Outbreaks of *Salmonella* Infections Linked to Backyard Poultry

Final Update

Posted October 22, 2019 at 5:00 PM ET

CDC and public health officials in many states investigated 13 multistate outbreaks of *Salmonella* infections linked to contact with backyard poultry. These outbreak investigations are over.

Backyard poultry can carry *Salmonella* germs that can make people sick, even when the birds look healthy and clean. Backyard flock owners should always follow steps to stay healthy around their poultry.

Final Outbreak Information

At A Glance

- Reported Cases: 1134
- States: 49
- Hospitalizations: 219
- Deaths: 2

- As of October 22, 2019, these outbreak investigations are over.
- The outbreaks in 2019 represent the largest recorded number of people to become sick with *Salmonella* after contact with backyard poultry.
- 1,134 people infected with the outbreak strains of *Salmonella* were reported from 49 states and the District of Columbia.
    - Of 740 people with information available, 219 (30%) were hospitalized. Two deaths were reported, one from Texas and one from Ohio.
    - Of 988 ill people with information available, 212 (21%) were children younger than 5 years.
- Epidemiologic, laboratory, and traceback evidence indicated that contact with backyard poultry, such as chicks and ducklings, from multiple hatcheries was the likely source of these outbreaks.
    - In interviews, 392 (63%) of 619 ill people reported contact with chicks or ducklings.

- People reported getting chicks and ducklings from several sources, including agricultural stores, websites, and hatcheries.
- Six of the outbreak strains that made people sick were identified in samples collected from poultry.

Advice to Backyard Flock Owners

People can get sick with *Salmonella* infections from touching backyard poultry and the places where they live and roam. Backyard poultry can carry *Salmonella* germs but look healthy and clean and show no signs of illness.

- **Wash your hands.**
  - Always wash your hands with soap and water right after touching backyard poultry or anything in the area where they live and roam.
    - Adults should supervise handwashing by young children.
    - Use an alcohol-based hand sanitizer with at least 60% alcohol if soap and water are not readily available. Consider storing hand sanitizer at your coop.
- **Poultry belong outside.**
  - Don't let backyard poultry inside the house, especially in areas where food or drink is prepared, served, or stored.
  - Set aside a pair of shoes to wear while taking care of poultry and keep those shoes outside of the house.
  - Stay outdoors when cleaning any equipment or materials used to raise or care for poultry, such as cages, or feed or water containers.
- **Handle birds safely.**
  - Do not let children younger than 5 years of age handle or touch chicks, ducklings, or other live poultry without supervision. Children younger than 5 years of age are more likely to get sick from exposure to germs like *Salmonella*. Don't eat or drink where poultry live or roam.
  - Don't kiss backyard poultry or snuggle them and then touch your face or mouth.
- **See CDC's backyard poultry information for more tips on how to stay healthy around your birds.**

Advice to Stores and Hatcheries

- **Participate in USDA's National Poultry Improvement Plan *Salmonella* monitored program.**

    - Hatcheries should participate in USDA's National Poultry Improvement Plan voluntary *Salmonella* monitored program pdf icon[PDF – 279 KB]external icon and utilize best management practices pdf icon[PDF – 1.40 MB]external icon to reduce *Salmonella* contamination in hatchery environments.
- **Source birds from hatcheries that participate in USDA's National Poultry Improvement Plan voluntary *Salmonella* monitored program pdf icon[PDF – 279 KB]external icon.**
    - Stores should source birds from hatcheries that participate in these *Salmonella* prevention measures.
- **Provide information on *Salmonella* to store employees and customers.**
    - Place information in clear view where poultry are displayed.
    - This sample flyer pdf icon[PDF – 631 KB] describes *Salmonella* and includes steps to prevent illness.
- **Display birds safely in stores.**
    - Display poultry out of reach of customers, especially children, to prevent touching.
    - Provide handwashing stations or alcohol-based hand sanitizer with at least 60% alcohol next to poultry display areas. Tell customers to wash hands right after leaving these areas.
    - Clean and sanitize the areas where poultry are displayed between shipments of new poultry. Be sure to remove debris first so that the disinfectant is applied to a surface that is generally clean. Apply the disinfectant on the surface for the proper contact time listed on the disinfectant label.

Symptoms of *Salmonella* Infection

- Most people infected with *Salmonella* develop diarrhea, fever, and stomach cramps 12 to 72 hours 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 years, adults 65 years and older, and people with weakened immune systems are more likely to have a severe illness.
- For more information, see the CDC *Salmonella* website.

Investigation Details

October 22, 2019

CDC and public health officials in several states investigated 13 multistate outbreaks of *Salmonella* infections with serotypes Agona, Alachua, Altona, Anatum, Braenderup, Enteritidis, Infantis, Manhattan, Montevideo, Muenchen, Newport, and Oranienburg. Epidemiologic, laboratory, and traceback evidence indicated that contact with backyard poultry, such as chicks and ducklings, from multiple hatcheries was the likely source of these outbreaks.

Public health investigators used the PulseNet system to identify illnesses that were part of these outbreaks. 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 these outbreaks, WGS showed that bacteria isolated from ill people were closely related genetically. This means that people in these outbreaks were more likely to share a common source of infection.

A total of 1,134 people infected with the outbreak strains of *Salmonella* were reported from 49 states and the District of Columbia. A list of the states and the number of cases in each is on the map of reported cases page.

Illnesses started on dates from January 1, 2019, to October 9, 2019. Ill people ranged in age from less than 1 year to 99 years, with a median age of 34. Of 988 ill people with age information available, 212 (21%) were children younger than 5. Fifty-six percent were female. Of 740 people with information available, 219 (30%) were hospitalized. Two deaths were reported from Ohio and Texas.

Whole genome sequencing (WGS) was conducted to identify any predicted antibiotic resistance in 814 isolates from ill people and 38 isolates from food, animals, or the environment. A total of 187 isolates had predicted antibiotic resistance or decreased susceptibility to one or more of the following antibiotics: amoxicillin-clavulanic acid (5% of 187 isolates), ampicillin (6%), cefoxitin (5%), ceftriaxone (5%), chloramphenicol (4%), ciprofloxacin (<1%), fosfomycin (7%), gentamicin (2%), kanamycin (1%), nalidixic acid (<1%), streptomycin (6%),

sulfamethoxazole (6%), tetracycline (4%), and trimethoprim-sulfamethoxazole (<1%). There was no antibiotic resistance predicted for 665 (78%) isolates. Testing of 52 clinical isolates using standard antibiotic susceptibility testing methods by CDC's National Antimicrobial Resistance Monitoring System (NARMS) laboratory provided comparable results (fosfomycin and kanamycin were not tested by this method). If antibiotics are needed, some infections related to these outbreaks may be difficult to treat with some commonly recommended antibiotics and may require a different antibiotic choice.

In interviews, ill people answered questions about animal contact in the week before they became ill. Of 619 people interviewed, 392 (63%) reported contact with backyard poultry before becoming ill. Ill people reported buying poultry from various sources, including agricultural stores, websites, and hatcheries. Six of the outbreak strains that made people sick were identified in samples collected from poultry.

As of October 22, 2019, these outbreak investigations are over.

SOURCE: Outbreaks of Salmonella Infections Linked to Backyard Poultry | Outbreak of Salmonella Infections Linked to Backyard Poultry | May 2019 | Salmonella | CDC