Electronic
Foodborne
Outbreak
Reporting
System

Investigation of a Foodborne Outbreak

This form is used to report foodborne disease outbreak investigations to CDC. It is also used to report *Salmonella* Enteritidis and *E. coli* O157:H7 outbreak investigations involving any mode of transmission. A foodborne outbreak is defined as the occurrence of two or more cases of a similar illness resulting from the ingestion of a common food in the United States. This form has 6 parts. Part 1 asks for the minimum or basic information needed and must be completed for the investigation to be counted in the CDC annual summary. Part 2 asks for additional information for any foodborne outbreak, while Parts 3 – 6 ask for information concerning specific vehicles or etiologies. Please complete as much of all parts as possible.

CDC Use Only
___-_____

State Use Only
_____

Part 1: Basic Information

1. Report Type

A.
□ Please check if this a final report

B.
□ Please check if data does not support a FOODBORNE outbreak

2. Number of Cases

Lab-confirmed cases_____(A)
Including _____ secondary cases

Probable cases_____(B)
Including _____ secondary cases

Estimated total ill_____
(If greater than sum A + B)

3. Dates

Please enter as many dates as possible

Date first case became ill __ __/__ __/__ __ __ __
Month Day Year

Date last case became ill __ __/__ __/__ __ __ __
Month Day Year

Date first known exposure __ __/__ __/__ __ ____
Month Day Year

Date last known exposure __ __/__ __/__ __ __ __
Month Day Year

4. Location of Exposure

Reporting state _____

If multiple states involved:
□ Exposure occurred in multiple states
□ Exposure occurred in single state, but cases resided in multiple states
Other states: _____
_____
_____

Reporting county_____

If multiple counties involved:
□ Exposure occurred in multiple counties
□ Exposure occurreded in one county, but cases resided in multiple counties
Other counties: _____
_____
_____

5. Approximate Percentage of Cases in Each Age Group

<1 year _____% 20-49 yrs _____%
1-4 yrs _____% ≥50 yrs _____%
5-19 yrs ____% Unknown _____%

6. Sex

(Estimated percent of the total cases)

Male_____%

Female_____%

7. Investigation Methods (Check all that apply)

□ Interviews of only cases
□ Food preparation review
□ Investigation at factory or production plant
□ Investigation at original source (farm, marine estuary, etc.)
□ Food product traceback
□ Environment / food sample cultures
□ Case-control study
□ Cohort study

8. Implicated Food(s): (Please provide known information)

Name of Food	Main Ingredient(s)	Contaminated Ingredient(s)	Reason(s) Suspected (See codes just below)	Method of Preparation (See attached codes)
e.g., Lasagna	e.g., Pasta, sauce, eggs, beef	e.g., Eggs	e.g., 4	e.g., M1
1)				
2)				
3)				

□ Food vehicle undetermined

Reason Suspected (List above all that apply)
1 - Statistical evidence from epidemiological investigation
2 - Laboratory evidence (e.g., identification of agent in food)
3 - Compelling supportive information
4 - Other data (e.g., same phage type found on farm that supplied eggs)
5 - Specific evidence lacking but prior experience makes it likely source

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/ncidod/dbmd/outbreak/ or MMWR2000/Vol. 49/SS-1/App. B)

Etiology		Serotype	Other Characteristics (e.g., phage type)	Detected In (See codes just below)
1)	☐ Confirmed			
2)	☐ Confirmed			
3)	☐ 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

Feature	**Cases** with outcome/ feature	**Total cases** for whom you have information available
Healthcare provider visit		
Hospitalization		
Death		
Vomiting		
Diarrhea		
Bloody stools		
Fever		
Abdominal cramps		
HUS or TTP		
Asympomatic		
*		
*		
*		

13. Incubation Period

(Circle appropriate units)

Shortest_____(Hours, Days)
Longest_____(Hours, Days)
Median _____(Hours, Days)
□ Unknown

14. Duration of Illness

(Among those who recovered)
(Circle appropriate units)

Shortest_____(Hours, Days)
Longest_____(Hours, Days)
Median _____(Hours, Days)
□ Unknown

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

Anaphylaxis	**Headache**	**Tachycardia**
Arthralgia	**Hypotension**	**Temperature reversal**
Bradycardia	**Itching**	**Thromobocytopenia**
Bullous skin lesions	**Jaundice**	**Urticaria**
Coma	**Lethargy**	**Wheezing**
Cough	**Myalgia**	
Descending paralysis	**Paresthesia**	
Diplopia	**Septicemia**	
Flushing	**Sore throat**	

15. If Cohort Investigation Conducted:

Attack rate* = _____ / _____ x 100 = _____%
Exposed and ill — Total number exposed for whom you have illness information

* 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)

□Restaurant or deli
□ Day care center
□ School
□ Office setting
□ Workplace cafeteria
□ Banquet Facility
□ Picnic
□ Caterer
□ Grocery Store
□ Nursing home
□ Prison, jail
□ Private home
□ Workplace, not cafeteria
□ Wedding reception
□ Church, temple, etc
□ Camp
□ Contaminated food imported into U.S.
□ Hospital
□ Fair, festival, other temporary/ mobile services
□ Commercial product, served without further preparation
□ Unknown or undetermined
□ Other (Describe) _____

17. Location of Exposure or Where Food Was Eaten

(Check all that apply)

□ Restaurant or deli
□ Day care center
□ School
□ Office Setting
□ Workplace cafeteria
□ Banquet Facility
□ Picnic
□ Grocery Store
□ Nursing Home
□ Prison, jail
□ Private home
□ Workplace, not cafeteria
□ Wedding Reception
□ Church, temple, etc.
□ Camp
□ Hospital
□ Fair, festival, temporary/ mobile service
□ Unknown or undetermined
□ 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**

19. Recall

☐ Please check if any food product recalled

Recall Comments

_____
_____
_____
_____
_____

20. Available Reports (Pease attach)

☐ Unpublished agency report

☐ Epi-Aid report

☐ Publication (please reference if not attached)

_____
_____

21. Agency reporting this outbreak

_____

Contact person:

Name _____

Title _____

Phone _____

Fax _____

E-mail _____

22. Remarks

Briefly describe important aspects of the outbreak not covered above (e.g., restaurant closure, immunoglobin administration, economic impact, etc)

_____
_____
_____
_____
_____

Part 3: School Questions

1. Did the outbreak involve a single or multiple schools?

☐ Single

☐ Multiple (*If yes*, number of schools____)

2. School characteristics (for all involved students in all involved schools)

a. Total approximate enrollment

_____ (number of students)

☐ Unknown or Undetermined

b. Grade level(s) (Please check all grades affected)

☐ Preschool

☐ Grade School (grades K-12)

Please check all grades affected: ☐K ☐1st ☐2nd ☐3rd ☐4th ☐5th ☐6th ☐7th ☐8th ☐9th ☐10th ☐11th ☐12th

☐ College/University/Technical School

☐ Unknown or Undetermined

c. Primary funding of involved school(s)

☐ Public ☐ Private ☐ Unknown or Undetermined

3. Describe the preparation of the implicated item:

☐ Heat and serve (item mostly prepared or cooked off-site, reheated on-site)

☐ Served a-la-carte

☐ Serve only (preheated or served cold)

☐ Cooked on site using primary ingredients

☐ Provided by a food service management company

☐ Provided by a fast food vendor

☐ Provided by a pre-plate company

☐ Part of a club/ fundraising event

☐ Made in the classroom

☐ Brought by a student/teacher/parent

☐ Other _____

☐ Unknown or Undetermined

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?*

☐ Once

☐ Twice

☐ More than two times

☐ Not inspected

☐ Unknown or Undetermined

5. Does the school have a HACCP plan in place for the school feeding program?*

☐ Yes

☐ No

☐ Unknown or Undetermined

*If there are multiple schools involved, please answer according to the most affected school

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:[1]

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* enteriditis 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 B leads to contamination of vehicle (e.g., cutting boards)
C14 - Storage in contaminated environment B leads to contamination of vehicle (e.g., store room, refrigerator)
C15 - Other source of contamination (*please describe in Comments*)

Proliferation/Amplification Factors:[1]

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:[1]

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:[2]

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, eclairs)
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

[1] 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.
[2] 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.