

***Salmonella* Muenchen Infections Associated with Poultry Contact**

April

Mower County/Multiple states

On May 25, 2012, the Minnesota Department of Health (MDH) Public Health Laboratory (PHL) identified a *Salmonella* Muenchen case isolate that matched three Indiana case isolates. Shortly after, the CDC began a nationwide investigation that included 13 cases from eight states that had matching pulsed-field gel electrophoresis (PFGE) patterns (Minnesota subtype designation SMU46).

A case was defined as a Minnesota resident who had a culture-confirmed infection with *S. Muenchen* SMU46 with illness onset from March 1 through September 1, 2012. All *Salmonella* cases reported to MDH are interviewed about food consumption, animal contact, and other potential exposures as part of enteric disease surveillance in Minnesota. The case was also specifically asked about live young poultry (e.g., chicks and ducks) contact.

If the case reported live young poultry contact then a stool sample collection kit was sent to the case household to obtain samples from the chicks and their environment. Samples would be cultured for *Salmonella*, and isolates serotyped and subtyped by PFGE. An MDH epidemiologist would contact the feed store where the case reportedly purchased the chicks and would work with the Minnesota Board of Animal Health to identify source hatcheries.

The lone case identified in Minnesota was a 2.5-year-old male. His onset date was April 12. He reported diarrhea, bloody stool, and fever (maximum temperature 101.7 ° F). The case's illness had been ongoing for 15 days at the time of interview and he was not hospitalized.

The Minnesota case was interviewed on April 26 and reported contact with live young poultry and live adult poultry at his grandparents' house during the week before illness. The chicks and ducklings were purchased on April 4 from a feed store in Rochester, Minnesota. The source hatchery for this store was located in Zeeland, Michigan.

One chick fecal sample, one duck fecal sample, one duck and chick litter sample, and one fecal sample from adult poultry were collected from the grandparent's household. Both the duck and chicken fecal samples and the litter sample yielded *S. Muenchen* SMU46. The chick fecal sample yielded *S. Kentucky*.

The nationwide investigation found 21 *S. Muenchen* isolates of the outbreak PFGE subtype in eight other states. Onset dates ranged from March 29 through August 28. Fifty percent of cases were female, and ages ranged from <1 to 69 years (median age, 19.5 years). There was one reported hospitalization but no reported deaths. Four (33%) of 12 cases with available exposure information reported contact

with live poultry prior to illness onset. Source hatchery information was only available for the Minnesota case and one other case, which also traced back to the hatchery in Zeeland, Michigan.

This was an outbreak of *S. Muenchen* infections associated with live chicks and ducklings. Only two cases could be traced back to a source hatchery. Contact with poultry, particularly with young poultry, is a well-known risk factor for *Salmonella* infections in humans.

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***Salmonella* Infantis Infections Associated with Poultry Contact**

May

Multiple counties/Multiple states

On May 21, 2012, the Minnesota Department of Health (MDH) Public Health Laboratory (PHL) identified a *Salmonella* Infantis case isolate that matched a nationwide cluster consisting of four cases from four states. This case was interviewed on May 21 and reported contact with live chicks. On May 31, a second *S. Infantis* case in Minnesota was identified through routine surveillance and also reported contact with live chicks. Both cases' isolates had indistinguishable pulsed-field gel electrophoresis (PFGE) patterns (Minnesota subtype designation SIN93). The two cases lived in different counties. An investigation was initiated.

Cases were defined as Minnesota residents who had a culture-confirmed infection with *S. Infantis* SIN93 with illness onset from April 16 through September 16. (the time frame used for the national investigation). All *Salmonella* cases reported to MDH are interviewed about food consumption, animal contact, and other potential exposures as part of enteric disease surveillance in Minnesota. Cases were also asked questions regarding the source of their live chicks.

Stool sample collection kits were sent to both case households to obtain samples from the chicks and their environment. Samples were cultured for *Salmonella*, and isolates were serotyped and subtyped by PFGE. An MDH epidemiologist contacted the feed stores where cases reportedly purchased the chicks and worked with the Minnesota Board of Animal Health to identify source hatcheries.

The two cases reported onsets of May 6 and May 14. Both cases were female, and their ages were 53 years and 79 years. Both reported diarrhea, vomiting, and cramps. One case reported a fever. Illness durations were 7 days and 17 days. Neither case was hospitalized. One case isolate was from stool and one was from urine.

A secondary *S. Infantis* SIN93 case was identified through routine surveillance. This case was female, 63 years old, and reported diarrhea, vomiting, and cramps with an illness onset of June 7. Her illness lasted 11 days, and she was hospitalized for 4 days. This case denied any live poultry contact in the 7 days prior to her illness onset. However, she was an employee of the clinical laboratory where one of the original case's specimens was cultured. The case's specimen was collected at the clinical laboratory on May 15, and the *S. Infantis* isolate was received at the MDH PHL on June 5. The secondary case could have been exposed to *S. Infantis* during her incubation period through handling of that case's specimen or resulting isolate in the clinical laboratory.