# Thanksgiving dinner outbreak response results in improvements to local meal delivery service's policy

CSTE Stories FROM THE Field

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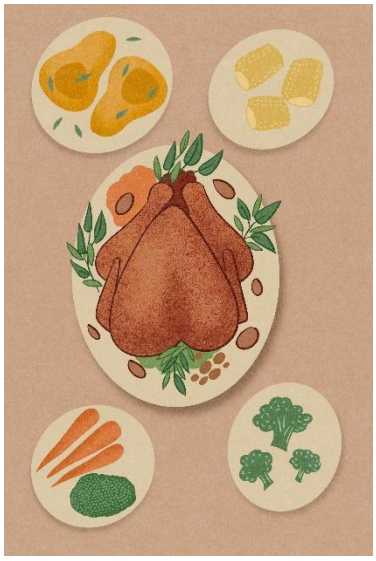
CATEGORY: **Epidemiology and Laboratory Capacity (ELC)**

The Pennsylvania Department of Health enteric disease team and partners investigated a foodborne outbreak related to a delivered holiday meal. The response highlighted strong partnerships, communication, and team flexibility leading to a company updating their policies to try to prevent future outbreaks.



## The "What"

In November 2022, the enteric disease team at the Pennsylvania Department of Health (PADOH) responded to reports of multiple cases of acute gastrointestinal illnesses among older adults who received a Thanksgiving dinner-style meal from a local meal delivery service. The initial notification was received from the Pennsylvania Department of Agriculture (PDA) and resulted in the activation of the Pennsylvania Rapid Response Team (PA RRT), a multiagency emergency response team who is equipped to respond quickly to foodborne outbreaks and other food-related emergencies in Pennsylvania. Initial information gathered by PDA suggested that approximately 200 meals were delivered to three apartment buildings in Monroe County, Pennsylvania.

The enteric disease team at PADOH, which receives funding through the Epidemiology and Laboratory Capacity for the Prevention and Control of Emerging Infectious Diseases (ELC) cooperative agreement consists of epidemiologists, student interns, and a Centers for Disease Control and Prevention Public Health Association Program fellow worked quickly to develop and administer outbreak questionnaires to those who received a meal. Despite the holiday, the enteric disease team was able to quickly complete interviews with 37 individuals who received a meal at three independent senior living apartment buildings. This included 15 individuals who became sick after eating the meal and 22 individuals who ate the meal but did not become sick.

Throughout the investigation, the enteric disease team consistently provided updates to PDA's laboratory and environmental staff on their findings. Initial epidemiologic data analyses found that all 15 cases who became sick had illness onsets between 1 and 12 hours after eating the meal. Additional analyses found that those who consumed turkey and sweet potatoes had higher odds of becoming ill than those who did not. These data were used by laboratory staff to focus testing leftover food samples for pathogens that result in toxin-mediated illnesses and led the environmental staff to focus their traceback report on the preparation of the turkey and sweet potatoes.

**The local branch of this food delivery service updated their policy to no longer work with unlicensed vendors when supplying meals, resulting in a permanent improvement to their company policy.**

Results of laboratory analyses found that several food items tested positive for *Staphylococcus aureus* (*S. aureus*) toxin with the highest concentration found in turkey. Similarly, environmental data found that the organization that prepared the meal was an unlicensed facility who prepared a large number of turkeys and used only a single small household refrigerator for cooling. This suggests that the turkey may have been improperly cooled after cooking, thus allowing for the proliferation of *S. aureus* toxin in the turkey.

## The "So What"

The alignment of epidemiologic, laboratory, and environmental data in this investigation led to the conclusion that these illnesses may have been prevented by proper refrigeration of the turkey after cooking. By quickly working with partners and gathering strong epidemiologic data, investigation activities were able to be targeted to focus on food items and pathogens that were most likely contributing to illness in these cases. As a result of this multiagency response, the local branch of this food delivery service updated their policy to no longer work with unlicensed vendors when supplying meals, resulting in a permanent improvement to their company policy.

## The "Now What"

This successful multiagency collaboration highlights the importance of strong partnerships. Consistent and detailed communication allowed the team to focus efforts and utilize appropriate resources efficiently, including laboratory and environmental resources. The enteric disease team continues to build these relationships with agencies that participate in the PA RRT and find new methods to improve communication with these external partners. Additionally, this response highlights the impact of student intern interviewers who assisted in the enteric disease team's ability to reach many residents quickly. By continuing to onboard and train student intern team, the PADOH enteric disease team hopes to maintain this capacity for future responses. Finally, these findings highlight the importance of seasonal education on proper food preparation practices during holiday meal preparation which often results in the preparation in large meals by inexperienced or unlicensed vendors.

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