
Multistate Outbreak of Human *Salmonella* Muenchen Infections Linked to Contact with Pet Crested Geckos

Posted May 14, 2015 2:00 PM ET

Highlights

- **Read the Advice to Pet Owners »**
- As of May 13, 2015, a total of 20 persons infected with the outbreak strain of *Salmonella* Muenchen have been reported from 16 states since January 1, 2014.
 - Three (15%) of these ill persons have been hospitalized. No deaths have been reported.
- Epidemiologic, laboratory, and traceback findings have linked this outbreak of human *Salmonella* infections to contact with pet crested geckos purchased from multiple pet stores in different states.
 - Ten (91%) of 11 ill persons interviewed reported contact with a crested gecko in the week before their illness began.
- CDC'S National Antimicrobial Resistance Monitoring System (<http://www.cdc.gov/narms/>) (NARMS) laboratory conducted antibiotic resistance testing on *Salmonella* Muenchen isolates collected from two ill people infected with the outbreak strain.
 - Both isolates were susceptible to all antibiotics tested on the NARMS panel.
 - Antibiotic resistance testing on additional isolates collected from ill people infected with the outbreak strain is ongoing.
- This outbreak is a reminder to follow simple steps to enjoy your pet and keep your family healthy. CDC does not recommend that pet owners get rid of their geckos.
 - It is very important to wash your hands (<http://www.cdc.gov/handwashing/when-how-handwashing.html>) thoroughly with soap and water right after touching pet reptiles or anything in the area where they live and roam.
 - More steps on how to enjoy your pet reptile and protect yourself and your family from illness are available in English (<http://www.cdc.gov/Features/salmonellafrogturtle/>) and en Español (<http://www.cdc.gov/spanish/especialesCDC/ReptilesAnfibiosSalmonella/>).

Initial Announcement

May 14, 2015

CDC is collaborating with public health, veterinary, and agriculture officials in many states and the U.S. Department of Agriculture National Veterinary Services Laboratories (NVSL) (http://www.aphis.usda.gov/wps/portal/aphis/ourfocus/animalhealth?1dmy&urile=wcm%3apath%3a/aphis_content_library/sa_our_focus/sa_animal_health/sa_lab_information_services/sa_about_to_investigate_an_outbreak_of_SalmonellaMuenchen_infections_linked_to_contact_with_pet_crested_geckos_purchased_from_multiple_stores_in_different_states.Crested_geckos_are_popular_pet_lizards_that_come_in_a_variety_of_colors) to investigate an outbreak of *Salmonella* Muenchen infections linked to contact with pet crested geckos purchased from multiple stores in different states. Crested geckos are popular pet lizards that come in a variety of colors.

Public health investigators are using the PulseNet (<http://www.cdc.gov/pulsenet/>) system to identify illnesses that may be part of this outbreak. PulseNet is the national subtyping network of public health and food regulatory agency laboratories coordinated by CDC. DNA "fingerprinting" is performed on *Salmonella* bacteria isolated from ill persons by using a technique called pulsed-field gel electrophoresis, or PFGE (<http://www.cdc.gov/pulsenet/pathogens/pfge.html>). PulseNet manages a national database of these DNA fingerprints to identify possible outbreaks.

As of May 13, 2015, a total of 20 persons infected with the outbreak strain of *Salmonella* Muenchen have been reported from 16 states since January 1, 2014. The number of ill persons identified in each state is as follows: Florida (1), Iowa (1), Illinois (1), Indiana (1), Kansas (1), Massachusetts (1), Minnesota (1), Montana (1), New Hampshire (1), New York (1), Ohio (2), Pennsylvania (2), Tennessee (1), Virginia (1), Washington (2), and Wisconsin (2).

Dates that illnesses began range from January 1, 2014 to March 7, 2015. Ill persons range in age from younger than 1 year to 57 years, with a median age of 14 years. Fifty-eight percent of ill persons are female. Three (15%) persons have been hospitalized. No deaths have been reported.

This outbreak can be illustrated with a chart showing the number of persons who became ill each day. This chart is called an epidemic curve (epi curve). Illnesses that occurred after April 21, 2015 might not be reported because that can take 2 to 4 weeks after someone becomes ill. Please see the Timeline for Reporting Cases of *Salmonella* Infection for more details.

Investigation of the Outbreak

Epidemiologic, laboratory, and traceback investigations conducted by officials in local, state, and federal public health agencies indicate that contact with pet geckos is the likely source of this outbreak of human *Salmonella* Muenchen infections.

In interviews, ill persons answered questions about contact with animals and foods consumed during the week before becoming ill. Ten (91%) of 11 persons interviewed reported contact with reptiles or their environments before becoming ill. When asked about the type of reptile, all 10 (100%) persons reported contact with crested geckos. The percentage of ill persons in this outbreak reporting contact with a reptile is substantially higher than the percentage of U.S. households that reported owning a pet reptile in a survey conducted in 2013-2014 by the American Pet Products Association (4.6%).

CDC's National Antimicrobial Resistance Monitoring System (NARMS)

(<http://www.cdc.gov/narms/>) laboratory conducted antibiotic resistance testing on *Salmonella* Muenchen isolates collected from two ill persons infected with the outbreak strain; both isolates were susceptible to all antibiotics tested on the NARMS panel. CDC's NARMS laboratory continues to conduct antibiotic resistance testing on additional clinical isolates collected from ill persons infected with the outbreak strain. Results will be reported when they become available. NARMS is a U.S. public health surveillance system that tracks antibiotic resistance in foodborne and other enteric bacteria found in people, raw meat and poultry, and food-producing animals. NARMS is an interagency partnership among the CDC, the U.S. Food and Drug Administration (FDA), the U.S. Department of Agriculture (USDA), and state and local health departments. The NARMS human surveillance program at CDC monitors antibiotic resistance in *Salmonella* and other bacteria isolated from clinical specimens submitted to NARMS by public health laboratories.

The pet industry is working closely with CDC to determine the source of the crested geckos linked to this outbreak in order to prevent additional illnesses. This outbreak is a reminder to follow simple steps to enjoy your pet and keep your family healthy. CDC does not recommend that pet owners get rid of their geckos. However, if pet owners decide to do so, they should contact a local reputable pet store or reptile rescue for a safe way to relinquish their pet. Do not let a pet gecko loose into the environment.

At A Glance

- Case Count: 20
- States: 16
- Deaths: 0
- Hospitalizations: 3

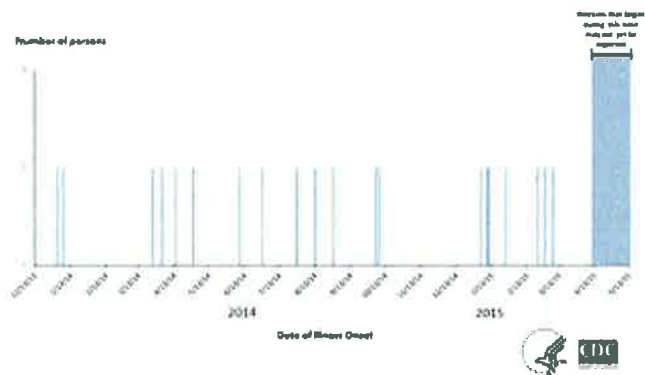
More Information

- Advice to Pet Owners

- Signs & Symptoms
- Key Resources



[CLICK TO VIEW CASE COUNT MAP](#)



[CLICK TO VIEW EPI CURVE GRAPHS](#)



Crested geckos are popular pet lizards that come in a variety of colors.

Page last reviewed: May 14, 2015

Page last updated: May 14, 2015

Content source: Centers for Disease Control and Prevention (<http://www.cdc.gov/>)

National Center for Emerging and Zoonotic Infectious Diseases (NCEZID) (</ncezid/index.html>)

Division of Foodborne, Waterborne, and Environmental Diseases (DFWED) (</ncezid/dfwed/index.html>)