

IN THIS ISSUE: Multistate *Salmonella* Outbreak Associated with Small Turtles and Wild Songbirds

***Salmonella* Outbreak Associated with Small Turtles and Wild Songbirds**

Introduction

The Centers for Disease Control and Prevention (CDC) have announced two outbreaks of *Salmonella enterica* serovar Typhimurium (*S. enterica* ser. Typhimurium). On February 23, 2021, the CDC reported a multistate outbreak of *S. enterica* ser. Typhimurium linked to small turtles.¹ On April 1, 2021 CDC reported an increase in *S. enterica* ser. Typhimurium occurring across multiple states due to contact to wild songbirds and bird feeders.²

Although no incidences of *S. enterica* ser. Typhimurium linked to these outbreaks have been reported in Washoe County, other counties, and neighboring states including Oregon and California, have reported cases. Washoe County Health District (WCHD) wants community partners to be aware of these outbreaks.

***Salmonella* Background**

Salmonella enterica (*S. enterica*) are bacteria which cause the illness salmonellosis. There are 2,500 serotypes of *S. enterica*, but fewer than 100 types are known to cause illness in humans. The serotype *S. enterica* ser. Typhimurium can cause the gastrointestinal form of salmonellosis. The consumption of undercooked poultry, raw eggs, and cross contaminated foods are common exposures of *S. enterica* ser. Typhimurium; however, there are other ways individuals can be exposed to these bacteria. Birds, reptiles, amphibians, and mammals serve as natural reservoirs for *S. enterica* ser. Typhimurium.³ Any contact with these animals, their feces, or their environment can increase the risk of contracting salmonellosis.⁴ In 2020, *S. enterica* ser. Typhimurium outbreaks have been linked to contact with pet hedgehogs and pet reptiles.⁵ The current national outbreak of salmonellosis is associated with exposures to wild songbirds/bird feeders and turtles.^{4,6}

The CDC estimates 1.35 million infections, 26,500 hospitalizations, and 420 deaths occur each year in the United States due to *salmonella*.⁷

Salmonellosis

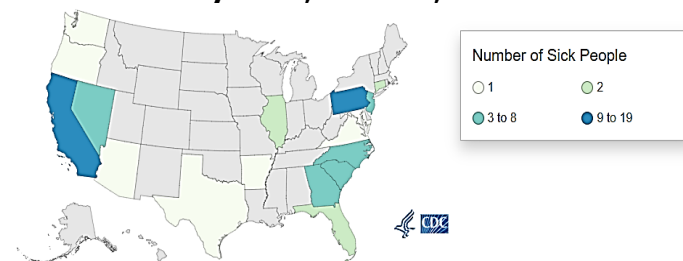
The symptoms experienced by individuals with salmonellosis include fever, diarrhea, stomach cramps, fever, vomiting.^{4,5}

These signs and symptoms can begin anywhere from 6 hours to 6 days after exposure and can last up to 4 to 7 days.^{4,5} Healthy individuals can contract *Salmonella* from another person, if exposed to the diarrhea or vomit of an infected person. Most symptoms resolve on their own without treatment, but antibiotics are recommended for those with severe illnesses or at high risk for complications (i.e. immunocompromised, infants, and seniors).⁴

A lab test is needed to diagnose an individual. Stool culture is the preferred diagnostic method for those with gastrointestinal symptoms.⁵ *Salmonella* can also be isolated from other clinical specimens, such as body fluids or tissue.^{4,5}

Epidemiology of Current Outbreaks

Figure 1: Number of *Salmonella* Cases Linked to Small Turtles by State, 2020-21, United States

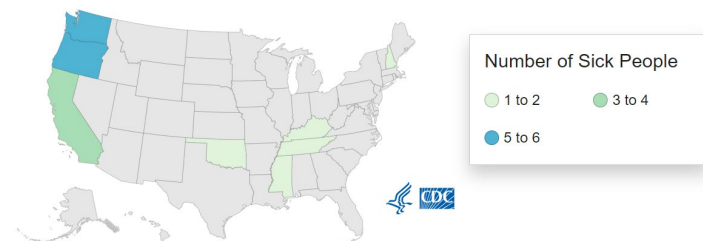


Source: <https://www.cdc.gov/salmonella/typhimurium-02-21/map.html>

As of June 17, 2021, a total 64 cases of salmonellosis associated with small turtles have been reported across 17 states and the District of Columbia. Of these cases, 42 are *S. enterica* ser. Typhimurium, the rest are found through a second separate outbreak of *Salmonella enterica* serovar Poona linked to the small turtles. Of the 53 cases with information available, 26 were hospitalized and one death was reported. The age of the cases ranged from 1 to 59 years, with 45% (n = 29) being under the age of 5, and 43% (n = 27) were female. Symptom onset dates ranged from August 27, 2020 to May 23, 2021.¹

Whole genome sequencing (WGS) performed on samples from cases showed the *Salmonella* bacteria to be genetically closely related, indicating a common source. WGS from samples taken from the habitats of the small turtles indicated that the bacteria was closely related to those of the sick cases. Of those with the information available, 15 reported contact with pet turtles.¹

Figure 2: Number of *Salmonella* Cases Linked to Wild Songbirds by State, 2020-21, United States



Source: <https://www.cdc.gov/salmonella/typhimurium-04-21/map.html>

The CDC closed the *Salmonella* outbreak associated with wild songbirds on May 28, 2021. In total, there were 29 cases of *S. enterica* ser. Typhimurium identified across 12 states associated with exposure to wild songbirds. Among the 27 cases with the information available, 14 were hospitalized. Age of the cases ranged from 21 days to 89 years and the majority of cases were female (63%). The dates of symptom onset range between December 26, 2020 and March 16, 2021.²

WGS of samples taken from cases and wild pine siskin birds in Oregon and Washington indicated the bacteria from the bird samples were genetically related to the bacteria of the sick individuals.

Interviews with 13 cases revealed 77% had contact or access to wild birds, 69% owned bird feeders, and 15% had been in contact with a sick or dead wild bird.²

Prevention

To reduce the risk of contracting *S. enterica* ser. Typhimurium from wild birds, reptiles, and amphibians, the following measures are recommended by the CDC:^{8,9}

- Don't kiss, snuggle, or let the pet reptiles and amphibians roam free
- Bird baths and feeders should be cleaned and disinfected weekly or when visibly dirty
- Clean bird feeders and habitats outside, in a laundry sink, or bathtub by:
 1. Washing feeder with warm water and soap.
 2. Rinse with clean water.
 3. Soak feeder for 10 min in a solution of 9 parts water and 1 parts bleach.

4. Rinse with clean water again.
 5. Dry before use.
- Keep children and high-risk individuals away from bird feeders, bird baths, and pet reptiles or amphibians
 - Dead birds should be disposed of safely using gloves and a plastic bag
 - Wash hands with soap and water for at least 20 seconds after touching bird feeder, bird bath, pet, and their environment

Submitting Birds for Testing

The Nevada Department of Wildlife (NDOW) may test sick and dead wild birds for *Salmonella* if needed. Note, testing will be at NDOW's discretion. Contact NDOW for additional information at:

http://www.ndow.org/Our_Agency/Contact_Us/.

CD Reporting

Salmonellosis is a reportable condition in Nevada.

Salmonella isolates must be submitted to the Nevada State Public Health Lab. Sample submission requirements for *Salmonella* serotyping can be found at <https://med.unr.edu/nsph/clinical-analysis/salmonella>. The full list of reportable communicable diseases and reporting forms can be found at <http://tinyurl.com/WashoeDiseaseReporting> or call 775-328-2447. To report a communicable disease, please fax your report to the WCHD at 775-328-3764.

References

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