



CHILDREN “LOVE” CHICKENS...



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EVERYONE SHOULD HAVE ONE!!!



Salmonella Infection

[MENU](#) [About](#)[Symptoms](#)[Outbreaks](#)[How It Spreads](#)[Prevention](#)[Treatment](#)[VIEW ALL](#)

Salmonella Outbreak Linked to Backyard Poultry –May 2024

INVESTIGATION NOTICE

Investigation start date: April 16, 2024

Investigation status: Closed

Recall issued: No

These outbreak investigations are over. Any backyard poultry can carry *Salmonella* germs that can make you sick. Always take steps to stay healthy around your flock.

FAST FACTS

- **Cases:** 470
- **Hospitalizations:** 125
- **Deaths:** 1
- **States:** 48



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CENTERS FOR DISEASE
CONTROL AND PREVENTION

November 10, 2022

CDC and public health officials in many states investigated 13 multistate outbreaks of *Salmonella* infections with seven serotypes: Enteritidis, Hadar, I 4,[5],12:i:-, Indiana, Infantis, Typhimurium, and Mbandaka.

Epidemiologic, laboratory, and traceback data showed that contact with backyard poultry made people sick.

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As of November 10, this outbreak investigation is over.

Epidemiologic Data

A total of 1,230 people infected with one of the outbreak strains were reported from 49 states, the District of Columbia, and Puerto Rico (see [map](#)). Illnesses started on dates ranging from February 12, 2022, to October 18, 2022 (see [timeline](#)).

Sick people ranged in age from less than 1 to 102 years, with a median age of 36 years, and 253 (21%) were children under 5 years. Of the 1,202 people with sex information available, 661 (55%) were female. Of the 726 people with health outcome information available, 230 (32%) were hospitalized. Two deaths were reported, one from Tennessee and one from Wyoming.

The true number of sick people in these outbreaks was likely much higher than the number reported, and the outbreaks 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*.



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Backyard poultry and *Salmonella*

Backyard poultry, such as chickens and ducks, can carry *Salmonella* germs even if they look healthy and clean. These germs can easily spread to anything in the areas where the poultry live and roam.

You can get sick from touching your backyard poultry or anything in their environment and then touching your mouth or food and swallowing *Salmonella* germs.

What you should do

- **Wash your hands**
 - Always wash your hands with soap and water immediately after touching backyard poultry, their eggs, or anything in the area where they live and roam.
 - Use hand sanitizer if soap and water are not readily available. Consider keeping hand sanitizer at your coop.
- **Be safe around backyard flocks**
 - Don't kiss or snuggle backyard poultry, and don't eat or drink around them. This can spread *Salmonella* germs to your mouth and make you sick.
 - Keep your backyard poultry and the supplies you use to care for them (like feed containers and shoes you wear in the coop) outside of the house. You should also clean the supplies outside the house.
- **Supervise kids around flocks**
 - Always supervise children around backyard poultry and make sure they [wash their hands properly](#) afterward.
 - Don't let children younger than 5 years touch chicks, ducklings, or other backyard poultry. Young children are more likely to get sick from germs like *Salmonella*.



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Do Backyard Chickens Pose Any Health Risks to Humans?

Casey Barton Behravesh, MS, DVM, DrPH, DACVPM
Centers for Disease Control and Prevention
Atlanta, Georgia

Owners of backyard chickens and other poultry (eg, ducks, geese, turkeys) should be made aware of the risks these pets pose to humans and take basic biosecurity steps to protect against zoonotic disease transmission. Backyard poultry can appear healthy and clean but can carry *Salmonella* spp or *Campylobacter* spp.¹⁻³ Eggs and habitats can also become contaminated.¹⁻³

Prevention

Veterinarians should advise owners of backyard chickens and/or other poultry about zoonotic risks and how to reduce the risk for disease transmission:

- ▶ Hands should always be washed thoroughly with soap immediately after touching poultry or anything in their habitat.
 - Adults should supervise handwashing by young children.
 - Hand sanitizer should be used if soap and/or water are unavailable.
- ▶ Poultry should not be allowed to enter homes, especially areas where food or drinks are prepared, served, or stored.
- ▶ Children younger than 5 years, those with weakened immune systems, pregnant women, and adults 65 years or older should not handle or touch chicks, ducklings, or other live poultry.

- ▶ Food or drink should not be consumed in areas where poultry live or roam.
- ▶ Birds and other poultry should never be kissed or snuggled, and touching of the face or mouth after handling birds should be avoided until hands can be washed.
- ▶ Equipment or materials used to raise or care for live poultry (eg, cages, feed or water containers) should be cleaned outside the home. ■



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I am looking for...

Keeping Backyard Poultry

An increasing number of people around the country are choosing to keep poultry, such as chickens or ducks, as part of a greener, healthier lifestyle. While you enjoy the benefits of backyard chickens and other poultry, it is important to consider the risk of illnesses, especially in children, that can result from handling live poultry or anything in the area where they are kept. It is common for chickens, ducks, and other poultry to carry [Salmonella](#) and [Campylobacter](#). These are bacteria that can live naturally in the intestines of poultry and many other animals and can be passed in their droppings or feces. Even organically fed poultry can become infected with *Salmonella* and *Campylobacter*. While these organisms rarely make the birds sick, they can cause serious illness when passed to people.

How do people get sick from live poultry?

Live poultry may have *Salmonella* or *Campylobacter* germs in their droppings and on their bodies (feathers, feet, and beaks) even when they appear healthy and clean. The germs can spread to cages, coops, bedding, plants, and soil in the area where the birds live, and to the hands, shoes, and clothing of those who care for them. People become infected with *Salmonella* or *Campylobacter* when they put their hands or other things that have been in contact with the birds or their environment in or around their mouth. Young children are especially at risk for illness because they are more likely than others to put their fingers or other items into their mouths and because their immune systems are still developing. It is important to wash your hands immediately after touching poultry or anything in the area where they live, as the germs on your hands can easily spread to other people or things.

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What are some ways to reduce the risk of illness from live poultry?

- Wash your hands thoroughly with soap and water immediately after touching poultry or anything in the area where they are kept. Avoid touching your mouth before washing your hands. Use hand sanitizer if soap and water are not readily available, but still wash your hands with soap and water at the earliest available opportunity.
 - Adults should supervise hand washing for young children.
 - Wash hands again after removing soiled clothes and shoes.
- Do not let children younger than 5 years of age handle or touch chicks, ducklings, or other poultry.
- Do not eat or drink in the area where the birds live.
- Thoroughly cook eggs, as bacteria can pass from healthy looking hens into the interior of normal looking eggs.
- Do not let your live birds inside the house, especially into areas where food or drink is prepared, served, stored, or where young children have access.



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EVIDENCE BRIEF

Reducing Health Risks
Associated with
Backyard Chickens

Main Findings

Owners Have Limited Awareness of the Human Risk of Infectious
Disease Transmission from Backyard Chickens

In general, studies have found limited awareness of the association between infectious disease risk and live poultry contact, as well as a lack of biosecurity measures among flock owners.⁸⁻¹⁴ New backyard chicken owners in Ontario may not be aware of these risks as information on enteric illnesses are not typically provided at point of selling in Ontario.⁶ This search identified a number of US and international based studies; the following highlights provide details:

- US based studies have found:
 - Inconsistent or minimal biosecurity practices. For example, a cross-sectional study of Colorado backyard chicken owners (n=317) found minimal biosecurity measures and high human contact with flocks. About 79% of individuals surveyed did not change into separate clothes before contact with chickens and about 95% did not report disinfecting or scrubbing their flock shoes before and/or after contact.¹ Another survey of 41 backyard flock owners in Maryland concluded that biosecurity practices were highly variable among flock owners.⁷
 - Variable awareness of the connection between salmonellosis and poultry,^{9,13,15} with one study finding that those who completed the survey in English (versus Spanish), sold or gave away eggs, and/or kept chickens for educational purposes for their children were more aware of the association between salmonellosis and poultry.⁹
 - One study showed a discordance between biosecurity measures stated to be used by backyard chicken owners versus what they actually practiced.¹³

Table 1. Outbreaks of Salmonellosis Associated with Backyard Chickens, 1990 – 2023*

Location	Year	Outbreaks (n)	Cases (n)	Details	Reference
US	1996 – 2012	45	>1581	Resulted in 221 hospitalizations, and five deaths.	Behravesh et al., 2014 ¹⁶
US	1990 – 2014	45	2057	Literature review of publicly available data sources for human infectious disease outbreaks associated with backyard chicken exposure. Authors recommended manure management, proper slaughter and disposal, veterinary care, permitting and consumer education to reduce the infectious disease risk associated with backyard poultry ownership.	Tobin et al., 2015 ¹⁸
US	1990 – 2014	53	2630	Surveillance in the US, the Centers for Disease Control and Prevention's (CDC) National Outbreak Reporting System. Keeping poultry inside households and kissing birds were some high risk practices reported.	Basler et al., 2016 ⁸
US	2017	10	1120	In 2017, there were 10 separate multistate outbreaks. These outbreaks included cases from 28 states and the District of Columbia. They resulted in 249 hospitalizations and one death.	US, CDC ¹⁹
US	2022	13	1230	In 2022, there were 13 separate multistate outbreaks. These outbreaks reported cases from 49 states, the District of Columbia, and Puerto Rico. Of 737 people interviewed, 59% had contact with backyard poultry prior to illness. Of 726 people with health outcome data available, there were 230 hospitalizations. Two deaths were	US, CDC ²⁰

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Clinical Infectious Diseases

JOURNAL ARTICLE

Backyard Poultry Flocks and Salmonellosis: A Recurring, Yet Preventable Public Health Challenge

Casey Barton Behravesh, Denise Brinson, Brett A. Hopkins, Thomas M. Gomez

Clinical Infectious Diseases, Volume 58, Issue 10, 15 May 2014, Pages 1432–1438, <https://doi.org/10.1093/cid/ciu067>

Published: 05 February 2014 **Article history** ▼

Nontyphoidal *Salmonella* bacteria cause an estimated 1.2 million illnesses, 19 000 hospitalizations, and 370 deaths in the United States annually [1]. Although the majority of infections are foodborne, zoonotic *Salmonella* infections are an important public health problem. *Salmonella* is found in the intestinal tract of many animals including reptiles, amphibians, and live poultry (eg, chicks, chickens, ducklings, ducks, geese, turkeys) [2–14]. An estimated 11% of *Salmonella* infections are attributed to animal exposure annually, making it important for healthcare providers to be aware of this zoonosis [15].

Both direct and indirect contact with infected animals can lead to human salmonellosis [4, 6, 7, 16]. Indirect transmission can occur through contact with anything in areas where animals live and roam or consumption of food/drink prepared in contaminated environments [4, 7, 9, 17]. Live poultry infected with *Salmonella* typically appear healthy, but can intermittently shed bacteria.

Clinical Infectious Diseases

THE MAIL-ORDER HATCHERY INDUSTRY IN THE UNITED STATES

Approximately 20 mail-order hatcheries provide the majority of live poultry sold to the public in the United States—an estimated 50 million live poultry are sold annually, generating \$50–\$70 million in sales [5]. These 20 core hatcheries that produce hatchlings may supply birds to many other “hatcheries” that are resellers but do not actually hatch poultry. Hatchlings are distributed nationally to agricultural feed stores and other retail outlets or directly to homes, and are typically purchased for <\$5.00.

Previously, the sale of live poultry to agricultural feed stores or directly to consumers via mail order has been largely seasonal, with a peak occurring during the Easter holiday. In the past few years, purchases of live poultry for backyard flocks raised for eggs or meat have resulted in increased adult cases and a lessened seasonal sales trend, and have contributed to record sales by mail-order hatcheries. Within 24 hours after hatching, baby poultry are shipped across the country in cardboard boxes containing up to 100 birds through the US Postal Service, which ships day-old poultry if it can be delivered to the addressee within 72 hours of hatching [31]. National distribution of birds through the mail-order system is possible, offering potential for widespread dispersal of *Salmonella* contamination from a single hatchery to travel across state boundaries, to be distributed through other mail-order hatcheries, or to be spread through poultry sold in feed stores.

AGRICULTURAL FEED STORES

In recent outbreaks, birds are often purchased from agricultural feed stores, also known as farm stores; thus, it is critical for these venues to play a key role in prevention and control of salmonellosis. Many mail-order hatcheries have requirements to order a minimum number of hatchlings, often 25–35 birds per shipment. This makes it harder for customers to purchase birds directly from these hatcheries, as backyard flocks typically have fewer birds. Some feed stores offer “chick days” and sell chicks, ducklings, and other baby poultry to customers at select times (eg, spring, fall) based on their geographic location.

Feed store surveys were conducted in New Mexico and Pennsylvania to determine whether staff were aware that contact with poultry can cause human *Salmonella* infections and whether these stores provided information to customers about *Salmonella* prevention when selling poultry [5, 8]. Surprisingly, although a relatively high percentage of staff reported knowledge of risks, few provided customer education (Table 1).

Table 1. Summary of 2 Surveys of Agricultural Feed Store Staff on Knowledge of Zoonotic Salmonellosis Transmitted by Live Poultry [Open in new tab](#)

Knowledge Assessed	New Mexico (2006) ^a	Pennsylvania (2009) ^b
Awareness that poultry can cause <i>Salmonella</i> infection in people	85% (46/54)	76% (38/50)
Warn customers that poultry can cause <i>Salmonella</i> in people	56% (26/54)	28% (14/50)

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(a) No person shall harbor, keep or maintain an animal in such a manner as to be injurious to the health, comfort or property of individuals or the public.



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Sec. 618.22. – Backyard Chickens and Rabbits

SHELTER

(a) Structure

(1) All chickens and rabbits shall be kept in a sheltering structure or fenced outdoor area at all times. They shall not be allowed to roam “at large” in the city.

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Overview:

Back yard chickens have been identified as a risk to the general health of those raising them, but that is a decision citizens should be able to make for themselves. The bigger issue of concern for Council is the health threat this potentially poses to the neighboring citizens as well.



In my opinion, the City of Bellbrook should not take on the responsibility of putting the general public at risk for the health and safety concerns to accommodate a small portion of the population.

Recommendations:

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