

Salmonella Outbreaks Linked to Pet Bearded Dragons



Investigation Notice

Updated March 3, 2023

This outbreak investigation is over. Bearded dragons can carry *Salmonella* germs that can spread to you and make you sick. Always take steps to stay healthy around your bearded dragon.

Fast Facts

- Illnesses: 32
- Hospitalizations: 10
- Deaths: 0
- [States](#): 20
- Investigation status: Closed

Bearded Dragons and *Salmonella*

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

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

What You Should Do

Always take these steps to [stay healthy around your pet bearded dragon](#):

- **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.
 - Always wash your hands right after handling your bearded dragon and especially before holding or feeding a baby or a young child.

- Make sure children younger than 5 years old avoid contact with your bearded dragon and older children [wash their hands](#) after touching or feeding a bearded dragon.
- **Play safely**
 - Don't kiss or snuggle your bearded dragon, and don't eat or drink around it. This can spread *Salmonella* germs to your mouth and make you sick.
 - Have a dedicated enclosure for your bearded dragon. Don't allow bearded dragons to roam in the same spaces where your baby or young children crawl and play.
 - Keep your bearded dragon out of your kitchen and other areas where you eat, store, or prepare food.
- **Keep things clean**
 - [Clean your bearded dragon supplies](#) outside the house, if possible. These supplies may include its feeders, toys, and food and water containers.
 - If you must clean the supplies 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.

If you are thinking of getting a pet bearded dragon:

- **Pick the right pet for your family**
 - Bearded dragons and other reptiles are [not recommended](#) for children younger than 5, adults aged 65 and older, and people with weakened immune systems. These people are more likely to get a serious illness from germs that reptiles can carry.

•
What Businesses Should Do

- **Educate customers** about how to stay healthy around bearded dragons.
 - This [poster](#) provides information on how to stay healthy around pet reptiles, including bearded dragons.
 - Consider putting the poster right by the bearded dragon area and giving a copy to customers who are buying a bearded dragon.

- This [graphic](#) can be used as a sticker and illustrates handwashing when handling pet reptiles, including bearded dragons.
- **Learn more** about how to protect your customers and employees from *Salmonella* infection and other diseases shared between animals and humans.
 - Read the [Compendium of Measures to Prevent Zoonotic Diseases Associated with Non-Traditional Pets](#).

Symptoms of *Salmonella*

- Most people infected with *Salmonella* experience diarrhea, fever, and stomach cramps.
 - Symptoms usually start 6 hours to 6 days after swallowing the bacteria.
 - Most people recover without treatment after 4 to 7 days.
- Some people—especially children younger than 5 years, adults 65 years and older, and people with weakened immune systems—may experience more severe illnesses that require medical treatment or hospitalization.
- For more information about *Salmonella*, see [the *Salmonella* Questions and Answers page](#).

Investigation Details

Updated March 3, 2023

March 3, 2023

CDC and public health officials in several states investigated two multistate outbreaks of *Salmonella* infections with serotypes Vitkin and IIIb 61:z52:z53.

Epidemiologic and laboratory data showed that contact with pet bearded dragons made people sick in both outbreaks.

As of March 3, 2023, this outbreak investigation is over.

Epidemiologic Data

A total of 32 people infected with the outbreak strains of *Salmonella* Vitkin (12 people) and *Salmonella* IIIb 61:z52:z53 (20 people) were reported from 20 states (see [map](#)). Illnesses started on dates ranging from March 21, 2021, to December 22, 2022 (see [timeline](#)).

Sick people ranged in age from less than 1 to 75 years, with a median age of 8 years old. A total of 15 (47%) were children under the age of 5 years old, with 11 children under the age of 1 year old. Of 30 people with sex information available, 19 (63%) people were female. Race or ethnicity information was available for 26 people. Among the 3 people who reported Hispanic ethnicity, 2 were White and 1 was African American/Black. Among people who did not report Hispanic ethnicity, 20 were White, two were African American/Black, and one was Asian. Of 25 people with information available, 10 (40%) were hospitalized. No deaths were reported.

The true number of sick people in an outbreak was likely much higher than the number reported, and the outbreak may not have been limited to the states with known illnesses. This is because many people recover without medical care and are not tested for *Salmonella*.

State and local public health officials interviewed people about the animals they came into contact with during the week before they got sick. Of the 26 people interviewed, 17 (65%) reported contact with a pet bearded dragon before getting sick. Contact most frequently occurred at people's homes and included touching the animals or their enclosures, feeding them, and putting them on the lap, head, or shoulders.

Laboratory and Traceback Data

Public health investigators used the [PulseNet](#) system to identify illnesses that were part of this outbreak. CDC PulseNet manages a national database of DNA fingerprints of bacteria that cause gastrointestinal illnesses. DNA fingerprinting is performed on bacteria using a method called [whole genome sequencing \(WGS\)](#).

WGS showed that bacteria from sick people's samples are closely related genetically. This means that people in each outbreak likely got sick from the same type of animal.

In both outbreaks, 15 people reported purchasing their bearded dragons from pet stores or online. The stores reported sourcing bearded dragons from multiple breeders and suppliers, and several were common between both outbreaks.

Salmonella Vitkin Outbreak

- Among the eight people who reported contact with bearded dragons, four reported purchasing their bearded dragon from different pet stores.
- The outbreak strain was not identified in samples from bearded dragons or habitats.

Salmonella IIIb 61:z52:z53 Outbreak

- Utah and Colorado public health officials identified the outbreak strain from samples collected from a sick person's bearded dragon and its habitat.
- Among the 9 people who reported contact with bearded dragons, all reported purchasing or having contact with bearded dragons from different pet stores. At least five breeders and suppliers were identified, including one that supplied multiple stores.

WGS of bacteria from 30 people's samples, seven bearded dragon samples, and 30 environmental samples predicted resistance to ciprofloxacin; analysis of bacteria from one person's sample did not predict resistance to any antibiotics. Most people with *Salmonella* illness recover without antibiotics. However, if antibiotics are needed, this resistance could affect the choice of antibiotic used to treat some people. Testing of bacteria from three people's samples using standard [antibiotic susceptibility testing](#) methods by CDC's [National Antimicrobial Resistance Monitoring System \(NARMS\)](#) laboratory showed [nonsusceptibility](#) to ciprofloxacin, meaning that clinicians would need to select an alternate antibiotic if treatment were indicated.

Public Health Actions

CDC advises that you always take steps to [stay healthy around your pet bearded dragon](#):

- Wash your hands.
- Don't kiss or snuggle your bearded dragon.

- Keep your bearded dragon out of the kitchen and away from areas where young children play.
- Keep its supplies and habitat clean.
- Limit young children's contact with your bearded dragon.