

***Salmonella* Typhimurium Infections Associated with Cantaloupe**

July

Multiple states

On August 6, 2012, the Minnesota Department of Health (MDH) Public Health Laboratory (PHL) determined that three clinical *Salmonella* Typhimurium isolates submitted through routine surveillance had indistinguishable pulsed-field gel electrophoresis (PFGE) patterns (Centers for Disease Control and Prevention [CDC] Xbal designation JPXX01.0324; MDH designation TM76). The cases were both interviewed using a standard questionnaire. A review of the national PulseNet database revealed 116 additional *S. Typhimurium* isolates with the outbreak PFGE pattern in 25 states. A multi-state investigation was subsequently initiated. The MDH PHL received two additional *S. Typhimurium* isolates with the outbreak PFGE pattern. However, subsequent subtyping by multiple loci variable-number of tandem repeats analysis (MLVA) indicated that only two Minnesota cases met the national outbreak case definition.

During the environmental investigation at the implicated farm, *Salmonella* Newport PFGE pattern JJPX01.0807 was also isolated; this pattern matched 33 clinical isolates from 8 states (none in Minnesota).

A case was defined as a person from whom *S. Typhimurium* with the outbreak PFGE pattern (JPXX01.0324) and MLVA pattern (A1) was isolated, and who had illness onset from July 6 to October 1, 2012. Minnesota cases were interviewed with a broad-based exposure questionnaire.

Overall, 272 cases from 26 states were identified in this outbreak, including 33 *S. Newport* cases from 8 states and 239 *S. Typhimurium* cases from 25 states (Alabama 24, Arkansas 6, Delaware 1, Florida 1, Georgia 13, Iowa 9, Illinois 28, Indiana 20, Kentucky 65, Maryland 1, Michigan 7, Minnesota 2, Missouri 10, Mississippi 13, Montana 1, North Carolina 6, New Jersey 2, Ohio 2, Oklahoma 1, Pennsylvania 3, South Carolina 5, Tennessee 10, Texas 2, and Wisconsin 7). The two cases from Minnesota were a 75 year-old male and 76 year-old female with illness onsets of July 18 and 19, respectively. Both reported diarrhea, cramps, and fever, one reported bloody stools, and neither reported vomiting. Neither case was hospitalized.

Upon initial interviews, both Minnesota cases reported purchasing and consuming whole cantaloupe in the week prior to illness onset. The first case purchased a whole cantaloupe from a grocery store in Coon Rapids on July 13. The second case reported consuming cantaloupe at a restaurant in Fargo, North Dakota and purchased a whole cantaloupe from a grocery store in Fargo.

On August 17, several states (including Minnesota) and CDC issued press releases warning consumers not to eat cantaloupe from southwestern Indiana. Cases in Kentucky had reported cantaloupe consumption, and testing of cantaloupe from a store where two cases had purchased cantaloupe yielded the outbreak strain of *S. Typhimurium*. This cantaloupe traced back to a producer in Owensville, Indiana. On August 22, the producer announced a recall of cantaloupe produced on the farm. On August 16, the United States Food and Drug Administration conducted an environmental investigation at the farm. Numerous poor sanitary practices were documented including carpet and wood food contact surfaces throughout the production line, rust and corrosion on multiple pieces of equipment throughout the production line, accumulation of black, green, and brown buildup on conveyor rollers and belts,

and an accumulation of debris beneath the conveyor belt. Environmental swabs of the packing shed and cantaloupes tested positive for the outbreak strains of *S. Typhimurium* and *S. Newport*, as well as *S. Anatum*¹. Subsequently, watermelon produced on the farm also tested positive for a different PFGE pattern of *S. Newport* and was also recalled.

This was a multi-state outbreak of *S. Typhimurium* and *S. Newport* infections associated with consuming cantaloupe from a producer in Indiana. Two cases of *S. Typhimurium* related to this outbreak were identified in Minnesota. Multiple sanitation deficiencies were observed at the farm, and cantaloupe from the farm tested positive for the outbreak strain of *S. Typhimurium* as well as two other serotypes of *Salmonella*.

Reference

1. Multistate Outbreak of *Salmonella* Typhimurium and *Salmonella* Newport Infections Linked to Cantaloupe <http://www.cdc.gov/salmonella/typhimurium-cantaloupe-08-12/index.html>