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TENNESSEE DEPARTMENT OF HEALTH
COMMISSIONER JOHN J. DREYZEHNER, MD, MPH

Outbreak of *Salmonella* Heidelberg at a County Jail

On Friday, November 29, 2013, the TDH Southeast Regional Office (SERO) was notified by local jail administrators that three inmates had been transported to an emergency department with high fevers, diarrhea and vomiting. The administrators were concerned that the source of the illness may have been the Thanksgiving meal served to the inmates on November 28th. Then, during the weekend a hospital infection preventionist in the southeast region contacted the State Public Health Labora-

tory (SPHL) about a possible *Salmonella* outbreak.

After receiving these reports, SERO worked with the jail staff and the infection preventionist to conduct an outbreak investigation. The investigation was two-pronged, with an environmental health assessment of the jail kitchen and an epidemiologic investigation of the patients.

Environmental Health Specialists collected

food samples from the Thanksgiving meal and delivered them to the SPHL. The samples all tested negative for *Salmonella*, although the kitchen inspection identified the possibility of cross-contamination through improper hand washing, poor personal hygiene and inadequate sanitation of utensils.

Meanwhile, epidemiologists identified cases and solicited stool specimens for

laboratory testing. Twenty-nine cases were identified (23 inmates and six officers), five of whom were hospitalized. Nine of 13 stool specimens tested positive for *Salmonella* Heidelberg at the SPHL. To look for common exposures, the team conducted an analytical study by interviewing 20 cases and 20 healthy controls with a standardized questionnaire that focused on symptoms, activities and foods eaten during the previous week. No single food item or activity was found to be statistically associated with illness; however, the Thanksgiving meal could be ruled out as the source, as cases were significantly less likely than controls to have eaten any meal on November 28th.

Investigators then examined menus for meals served during several days prior to November 28th. They identified one product, mechanically separated chicken (MSC), that has been associated with outbreaks in the past and was served as part of two different meals on November 27th. That day MSC was used in chicken gravy for breakfast and in chicken spaghetti for lunch. SERO returned to the jail kitchen and, using a sterilized saw, collected samples from intact 10-pound chubs of frozen MSC, which were sent to the SPHL for testing.

The SPHL isolated the outbreak strain of *S. Heidelberg* from the MSC, as well as a second strain of *Salmonella*. TDH provided lot numbers to the USDA Food Safety Inspection Service and requested traceback assistance. By January 10th, the manufacturer had initiated a voluntary recall of 33,840 pounds of the product from the market; subsequently the company decided to cease production of MSC. — by L. Amanda Ingram, MPH ❖