



**9. Etiology:** (Name the bacteria, virus, parasite, or toxin. If available, include the serotype and other characteristics such as phage type, virulence factors, and metabolic profile. Confirmation criteria available at [http://www.cdc.gov/foodborneoutbreaks/guide\\_fd.htm](http://www.cdc.gov/foodborneoutbreaks/guide_fd.htm) or MMWR2000/Vol. 49/SS-1/App. B)

Etiology	Serotype	Other Characteristics (e.g., phage type)	Detected In (See codes just below)
1)	<input type="checkbox"/> Confirmed		
2)	<input type="checkbox"/> Confirmed		
3)	<input type="checkbox"/> Confirmed		

Etiology undetermined

Detected In (List above all that apply)

- 1 - Patient Specimen(s)       3 - Environment specimen(s)  
 2 - Food Specimen(s)       4 - Food Worker specimen(s)

**10. Isolate Subtype**

State Lab ID	PFGE (PulseNet designation)	PFGE (PulseNet designation)
1)		
2)		
3)		

**11. Contributing Factors** (Check all that apply. See attached codes and explanations)

**Contributing factors unknown**

**Contamination Factor**

C1  C2  C3  C4  C5  C6  C7  C8  C9  C10  C11  C12  C13  C14  C15 (describe in Comments)  N/A

**Proliferation/Amplification Factor (bacterial outbreaks only)**

P1  P2  P3  P4  P5  P6  P7  P8  P9  P10  P11  P12 (describe in Comments)  N/A

**Survival Factor (microbial outbreaks only)**

S1  S2  S3  S4  S5 (describe in Comments)  N/A

**Was food-worker implicated as the source of contamination?**  Yes  No

If yes, please check **only one** of following

- laboratory *and* epidemiologic evidence
- epidemiologic evidence (w/o lab confirmation)
- lab evidence (w/o epidemiologic evidence)
- prior experience makes this the likely source (please explain in Comments)

## Part 2: Additional Information

12. Symptoms, Signs and Outcomes			13. Incubation Period (Circle appropriate units)	14. Duration of Illness (Among those who recovered) (Circle appropriate units)
Feature	Cases with outcome/ feature	Total cases for whom you have information available		
Healthcare provider visit			Shortest _____ (Hours, Days)	Shortest _____ (Hours, Days)
Hospitalization			Longest _____ (Hours, Days)	Longest _____ (Hours, Days)
Death			Median _____ (Hours, Days)	Median _____ (Hours, Days)
Vomiting			<input type="checkbox"/> Unknown	<input type="checkbox"/> Unknown
Diarrhea				
Bloody stools				
Fever				
Abdominal cramps				
HUS or TTP				
Asymptomatic				
*				
*				
*				

**\* Use the following terms, if appropriate, to describe other common characteristics of cases**

Anaphylaxis Arthralgia Bradycardia Bullous skin lesions Coma Cough Descending paralysis Diplopia Flushing	Headache Hypotension Itching Jaundice Lethargy Myalgia Paresthesia Septicemia Sore throat	Tachycardia Temperature reversal Thrombocytopenia Urticaria Wheezing
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### 15. If Cohort Investigation Conducted:

$$\text{Attack rate}^* = \frac{\text{Exposed and ill}}{\text{Total number exposed for whom you have illness information}} \times 100 = \text{_____}\%$$

\* The attack rate is applied to persons in a cohort who were exposed to the implicated vehicle. The numerator is the number of persons who were exposed and became ill; the denominator is the total number of persons exposed to the implicated vehicle. If the vehicle is unknown, then the attack rate should not be calculated.

16. Location Where Food Was Prepared (Check all that apply)	17. Location of Exposure or Where Food Was Eaten (Check all that apply)
<input type="checkbox"/> Restaurant or deli <input type="checkbox"/> Day care center <input type="checkbox"/> School <input type="checkbox"/> Office setting <input type="checkbox"/> Workplace cafeteria <input type="checkbox"/> Banquet Facility <input type="checkbox"/> Picnic <input type="checkbox"/> Caterer <input type="checkbox"/> Grocery Store <input type="checkbox"/> Fair, festival, other temporary/ mobile services <input type="checkbox"/> Commercial product, served without further preparation <input type="checkbox"/> Unknown or undetermined <input type="checkbox"/> Other (Describe) _____	<input type="checkbox"/> Restaurant or deli <input type="checkbox"/> Day care center <input type="checkbox"/> School <input type="checkbox"/> Office Setting <input type="checkbox"/> Workplace cafeteria <input type="checkbox"/> Banquet Facility <input type="checkbox"/> Picnic <input type="checkbox"/> Grocery Store <input type="checkbox"/> Fair, festival, temporary/ mobile service <input type="checkbox"/> Unknown or undetermined <input type="checkbox"/> Other (Describe) _____

### 18. Trace back

Please check if trace back conducted

Source to which trace back led:

Source (e.g., Chicken farm, Tomato processing plant)	Location of Source State	Country	Comments

<p><b>19. Recall</b></p> <p><input type="checkbox"/> Please check if any food product recalled</p> <p>Recall Comments _____</p> <p>_____</p> <p>_____</p> <p>_____</p>	<p><b>20. Available Reports</b> (Please attach)</p> <p><input type="checkbox"/> Unpublished agency report</p> <p><input type="checkbox"/> Epi-Aid report</p> <p><input type="checkbox"/> Publication (please reference if not attached)</p> <p>_____</p> <p>_____</p>
<p><b>21. Agency reporting this outbreak</b></p> <p>_____</p> <p><b>Contact person:</b></p> <p>Name _____</p> <p>Title _____</p> <p>Phone _____</p> <p>Fax _____</p> <p>E-mail _____</p>	<p><b>22. Remarks</b></p> <p>Briefly describe important aspects of the outbreak not covered above (e.g., restaurant closure, immunoglobulin administration, economic impact, etc)</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p>

<p><b>Part 3: School Questions</b></p>	
<p><b>1. Did the outbreak involve a single or multiple schools?</b></p> <p><input type="checkbox"/> Single</p> <p><input type="checkbox"/> Multiple (If yes, number of schools _____)</p>	
<p><b>2. School characteristics</b> (for all involved students in all involved schools)</p> <p>a. Total approximate enrollment _____ (number of students)</p> <p><input type="checkbox"/> Unknown or Undetermined</p> <p>b. Grade level(s) (Please check all grades affected)</p> <p><input type="checkbox"/> Preschool</p> <p><input type="checkbox"/> Grade School (grades K-12)</p> <p>    Please check all grades affected: <input type="checkbox"/>K <input type="checkbox"/>1st <input type="checkbox"/>2nd <input type="checkbox"/>3rd <input type="checkbox"/>4th <input type="checkbox"/>5th <input type="checkbox"/>6th <input type="checkbox"/>7th <input type="checkbox"/>8th <input type="checkbox"/>9th <input type="checkbox"/>10th <input type="checkbox"/>11th <input type="checkbox"/>12th</p> <p><input type="checkbox"/> College/University/Technical School</p> <p><input type="checkbox"/> Unknown or Undetermined</p> <p>c. Primary funding of involved school(s)</p> <p><input type="checkbox"/> Public <input type="checkbox"/> Private <input type="checkbox"/> Unknown or Undetermined</p>	
<p><b>3. Describe the preparation of the implicated item:</b></p> <p><input type="checkbox"/> Heat and serve (item mostly prepared or cooked off-site, reheated on-site)</p> <p><input type="checkbox"/> Served a-la-carte</p> <p><input type="checkbox"/> Serve only (preheated or served cold)</p> <p><input type="checkbox"/> Cooked on site using primary ingredients</p> <p><input type="checkbox"/> Provided by a food service management company</p> <p><input type="checkbox"/> Provided by a fast food vendor</p> <p><input type="checkbox"/> Provided by a pre-plate company</p> <p><input type="checkbox"/> Part of a club/ fundraising event</p> <p><input type="checkbox"/> Made in the classroom</p> <p><input type="checkbox"/> Brought by a student/teacher/parent</p> <p><input type="checkbox"/> Other _____</p> <p><input type="checkbox"/> Unknown or Undetermined</p>	<p><b>4. How many times has the state, county or local health department inspected this school cafeteria or kitchen in the 12 months before the outbreak?*</b></p> <p><input type="checkbox"/> Once</p> <p><input type="checkbox"/> Twice</p> <p><input type="checkbox"/> More than two times</p> <p><input type="checkbox"/> Not inspected</p> <p><input type="checkbox"/> Unknown or Undetermined</p> <p><b>5. Does the school have a HACCP plan in place for the school feeding program?*</b></p> <p><input type="checkbox"/> Yes</p> <p><input type="checkbox"/> No</p> <p><input type="checkbox"/> Unknown or Undetermined</p> <p><small>*If there are multiple schools involved, please answer according to the most affected school</small></p>

**6. Was implicated food item provided to the school through the National School Lunch/Breakfast Program?**

- Yes
- No
- Unknown or Undetermined

**If Yes, Was the implicated food item donated/purchased by :**

- USDA through the Commodity Distribution Program
- Purchased commercially by the state/school authority
- Other \_\_\_\_\_
- Unknown or Undetermined

**Part 4: Ground Beef**

1. What percentage of ill persons (for whom information is available) ate ground beef raw or undercooked? \_\_\_\_\_%
2. Was ground beef case ready? (Ground beef that comes from a manufacturer packaged for sale and not altered or repackaged by the retailer)
  - Yes
  - No
  - Unknown or Undetermined
3. Was the beef ground or reground by the retailer?
  - Yes
  - No
  - Unknown or Undetermined

If yes, was anything added to the beef during grinding (e.g., shop trim or any product to alter the fat content) \_\_\_\_\_

**Part 5: Mode of Transmission**

(Enterohemorrhagic *E. coli* or *Salmonella* Enteritidis only)

1. **Mode of Transmission** (for greater than 50% of cases)  
*Select one:*
  - Food
  - Person to person
  - Swimming or recreational water
  - Drinking water
  - Contact with animals or their environment
  - Unknown or Undetermined

**Part 6: Additional Egg Questions**

1. **Were Eggs:** (Check all that apply)
  - in-shell, un-pasteurized?
  - in-shell, pasteurized?
  - liquid or dry egg product?
  - stored with inadequate refrigeration during or after sale?
  - consumed raw?
  - consumed undercooked?
  - pooled?
2. **If eggs traced back to farm, was *Salmonella* Enteritidis found on the farm?**
  - Yes
  - No
  - Unknown or Undetermined

Comment: \_\_\_\_\_

### Contamination Factors:<sup>1</sup>

- C1 - Toxic substance part of tissue (e.g., ciguatera)
- C2 - Poisonous substance intentionally added (e.g., cyanide or phenolphthalein added to cause illness)
- C3 - Poisonous or physical substance accidentally/incidentally added (e.g., sanitizer or cleaning compound)
- C4 - Addition of excessive quantities of ingredients that are toxic under these situations (e.g., niacin poisoning in bread)
- C5 - Toxic container or pipelines (e.g., galvanized containers with acid food, copper pipe with carbonated beverages)
- C6 - Raw product/ingredient contaminated by pathogens from animal or environment (e.g., *Salmonella* Enteritidis in egg, Norwalk in shellfish, *E. coli* in sprouts)
- C7 - Ingestion of contaminated raw products (e.g., raw shellfish, produce, eggs)
- C8 - Obtaining foods from polluted sources (e.g., shellfish)
- C9 - Cross-contamination from raw ingredient of animal origin (e.g., raw poultry on the cutting board)
- C10 - Bare-handed contact by handler/worker/preparer (e.g., with ready-to-eat food)
- C11 - Glove-handed contact by handler/worker/preparer (e.g., with ready-to-eat food)
- C12 - Handling by an infected person or carrier of pathogen (e.g., *Staphylococcus*, *Salmonella*, Norwalk agent)
- C13 - Inadequate cleaning of processing/preparation equipment/utensils  $\Rightarrow$  leads to contamination of vehicle (e.g., cutting boards)
- C14 - Storage in contaminated environment  $\Rightarrow$  leads to contamination of vehicle (e.g., store room, refrigerator)
- C15 - Other source of contamination (*please describe in Comments*)

### Proliferation/Amplification Factors:<sup>1</sup>

- P1 - Allowing foods to remain at room or warm outdoor temperature for several hours (e.g., during preparation or holding for service)
- P2 - Slow cooling (e.g., deep containers or large roasts)
- P3 - Inadequate cold-holding temperatures (e.g., refrigerator inadequate/not working, iced holding inadequate)
- P4 - Preparing foods a half day or more before serving (e.g., banquet preparation a day in advance)
- P5 - Prolonged cold storage for several weeks (e.g., permits slow growth of psychrophilic pathogens)
- P6 - Insufficient time and/or temperature during hot holding (e.g., malfunctioning equipment, too large a mass of food)
- P7 - Insufficient acidification (e.g., home canned foods)
- P8 - Insufficiently low water activity (e.g., smoked/salted fish)
- P9 - Inadequate thawing of frozen products (e.g., room thawing)
- P10 - Anaerobic packaging/Modified atmosphere (e.g., vacuum packed fish, salad in gas flushed bag)
- P11 - Inadequate fermentation (e.g., processed meat, cheese)
- P12 - Other situations that promote or allow microbial growth or toxic production (*please describe in Comments*)

### Survival Factors:<sup>1</sup>

- S1 - Insufficient time and/or temperature during initial cooking/heat processing (e.g., roasted meats/poultry, canned foods, pasteurization)
- S2 - Insufficient time and/or temperature during reheating (e.g., sauces, roasts)
- S3 - Inadequate acidification (e.g., mayonnaise, tomatoes canned)
- S4 - Insufficient thawing, followed by insufficient cooking (e.g., frozen turkey)
- S5 - Other process failures that permit the agent to survive (*please describe in Comments*)

### Method of Preparation:<sup>2</sup>

- M1 - Foods eaten raw or lightly cooked (e.g., hard shell clams, sunny side up eggs)
- M2 - Solid masses of potentially hazardous foods (e.g., casseroles, lasagna, stuffing)
- M3 - Multiple foods (e.g., smorgasbord, buffet)
- M4 - Cook/serve foods (e.g., steak, fish fillet)
- M5 - Natural toxicant (e.g., poisonous mushrooms, paralytic shellfish poisoning)
- M6 - Roasted meat/poultry (e.g., roast beef, roast turkey)
- M7 - Salads prepared with one or more cooked ingredients (e.g., macaroni, potato, tuna)
- M8 - Liquid or semi-solid mixtures of potentially hazardous foods (e.g., gravy, chili, sauce)
- M9 - Chemical contamination (e.g., heavy metal, pesticide)
- M10 - Baked goods (e.g., pies, éclairs)
- M11 - Commercially processed foods (e.g., canned fruits and vegetables, ice cream)
- M12 - Sandwiches (e.g., hot dog, hamburger, Monte Cristo)
- M13 - Beverages (e.g., carbonated and non-carbonated, milk)
- M14 - Salads with raw ingredients (e.g., green salad, fruit salad)
- M15 - Other, does not fit into above categories (*please describe in Comments*)
- M16 - Unknown, vehicle was not identified

<sup>1</sup> Frank L. Bryan, John J. Guzewich, and Ewen C. D. Todd. Surveillance of Foodborne Disease III. Summary and Presentation of Data on Vehicles and Contributory Factors; Their Value and Limitations. *Journal of Food Protection*, 60; 6:701-714, 1997.

<sup>2</sup> Weingold, S. E., Guzewich JJ, and Fudala JK. Use of foodborne disease data for HACCP risk assessment. *Journal of Food Protection*, 57; 9:820-830, 1994.