

***Staphylococcus aureus*: The Uninvited Wedding Guest**

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Background: A Wise County emergency department reported several cases of gastrointestinal illness among attendees of a wedding reception held on March 19, 2016. The Lenowisco Health District (LHD) investigated to identify the cause and risk factors associated with illness and to prevent additional illness.

Methods: The LHD conducted a retrospective cohort study, performed environmental health inspections, and collected specimens for testing at the Division of Consolidated Laboratory Services (DCLS). A case was defined as acute gastrointestinal illness (nausea, vomiting abdominal cramps, or diarrhea ≥ 3 times) in someone who either attended the reception or consumed reception food. Relative risk ratios (RRs) and 95% confidence intervals (CIs) were calculated. DCLS compared patient and food isolates using pulsed-field gel electrophoresis (PFGE).

Results: Nineteen (66%) survey respondents reported becoming ill after the reception and 18 (95%) had onset within seven hours after consuming reception food. Eating barbeque pork (RR = 2.0, 95% CI = undefined) and wedding cake (RR = 2.4, 95% CI = 1.2-4.8), were most strongly associated with illness. *Staphylococcus aureus* isolated from leftover barbecue pork and six patient specimens were indistinguishable by PFGE; food purchased from the grocery store was not tested. The LHD identified several food safety issues with the smoker from a local grocery chain and the storage methods of an individual who prepared food for the reception.

Conclusions: Findings strongly suggested that this outbreak was caused by *S. aureus* toxin in barbeque pork. Contamination most likely occurred because of improper at-home food handling. The LHD made recommendations for food safety, including a review of guidelines for food handling and storage to the grocery store chain employees and the individual who prepared the final food product at home.