

Science AMA Series: I'm Dr. Megin Nichols, a veterinary epidemiologist with the CDC's Outbreak Response and Prevention Branch. Today I'm here to talk with you about Salmonella and backyard flocks. AMA!

Megin<sub>Nichols</sub><sup>1</sup>and r/ScienceAMAs<sup>1</sup>

<sup>1</sup>Affiliation not available

April 17, 2023

### Abstract

Hello Reddit! I am excited to talk with you today. I'm Dr. Megin Nichols and I'm a veterinary epidemiologist at CDC. I work on multistate outbreaks of Salmonella and E. coli infections that come from exposure to animals or animal products. I've worked on outbreaks of illnesses linked to backyard flocks, petting zoos, small turtles, livestock, and even puppies! In 2017, we saw the largest number of Salmonella infections from contact with chickens and ducks in backyard flocks. There were over 1,000 illnesses, and those are just the ones reported to us. For every one person with Salmonella infection we identify as part of these outbreaks, we estimate another 30 people are sick too. This means in the US last year alone there might have been as many as 30,000 illnesses as a result of contact with live poultry! The good news is there are simple prevention steps you can take to stay healthy and enjoy your backyard flock. Ask me anything! I'll be back at 1:00 p.m. EDT and I'll do my best to answer as many of your questions as I can. Additional resources: · Visit CDC's webpage on keeping backyard flocks: <https://www.cdc.gov/features/salmonellapoultry/index.html> · Read up on last year's outbreaks: <https://www.cdc.gov/salmonella/live-poultry-06-17/index.html> · Find additional information on keeping chickens, ducks, and other animals: <https://www.cdc.gov/healthypets/pets/farm-animals/backyard-poultry.html>

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MEGIN\_NICHOLS [R/SCIENCE](#)

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Additional resources:

- Visit CDC's webpage on keeping backyard flocks: <https://www.cdc.gov/features/salmonellapoultry/index.html>
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A few years back, Many commercial chicken farms across the midwest had to cull significant numbers of birds due to an avian flu situation. Somehow backyard chickens seemed to not be effected by this. Could you shed a little light on why or maybe I'm totally mistaken?

[ShinraTM](#)

Backyard flocks have been impacted by some of the recent avian influenza outbreaks. The USDA Animal Plant Health Inspection Service has some great resources to protect your backyard flocks from avian influenza: <https://www.aphis.usda.gov/aphis/ourfocus/animalhealth/animal-disease-information/avian-influenza-disease>

Thanks for doing this AMA! Why do poultry have so much Salmonella? What other diseases should we worry about contracting from contact with our pets?

[p1percub](#)

Hello! Thanks for joining me today to learn more about *Salmonella* and poultry. *Salmonella* is normal

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gut flora in poultry. They can carry the bacteria without any signs of illness. There are other diseases that one can get from their pets if they don't wash hands and take proper precautions. See our CDC Healthy Pets Healthy People site for more: <https://www.cdc.gov/healthypets/index.html>

Many people who keep chickens also have vegetable gardens and let them roam through there to eat bugs and fertilize the soil, and because being free range is better for animal welfare.

If someone is growing herbs, lettuce, carrots and tomatoes, is it okay to let chickens walk through and poop in the garden as long as they wash the vegetables before eating them? Is it considered high risk or low risk?

[calloutfolly](#)

Personally, I wouldn't want to eat veggies with chicken poop on them, even if they had been washed.

Anywhere chickens live and roam can be contaminated with *Salmonella*. There are some great resources through agricultural extension that describe how to compost chicken manure for gardening purposes that reduces the risk of germs.

Hey Doc! With the food industry growing in the future, including the poultry industry, do you expect food borne illness outbreaks to increase as well? What is the CDC doing to prevent this (i'd like to hear your opinion on this considering the budget cuts that the CDC is facing as well)

Thank you for taking the time of answering all of these questions, and thank you for dedicating your time to keep our food (and us) safe!

[stallone\\_italiano93](#)

In recent years, there has been an increase in public interest in knowing how food is produced. Many people have taken up raising backyard chickens for eggs and meat. As this trend increases, we may see more illnesses and outbreaks unless we also increase the steps we take to prevent these infections. Handwashing with soap and water is one of the best ways to stay healthy. Also, backyard poultry are most comfortable in their own coop and not in your house. Having a dedicated pair of shoes to wear when in the coop and taking off those shoes before going inside can also help reduce illness.

My team continues to investigate *Salmonella* illnesses and outbreaks linked to backyard poultry to learn more about how to prevent people from becoming sick. This includes working with mail-order hatcheries, feed stores, and providing education to those who raise backyard poultry.

Hi, Dr. Nichols! I read on a website for a duck farm that they inoculate (?) their ducklings to protect against salmonella with some kind of additive to the water they drink. Now, having read your comment about salmonella being natural gut flora, I'm confused about why. Do you know what they must be trying to do? Is it something I can do with my own flock (because I try to keep clean, but frankly, every day I look at these messy little beasts trying to climb all over me and think, yep, you are definitely going to get salmonella, any day now, so gonna happen).

BTW, I think my little sister works with you sometimes (Christina B in PA)—she says hi! :)

[Echidne41](#)

Please say hello to Christina for me!

Some hatcheries use vaccines, probiotics or other products to help keep their poultry healthy and reduce the burden of *Salmonella* in their flocks. However, none of these methods prevent 100% of *Salmonella* in poultry which is why it is so important to keep the coops clean, and not let poultry in your home. Talk to your veterinarian before you use any new products on your ducks, or in their feed or water.

It's great that you get to enjoy your ducks and are aware of the ways to prevent *Salmonella*.

<https://www.cdc.gov/features/salmonellapoultry/index.html>

Thanks for doing this Dr. Nichols.

Given the unique perspective afforded to you in your position, what do you believe is something society currently is not concerned enough about?

[99blinesabus](#)

I've been in this position at CDC for three years and I think I have the best job because I get to help people and pets stay healthy. As backyard poultry ownership has increased, I have seen a dramatic increase in the number of *Salmonella* illnesses and outbreaks linked to contact with backyard chickens and ducks. It is so important for everyone to remember to take appropriate steps to keep their family and their flock healthy! <https://www.cdc.gov/healthypets/publications/healthy-families-flocks.html>

Hello Doctor, If we are pumping all our poultry with antibiotics, why do they still contain salmonella? Following the same train of thought, is the poultry industry especially sensitive to antibiotic resistance compared to the beef industry? Thank you!

[4hometnumberonefan](#)

Thank you for highlighting the importance of antibiotic stewardship in all animals. It is important to remember that some antibiotics are not approved for use in poultry. If we all work together to use antibiotics judiciously we can address this significant public health concern.

The American Veterinary Medical Association has some great resources on this topic:  
<https://atwork.avma.org/2017/03/27/need-to-treat-backyard-poultry-start-here/>