Outbreak of *Salmonella* Infections Linked to Pet Bearded Dragons

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CDC and public health officials in several states are investigating a multistate outbreak of *Salmonella* Muenster infections linked to pet bearded dragons.

Latest Outbreak Information

At A Glance

- Reported Cases: 13
- States: 8
- Hospitalizations: 7
- Deaths: 0

- Thirteen people infected with the outbreak strain of *Salmonella* Muenster have been reported from eight states.
    - Seven hospitalizations have been reported. No deaths have been reported.
    - Five ill people are children under 5 years of age.
- Epidemiologic and laboratory evidence shows that contact with pet bearded dragons is the likely source of this outbreak.
    - In interviews, 10 (77%) of 13 ill people reported contact with a bearded dragon.
    - Ill people reported purchasing bearded dragons from pet stores in multiple states. A common supplier has not been identified.
    - The outbreak strain making people sick was identified in samples collected from a bearded dragon and its environment from the home of an ill person in Virginia.

Advice to Pet Owners

Bearded dragons can carry *Salmonella* germs in their droppings even if they look healthy and clean. These germs can easily spread to their bodies, habitats, and anything in the area where they live.

You can get sick from touching your bearded dragon or anything in its environment and then touching your mouth or face and swallowing *Salmonella* germs.

Take these steps to stay healthy around bearded dragons:

- **Wash your hands**
  - Always wash hands thoroughly with soap and water right after touching or feeding your bearded dragon and after touching or cleaning the area where it lives and roams.
  - Adults should make sure young children are washing their hands properly.
- **Play safely**
  - Don't kiss or snuggle your bearded dragon, or eat or drink around it. These actions can spread *Salmonella* germs to your mouth and make you sick.
  - Keep your bearded dragon out of your kitchen and other areas where you eat, store, or prepare food.
- **Keep things clean**
  - Clean items you use to care for your bearded dragon outside the house, if possible. Items you use to care for it may include tanks, food and water containers, and toys.
  - If you clean these items indoors, don't clean them in the kitchen or other areas where you eat or prepare food. Use a laundry sink or bathtub, and thoroughly clean and disinfect the area right after.
- **Pick the right pet for your family**
  - Bearded dragons and other reptiles are not recommended for children under 5, adults aged 65 and older, and people with weakened immune systems because they are more likely to get serious illness from germs that reptiles can carry.

Advice to Stores that Sell or Display Reptiles

- Educate customers about how to stay healthy around reptiles
  - Display information like this poster by the reptile area.
- Learn more about how to protect your customers and employees from *Salmonella* infection and other diseases shared between animals and humans
  - Read the 2017 Compendium of Measures to Prevent Disease Associated with Animals in Public Settingsexternal icon.

Symptoms of *Salmonella* Infection

- Most people infected with *Salmonella* germs develop diarrhea, fever, and stomach cramps 6 hours to 6 days after being exposed to the bacteria.
- The illness usually lasts 4 to 7 days, and most people recover without treatment.
- In some people, the illness may be so severe that the patient needs to be hospitalized. *Salmonella* infection may spread from the intestines to the bloodstream and then to other places in the body.
- Children younger than 5, adults 65 years and older, and people with weakened immune systems are more likely to have a severe illness.
- For more information, see Symptoms of *Salmonella* Infection.

Investigation Details

October 1, 2020

CDC and public health officials in several states are investigating a multistate outbreak of *Salmonella* Muenster infections linked to bearded dragons.

Public health investigators are using the 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 people by using a standardized laboratory and data analysis method called whole genome sequencing (WGS). CDC PulseNet manages a national database of these sequences that are used to identify possible outbreaks. WGS gives investigators detailed information about the bacteria causing illness. In this investigation, WGS showed that bacteria isolated from ill people were closely related genetically. This means that people in this outbreak are more likely to share a common source of infection.

As of September 25, 2020, a total of 13 people infected with the outbreak strain of *Salmonella* Muenster have been reported from eight states. A list of the states and the number of cases in each can be found on the Map of Reported Cases page.

Illnesses started on dates ranging from February 23, 2020, to August 22, 2020. Ill people range in age from less than 1 year to 72 years, with a median age of 15. Five ill people are children under 5 years of age. Fifty-eight percent of ill people are female. Of 11 ill people with information available, 7 were reported to have been hospitalized. No deaths have been reported.

WGS analysis of 10 bacterial isolates from ill people did not predict any antibiotic resistance. Standard antibiotic susceptibility testing by CDC's National Antimicrobial Resistance Monitoring System (NARMS) of three isolates also showed no resistance.

Investigation of the Outbreak

Epidemiologic and laboratory evidence shows that contact with pet bearded dragons is the likely source of this outbreak.

In interviews, people answered questions about animal contact in the week before they became ill. Of the 13 people interviewed, 10 (77%) reported contact with bearded dragons before becoming ill. Ill people reported buying bearded dragons from various pet stores in multiple states. A common supplier has not been identified.

The outbreak strain making people sick was identified in samples collected from a bearded dragon and its environment from the home of an ill person in Virginia.

Bearded dragons can carry *Salmonella* germs that can make people sick even if they look healthy and clean. Bearded dragon owners should always follow steps to stay healthy around their pet.

This investigation is ongoing, and CDC will provide updates when more information becomes available.