

***Salmonella* Typhimurium Infections Associated with a Restaurant**

June-July

Winona County

On July 12, 2011, the Minnesota Department of Health (MDH) Public Health Laboratory (PHL) notified MDH epidemiology staff of four *Salmonella* Typhimurium isolates with indistinguishable pulsed-field gel electrophoresis (PFGE) patterns that were identified through routine surveillance; the subtype was designated TM185. All of the cases resided in Winona, Minnesota. Routine interviews of the cases revealed that three of them had eaten at a restaurant in Winona during the week before their illness

onset; the fourth case was a food worker at the restaurant. Sanitarians from Winona County Community Services (WCCS) were notified on July 13, and an investigation was initiated.

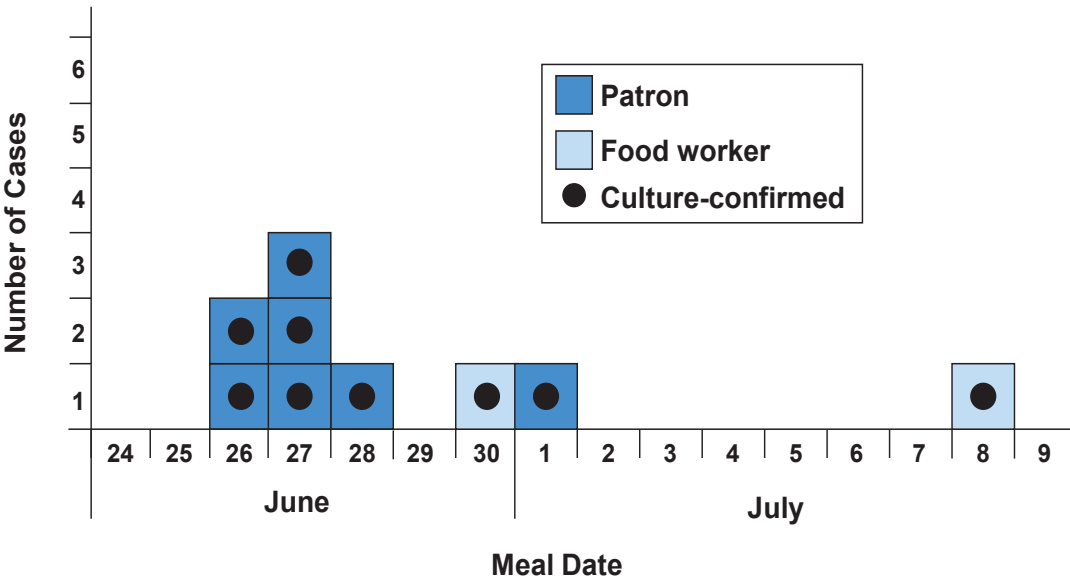
All *Salmonella* cases reported to MDH are interviewed about exposures and food consumption as part of foodborne disease surveillance in Minnesota. Epidemiologists reviewed the information gathered during the interviews of *S. Typhimurium* cases to identify other potential cases associated with eating at the restaurant.

A primary case was defined as a person who reported eating at the restaurant since June 15 and who subsequently had *S. Typhimurium* TM185 isolated from a clinical specimen. A secondary case was defined as an individual who had *S. Typhimurium* TM185 isolated from a clinical specimen after reported close contact with a primary case.

On July 13, WCCS sanitarians conducted an inspection of the restaurant and began interviewing employees. Stool samples were required from all food workers.

Eight primary cases were identified. Two secondary cases were also identified but were excluded from further analysis. All eight primary cases had diarrhea, seven (88%) had cramps, seven (88%) had fever, four (57%) of seven had blood in their stool, and two (25%) had vomiting. The median duration of illness was 9.5 days (range, 7 to 10 days) for the four cases who had recovered at the time of interview. Two cases required hospitalization for their illness, for a median of 4 days (range, 3 to 5 days). Meal dates ranged from June 26 to July 1 (see epidemic curve); the median incubation period was 6 days (range, 3 to 14 days).

Salmonella Typhimurium Cases Associated with a Mexican Restaurant by Meal Date*



* Note: Meal date unknown for one culture-confirmed patron

Cases reported eating a variety of food items. Due to the fact that the outbreak occurred during the State of Minnesota government shutdown, no additional case finding or ingredient-specific analyses were conducted.

The July 13 inspection of the restaurant by a WCCS sanitarian identified five critical and six non-critical violations. Violations identified included an observed lack of handwashing, bare-hand contact with ready-to-eat foods, potentially hazardous foods with no date markings, and raw animal foods stored with ready-to-eat foods. Management and employees were educated on proper handwashing, closely monitoring employee illness, proper cleaning and sanitizing of surfaces, storage of raw and ready-to-eat foods, and minimizing bare-hand contact with ready-to-eat foods.

All 24 food workers were interviewed about recent illness and job duties. Three food workers at the restaurant tested positive for *S. Typhimurium*. All of these food workers were excluded from work in food service until two consecutive stools collected at least 24 hours apart tested negative for *Salmonella*. Two of these food workers reported recent symptoms of gastrointestinal illness, with onset dates of June 30 and July 8 (see epidemic curve). One additional food worker reported being recently ill with gastrointestinal illness (unknown onset date), but tested negative for *Salmonella*. The other 19 food workers tested negative for *Salmonella* and reported no recent illness.

This was an outbreak of *Salmonella* Typhimurium infections associated with a restaurant. Due to the fact that the outbreak occurred during the State of Minnesota government shutdown, no additional case finding or ingredient-specific analyses were conducted. The ultimate source of the outbreak was not determined; however, plausible sources include undercooked foods of animal origin, cross-contamination from raw or undercooked foods of animal origin to ready-to-eat foods, or contamination of foods by an infected food worker. There was no evidence of ongoing transmission after ill employees were removed from working and environmental health interventions were put in place at the restaurant.