those persons with information, seven (47%) of 15 have been hospitalized. No ill persons have developed HUS, and no deaths have been reported.

Illnesses that began after May 17, 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 3 weeks. Please see the [Timeline for Reporting Cases of *E. coli* O157 Infection](http://www.cdc.gov/ecoli/reporting-timeline.html) (<http://www.cdc.gov/ecoli/reporting-timeline.html>) for more details.

Investigation Update

As part of the ongoing investigation, [FDA](http://www.fda.gov/Food/RecallsOutbreaksEmergencies/Outbreaks/ucm398536.htm)

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(<http://www.cdc.gov/Other/disclaimer.html>) performed a traceback analysis and determined that Evergreen Sprouts, in the timeframe prior to the outbreak, supplied sprouts to seven restaurants at which 9 people who became ill during the outbreak reported eating before they became ill. Eight of the people who became ill recalled eating sprouts. This analysis used documents collected directly from the distributors and the grower, Evergreen Fresh Sprouts, as well as documents collected by the states from the points of service.

[FDA](http://www.fda.gov/Food/RecallsOutbreaksEmergencies/Outbreaks/ucm398536.htm) (<http://www.fda.gov/Food/RecallsOutbreaksEmergencies/Outbreaks/ucm398536.htm>)

(<http://www.cdc.gov/Other/disclaimer.html>) also conducted an inspection of Evergreen Fresh Sprouts' facility on May 22-23, 2014; May 27-30, 2014; and June 6, 2014. During the inspection, FDA investigators observed a number of unsanitary conditions, including condensate and irrigation water dripping from rusty valves; a rusty and corroded mung bean room watering system; tennis rackets that had scratches, chips, and frayed plastic used to scoop mung bean sprouts; a pitchfork with corroded metal being used to transfer mung bean sprouts; and a squeegee with visible corroded metal and non-treated wood being used to agitate mung bean sprouts inside a soak vat.

Initial Announcement

May 22, 2014

CDC is collaborating with public health officials in Idaho and Washington and the U.S. Food and Drug Administration (FDA) to investigate a multistate outbreak of Shiga toxin-producing *Escherichia coli* O121 (STEC O121) infections.

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. Other *E. coli* serogroups in the STEC group, including O121, are sometimes called "non-O157 STECs." Because clinical laboratories typically cannot directly identify non-O157 STEC serogroups, they must first test stool samples for the presence of Shiga toxins. Then, the positive samples must be sent to public health laboratories to look for non-O157 STEC. In recent years, the number of clinical laboratories that test for Shiga toxin has increased greatly, but some laboratories still do not perform these tests. Because of these complexities, many non-O157 STEC infections are probably not identified.

As of May 21, 2014, seven confirmed and three probable cases of STEC O121 infection have been reported in Idaho and Washington. The number of ill persons identified in each state is as follows: Idaho (3) and Washington (7).

Among persons for whom information is available, illness onset dates range from May 1, 2014 to May 13, 2014. Ill persons range in age from 22 years to 45 years, with a median age of 27 years. Ninety percent of ill persons are female. Five (50%) of the 10 ill persons have been 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](http://foodsafety/outbreaks/investigating-outbreaks/epi-curves.html) (<http://foodsafety/outbreaks/investigating-outbreaks/epi-curves.html>). Illnesses that began after April 30, 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 3 weeks. Please see the [Timeline for Reporting Cases of *E. coli* O157 Infection](http://www.cdc.gov/ecoli/reporting-timeline.html) (<http://www.cdc.gov/ecoli/reporting-timeline.html>) for more details.

Investigation of the Outbreak

Results from initial state and local epidemiologic investigations indicate a link to eating raw clover sprouts. In interviews, nine (90%) of ten ill persons reported eating raw clover sprouts in the week before becoming ill. This proportion is significantly higher than results from a [survey](#)  [PDF - 788 KB] ([/foodnet/PDFs/FNExpAtlo3022011.pdf](#)) of healthy persons in which 8% reported eating raw clover sprouts in the week before they were interviewed. According to the [Washington State Department of Health](#) (<http://www.doh.wa.gov/Newsroom/2014NewsReleases/14070CloverSproutsSourceofEColiOutbreak.aspx>)  (<http://www.cdc.gov/Other/disclaimer.html>) and the [Idaho Department of Health and Welfare](#) (<http://healthandwelfare.idaho.gov/AboutUs/Newsroom/tabid/130/ctl/ArticleView/mid/3061/articleId/1759/North-Idaho-E-coli-Infections-Linked-to-Raw-Clover-Sprouts.aspx>)  (<http://www.cdc.gov/Other/disclaimer.html>), ill persons reported eating sprouts in sandwiches at several local food establishments, including several Jimmy John's Gourmet Sandwiches locations, the Pita Pit, and Daanen's Deli.

Preliminary traceback investigations indicate that contaminated raw clover sprouts produced by Evergreen Fresh Sprouts, LLC. of Idaho is the likely source of this outbreak of STEC O121 infections. FDA continues its investigation in order to identify the source of the contamination causing the outbreak.

CDC and state and local public health partners are continuing laboratory surveillance through [PulseNet](#) ([/pulsenet/index.html](http://pulsenet/index.html)) to identify additional ill persons and to interview them about foods eaten before becoming ill. CDC will update the public when additional information is available.

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Content source: [Centers for Disease Control and Prevention](#)

[National Center for Emerging and Zoonotic Infectious Diseases \(NCEZID\)](#)

[Division of Foodborne, Waterborne, and Environmental Diseases \(DFWED\)](#)

Centers for Disease Control and Prevention 1600 Clifton Rd. Atlanta, GA 30333, USA
800-CDC-INFO (800-232-4636) TTY: (888) 232-6348 - [Contact CDC-INFO](#)

