

***Salmonella* Chester Infections Associated with Chicken and Rice Frozen Entrées**

April-June

Multiple states

On May 24, 2010, the Minnesota Department of Health (MDH) Public Health Laboratory (PHL) determined that two clinical *Salmonella* Chester isolates submitted through routine surveillance had indistinguishable pulsed-field gel electrophoresis (PFGE) patterns (Centers for Disease Control and Prevention [CDC] Xbal designation JCPX01.0060). The cases were both interviewed using a standard questionnaire. A review of the national PulseNet database revealed 23 additional *S. Chester* isolates with the outbreak PFGE pattern in 13 states. A multi-state investigation was initiated. MDH PHL received a third matching *S. Chester* isolate on June 26 after the implicated product had been recalled.

A case was defined as a person who had a *S. Chester* isolate with the outbreak PFGE pattern (JCPX01.0060) and who had illness onset since April 11. Minnesota cases were interviewed with a broad-based exposure questionnaire and re-interviewed several times about consumption of various specific food items.

One case household was visited, and food samples were collected and tested by the Minnesota Department of Agriculture (MDA).

For cases from other states, hypothesis-generating questionnaires were administered by the CDC and other states from late May to mid June. On June 15, a multi-state case-control study, coordinated by CDC was initiated to evaluate food items commonly reported in the hypothesis-generating questionnaires. This study included the Minnesota cases. Two controls per case were enrolled through sequential-digit dialing anchored on the case-patient's telephone number. Controls were matched to

case-patients by age-group and were included only if they reported no diarrhea or vomiting during the 2 weeks preceding the case-patient's illness onset date.

Consumption information about the implicated food product was given to the United States Department of Agriculture Food Safety and Inspection Service (USDA-FSIS).

Forty-five cases from 18 states were identified in this outbreak (Georgia, 8; California, 5; Virginia, 4; Washington, 4; Minnesota, Texas, Utah, 3 each; Colorado, Massachusetts, Oregon, South Carolina, 2 each; and Alaska, Illinois, Kentucky, Missouri, North Carolina, Oklahoma, Tennessee, 1 each). The three cases from Minnesota were all female and had a median age of 44 years (range, 9 to 85 years). All three cases reported diarrhea, two (66%) reported fever, one (33%) reported cramps and bloody diarrhea, and none reported vomiting. One case was hospitalized for 3 days.

Upon initial interviews, the first Minnesota case reported consuming multiple frozen meals during the week prior to illness onset. The parent of the second Minnesota case reported no consumption of frozen meals by that case in the initial interview. After repeated re-interviews, that parent reported that the child had consumed a Brand X Chicken and Rice frozen entrée during the week prior to illness onset and that they still had an intact package of this product that was purchased at the same time as the package consumed prior to the case's illness onset.

The intact Brand X Chicken and Rice frozen entrée package was collected from the case patient's home on June 15 and tested positive for the outbreak PFGE subtype of *S. Chester* on June 18. An additional sample was collected from a case-patient's home in Tennessee and tested positive for the outbreak PFGE subtype of *S. Chester* by the Tennessee Department of Health on July 19.

A total of 19 cases and 22 controls were enrolled in the case-control study. On June 18, consuming a Brand X frozen meal was significantly associated with illness. There was insufficient data from this study to implicate a specific frozen meal type. However, many of the cases reported eating a Brand X Chicken and Rice frozen entrée in the week before becoming ill.

All three Minnesota cases reported consuming a Brand X Chicken and Rice frozen entrée in the week prior to illness onset. All three reported cooking the frozen entrée in a microwave and letting the product stand for the time recommended in the cooking instructions before consuming it.

On June 17, Company A voluntarily recalled Brand X Chicken and Rice frozen entrée. USDA-FSIS staff conducted a food safety assessment at the facility that manufactured the implicated product.

This was a multi-state outbreak of *S. Chester* infections associated with eating Brand X Chicken and Rice frozen entrées. At the time of this report, information regarding a mechanism for contamination with and survival of *Salmonella* in the implicated product had not been provided by USDA-FSIS.

Reference

1. Investigation Update: Multistate Outbreak of Human *Salmonella* Chester Infections <http://www.cdc.gov/salmonella/chester/>