



Understanding the Root Cause of an Outbreak

Campylobacter
Answer Key

Identifying contributing
factors and environmental antecedents



Integrated Food Safety
Centers of Excellence



Exercise 1: Answer Key

What practices would investigators want to observe?

- Preparation of chicken liver (measure cooking temperatures).
- Physical flow of raw chicken liver within kitchen (evaluate if there is evidence for cross-contamination).
- Other poor food safety practices.

What records would investigators want to review?

- Temperature logs
- Training materials
- Recipe cards

What might be some questions investigators would ask manager and/or food worker?

- Preparation process of liver to reconstruct food flow. Have food worker who prepared implicated food walk through process (show you and talk through it).
- Ask manager about oversight of food operations, verification of cooking temperatures, and other food safety practices.



Exercise 2A: Answer Key

Follow-up Questions:

-Why did the chicken liver make people sick?

A: It was undercooked (not cooked to 165°F).

-Why was the chicken liver not cooked to 165°F?

A: The chef did not want to overcook and dry out food.

-Why does the chef prioritize food quality over food safety?

A: There was a lack of food safety culture demonstrated through poor attitudes towards food safety. Manager prioritized chicken texture over ensuring chicken was fully cooked.

-Why isn't a metal stem thermometer available?

A: Employees did not know they needed to measure cooking temperatures and did not have the money for thermometer.

-Why does the chef not know about cooking temperatures?

A: Manager was not utilizing plan or process to fully cook chicken livers.



Exercise 2B: Answer Key

Contributing Factors:

C7: Food contaminated by animal or environmental source before arriving at point of final preparation (pre or post-harvest): The food was contaminated before arriving at the point of final preparation by animal or environmental sources, either pre-harvest (e.g., growing field, harvest area, irrigation water, etc.) or post-harvest (e.g., processing or distribution facility, in warehouse storage, during transit, etc.).

Note: Traceback may implicate the identification of where the food was contaminated (pre-harvest versus post-harvest).

Environmental Antecedents:

People: Lack of employee training on specific processes: Employees did not know the proper cooking temperature for chicken.

People: Lack of a food safety culture: Manager prioritized chicken texture over ensuring chicken was fully cooked

Economics: Lack of supplies needed for operating the restaurant: No metal thermometers available due to financial constraints.

Processes: Insufficient process to mitigate the hazard: Manager was not utilizing the plan or process to fully cook the chicken livers.



Exercise 3: Answer Key

Corrective Actions

Short-term:

- Purchase metal stem thermometers.
- Educate staff on the importance of cooking all chicken components to 165°F and use of a metal stem thermometer to measure internal temperatures.
- Validate chicken liver preparation plan to ensure the correct temperature (165°F) is achieved.

Long-term:

- Implement mandatory training on food safety to include hazard analysis (cooking temperatures to kill pathogens) and plan validation (how and why to use thermometer; actions to take if temperature not achieved).
- Instill a strong food safety culture. Management influences food safety attitudes, perceptions, and opinions. Ensure management provides oversight and reinforces food safety practices with training (focus on the public health reasoning) and reminders.



Contributing Factor Video



Environmental
Antecedent Resources