

**Cook County Department of Public Health (CCDPH)
Communicable Disease Control Unit
Outbreak Investigation Summary IL2012-007**

I. Outbreak detection

On 1/10/2011, the Communicable Disease Control Unit of the Cook County Department of Public Health (CCDPH) received a phone call from the inspector for Wheeling, IL, reporting that she had received several complaints of gastrointestinal illness and suspected food poisoning from patrons who dined at the restaurant. CCDPH also received complaints of gastrointestinal illness after eating at Restaurant A from two unrelated households.

CCDPH initiated communication with households complaining of gastrointestinal illness after eating at Restaurant A. CCDPH also initiated an inspection of the facility and sent a team of epidemiologists to conduct food handler interviews.

II. Setting

Restaurant A is a large, 700-seat, seafood restaurant in Wheeling, IL that serves approximately 3,000 individuals per day and has 235 food handlers.

III. Epidemiologic investigation

On 1/10/2012, CCDPH Communicable Disease (CD) staff initiated a case control study and attempted to interview all individuals who called in to the health department and ate at Restaurant A. Individuals who complained of gastrointestinal illness and their well meal companions were interviewed.

The following case definition was used during the epidemiologic investigation:

Case (ills): Diarrhea (3 or more loose stools in a 24 hour period)
 OR
 Vomiting
 AND
 Exposure to food served at Restaurant A from 1/1/2011 – 1/9/2012.

Two hundred eighty-two individuals were interviewed; one hundred ninety-six ills and eighty-six wells. Of the 196 ill individuals, 182 reported diarrhea and 140 reported vomiting. The median incubation and duration of illness were 24 and 24 hours, respectively (Figure 1). Twenty ill individuals visited an emergency department, 16 ill individuals visited a physician's office, 4 ill individuals visited a different provider, 2 individuals were hospitalized, and 13 individuals received intravenous fluids.

Frequencies and relative risks were calculated for all food items available at the restaurant (Table 1). The results of the analysis showed a statistically significant association between eating multiple food items and illness. Coleslaw had the highest odds ratio (OR) of 10.99 (95% CI: 5.59 – 21.60, p value < 0.001). Garlic bread (OR = 1.97; 95% CI = 1.08-3.61; p value = 0.03), fish (OR = 2.17; 95% CI = 1.25-3.79; p value = 0.006), green beans (OR = 5.79; 95% CI = 1.33-25.08; p value = 0.007), and vegetables (OR = 2.08; 95% CI = 1.04-4.16; p value = 0.04) were also found to be significantly associated with GI illness.

Three parties contacted CCDPH on 1/18/2012, 1/23/2012, and 1/12/2012 and reported illness after eating at Bob Chinn's on 12/24/2011, 12/26/2011 and 12/29/2011, respectively. Since these dates are outside the range of exposure for this outbreak, they were not included in the analysis.

IV. Environmental investigation

On 1/10/2012 CCDPH Environmental Health (EH) staff inspected Restaurant A. Please refer to the EH report for further details.

V. Food specimen collection

Left-over food was collected from three different households that ate at Restaurant A for laboratory testing for fecal coliform bacteria. Food specimens submitted included coleslaw, fish, garlic rolls, steak, prawns, and cake (Table 2.)

VI. Food handlers and staff

A team of CCDPH CD staff visited Restaurant A on 1/10/2012 and 1/11/2012 to interview all food handlers. A standardized questionnaire was used to collect information on job duties, glove use, hand washing practices, amount and level of experience, and health-related questions specific to gastrointestinal illness. Food handlers unable to complete the questionnaire in person were provided questionnaires and envelopes to mail the completed questionnaire to the health department. Eleven food handlers reported gastrointestinal illness and were requested to provide a stool sample for testing. One food handler reported an onset of illness on 12/28/12, but was negative for norovirus. The remainder of food-handler onsets of illness were during the outbreak period. Nine food handlers submitted a stool specimen for testing. All 235 food handlers completed the questionnaire.

VII. Laboratory investigation

All food samples collected were tested at the IDPH laboratory in Springfield, IL. All food specimens submitted for testing were determined not to have any fecal coliform bacteria present (Table 2).

Thirteen stools (4 from ill restaurant patrons, and 9 ill food handlers) were tested for norovirus by reverse transcriptase-polymerase chain reaction (RT-PCR). Of those tested, seven were positive for norovirus (3 from ill restaurant patrons, and 4 ill food handlers). All positive stools were norovirus subtype G2.

VIII. Conclusion

This outbreak of gastrointestinal illness affecting individuals that ate at Restaurant A, was likely due to *norovirus*.

Figure 1. Epidemiologic curve of ill individuals that ate at Restaurant A by onset date.

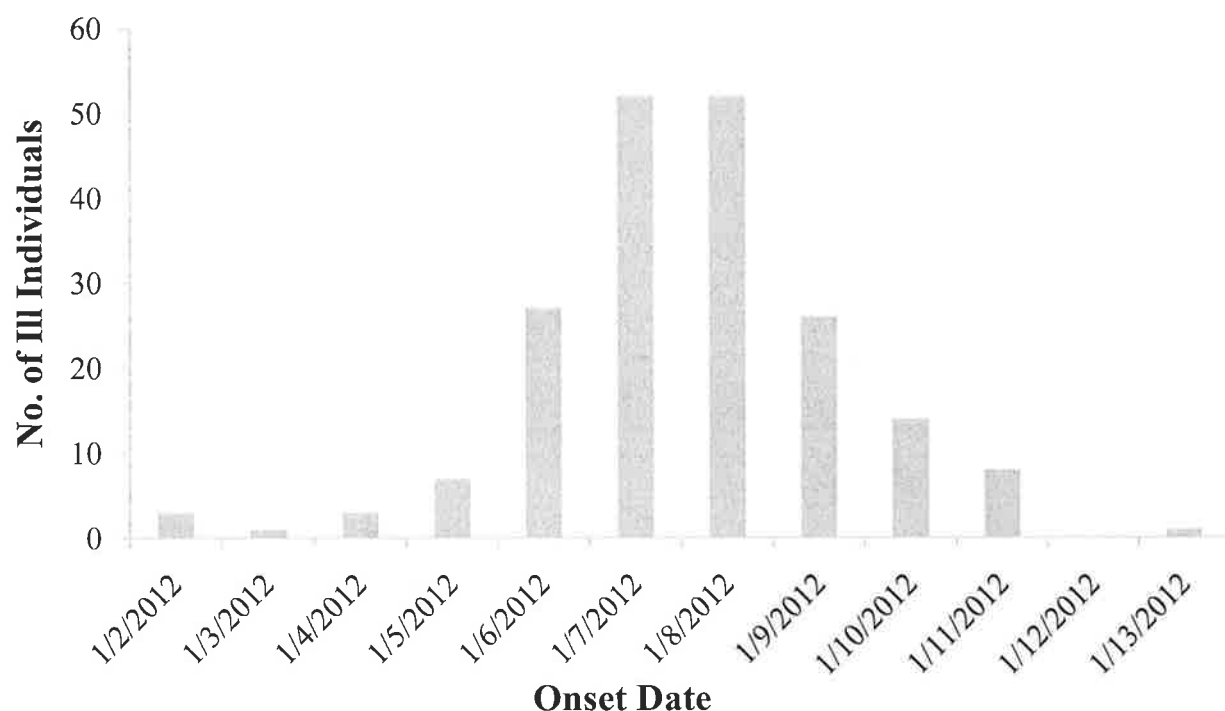


Table 1. Results from the epidemiologic analysis.

Food Item Consumed	Ate			Did Not Eat			Odds Ratio	95% CI	P Value
	Ill	Well	Total	Ill	Well	Total			
Coleslaw	181	45	226	15	41	56	10.99	5.59-21.60	<0.001
Garlic Bread	163	62	225	32	24	56	1.97	1.08-3.61	0.03
Plain Bread	31	17	48	162	68	230	0.77	0.40-1.47	0.42
Appetizers	82	33	115	113	51	164	1.12	0.67-1.89	0.66
Calamari	12	5	17	182	78	260	1.03	0.35-3.02	0.96
Crab	32	12	44	162	71	233	1.17	0.57-2.40	0.67
Crab Cakes	6	1	7	188	82	270	2.62	0.31-22.09	0.68
Crab Claws / Legs	12	7	19	182	76	258	0.72	0.27-1.89	0.50
Crab Popcorn	10	2	12	184	81	265	2.20	0.47-10.27	0.52
Oysters	15	6	21	179	77	256	1.08	0.40-2.88	0.89
Raw Oysters	12	5	17	182	78	260	1.03	0.35-3.02	0.96
Shrimp	24	5	29	170	78	248	2.20	0.81-5.99	0.11
Sushi Roll	12	5	17	182	78	260	1.03	0.35-3.02	0.96
Tuna	4	3	7	190	80	270	0.56	0.12-2.57	0.43
Entrées	189	85	274	6	0	6	Undef.	--	--
Beef	39	19	51	163	65	228	0.67	0.36-1.27	0.22
Steak	29	16	45	166	68	234	0.74	0.38-1.45	0.39
Chicken	3	3	6	192	81	273	0.42	0.08-2.13	0.37
Basa (fish)	12	2	14	183	82	265	2.68	0.58-12.29	0.24
Grouper	15	6	21	180	78	258	1.08	0.41-2.90	0.87
Mahi Mahi	7	1	8	188	83	271	3.09	0.37-25.52	0.44
Tuna	62	20	82	133	64	197	1.49	0.83-2.68	0.18
Fish	87	23	110	108	62	170	2.17	1.25-3.79	0.006
Shrimp	23	9	32	172	75	247	1.11	0.49-2.52	0.80
Scallops	7	4	11	188	80	268	0.74	0.21-2.62	0.74
Lobster	17	9	26	178	75	253	0.80	0.34-1.87	0.60
Crab	51	26	77	144	58	202	0.79	0.45-1.39	0.41

Crab Legs	21	13	34	174	71	245	0.66	0.31-1.39	0.27
Pasta	6	5	11	189	79	268	0.50	0.15-1.69	0.26
Sides	166	67	233	27	17	44	1.56	0.70-3.05	0.19
Asparagus	7	2	9	186	81	267	1.52	0.31-7.50	0.73
French Fries	29	19	48	165	65	230	0.60	0.32-1.15	0.12
Carrots	9	1	10	184	82	266	1.01	0.50-32.18	0.29
Fried Rice	24	12	36	169	71	240	0.84	0.40-1.77	0.65
Potatoes	23	15	38	170	68	238	0.61	0.30-1.25	0.17
Sweet Potatoes	14	1	15	179	82	261	6.41	0.83-49.60	0.04
Sweet Potato Fries	5	3	8	188	80	268	0.71	0.17-3.04	0.70
White Rice	30	13	43	164	71	235	1.00	0.49-2.03	0.86
Zucchini	6	1	7	187	82	269	2.63	0.31-22.20	0.68
Green Beans	24	2	26	168	81	249	5.79	1.33-25.08	0.007
Vegetables	50	12	62	142	71	213	2.08	1.04-4.16	0.04
Salad	29	10	30	167	74	241	1.29	0.60-2.77	0.52
Ranch Dressing	5	4	9	11	80	271	0.52	0.14-2.00	0.46
Thous. Island Dressing	8	1	9	188	83	271	3.53	0.43-2.87	0.29
Soup	21	8	29	174	77	251	1.16	0.49-2.73	0.73
Gumbo	8	2	10	187	83	270	1.78	0.37-8.54	0.73
Clam Chowder	10	6	16	185	79	264	0.72	0.25-2.03	0.52
Dessert	59	27	86	135	58	193	0.93	0.54-1.62	0.82
Cake	29	15	44	165	70	235	0.82	0.41-1.62	0.57
Coconut Cake	9	7	16	185	78	263	0.54	0.20-1.51	0.24
Red Velvet Cake	12	5	17	183	81	264	1.22	0.38-3.93	0.74
Pie	19	9	28	175	76	251	0.92	0.40-2.12	0.84
Key Lime Pie	11	7	18	183	78	261	0.67	0.25-1.79	0.42
Ice Water	96	42	138	97	42	139	0.99	0.59-1.65	0.97
Ice Tea	33	13	46	160	70	230	1.11	0.55-2.24	0.77
Soda	45	20	65	85	38	123	1.01	0.52-1.93	0.99
Mai Tai	43	18	61	80	41	129	1.11	0.57-2.16	0.75
Beer	11	3	14	120	56	176	1.71	0.46-6.38	0.56
Wine	8	5	13	122	55	177	0.70	0.22-2.25	0.55
Coffee	9	2	11	121	56	177	2.08	0.44-9.95	0.51

Table 2. Results from the laboratory analysis of food specimens.

Submitter	Food Item	Results for Presence of Fecal Coliforms
Group A	Coleslaw	Negative
	Fish	Negative
	Garlic Rolls	Negative
Group B	Steak	Negative
	Garlic Rolls	Negative
Group C	Coleslaw	Negative
	Prawns	Negative
	Cake	Negative

General



National Outbreak Reporting System



Foodborne Disease Transmission, Person-to-Person Disease Transmission, Animal Contact

This form is used to report enteric foodborne, person-to-person, and animal contact-related disease outbreak investigations. This form has 5 sections, General, Laboratory, Person to Person, Animal contact, and Food, as indicated by tabs at the top of each page. Complete the General and Laboratory tabs for all modes of transmission and complete additional sections as indicated by the mode of transmission. Please complete as much of all sections as possible.

CDC USE ONLY

CDC Report ID

State Report ID
IL2012-007Form Approved
OMB No. 0920-0004

General Section

Primary Mode of Transmission (check one)

- ☒ Food (Complete General, Lab, and Food tabs) ☐ Person-to-person (Complete General, Lab, and Person-to-Person tabs)
- ☐ Water (Complete CDC 52.12) ☐ Environmental contamination other than food/water (Complete General and Lab tabs)
- ☐ Animal contact (Complete General, Lab, and Animal Contact tabs) ☐ Indeterminate/Other/Unknown (Complete General and Lab tabs)

Investigation Methods (check all that apply)

- ☐ Interviews only of ill persons ☐ Treated or untreated recreational water venue assessment
- ☒ Case-control study ☐ Investigation at factory/production/treatment plant
- ☐ Cohort study ☐ Investigation at original source (e.g., farm, water source, etc.)
- ☒ Food preparation review ☐ Food product or bottled water traceback
- ☐ Water system assessment: Drinking water ☒ Environment/food/water sample testing
- ☐ Water system assessment: Nonpotable water ☐ Other

Comments

See addendum.

Dates (mm/dd/yyyy)

Date first case became ill (required) 01 /02 /2012 Date last case became ill 01 /13 /2012

Date of initial exposure 01 /01 /2012 Date of last exposure 01 /09 /2012

Date of report to CDC (other than this form) ____ / ____ / ____

Date of notification to State/Territory or Local/Tribal Health Authorities 01 /10 /2012

Geographic Location

Reporting state: Illinois

- ☐ Exposure occurred in multiple states
- ☐ Exposure occurred in a single state, but cases resided in multiple states
- Other states: _____

Reporting county: Cook

- ☐ Exposure occurred in multiple counties in reporting state
- ☐ Exposure occurred in a single county, but cases resided in multiple counties in reporting state
- Other counties: _____

City/Town/Place of exposure: Wheeling

Do not include proprietary or private facility names

Primary Cases

Number of Primary Cases			Sex (estimated percent of the primary cases)			
# Lab-confirmed cases	3	(A)	Male	46	%	
# Probable cases	193	(B)	Female	54	%	
# Estimated total primary ill	196					
	# Cases	Total # of cases for whom info is available	Approximate percent of primary cases in each age group			
# Died	0	196	<1 year	0	%	20-49 years 40 %
# Hospitalized	2	196	1-4 years	1.5	%	50-74 years 45 %
# Visited Emergency Room	20	196	5-9 years	0	%	≥ 75 years 8 %
# Visited health care provider (excluding ER visits)	20	196	10-19 years	4	%	Unknown 1 %

General

Incubation Period, Duration of Illness, Signs or Symptoms for Primary Cases only

Incubation Period (circle appropriate units)			Duration of Illness (among recovered cases-circle appropriate units)		
Shortest	2	Min, (Hours), Days	Shortest	5	Min, (Hours), Days
Median	24	Min, (Hours), Days	Median	24	Min, (Hours), Days
Longest	144	Min, (Hours), Days	Longest	144	Min, (Hours), Days
Total # of cases for whom info is available	194		Total # of cases for whom info is available	141	
☐ Unknown incubation period			☐ Unknown duration of illness		

Signs or Symptoms (*refer to terms from appendix, if appropriate, to describe other common characteristics of cases)

Feature	# Cases with signs or symptoms	Total # cases for whom info available
Vomiting	140	195
Diarrhea	182	196
Bloody stools	0	158
Fever	62	193
Abdominal cramps	164	192
HUS	0	196
Asymptomatic	0	196
*		
*		
*		

Secondary Cases

Mode of Secondary Transmission (check one)	Number of Secondary Cases	
☐ Food ☐ Water ☐ Animal contact ☐ Person-to-person ☐ Environmental contamination other than food/water ☐ Indeterminate/Other/Unknown	# Lab-confirmed secondary cases	(A)
	# Probable secondary cases	(B)
	Total # of secondary cases	
	Total # of cases (Primary + Secondary)	

Environmental Health Specialists Network (if applicable)

EHS-Net Evaluation ID: 1.) _____ 2.) _____ 3.) _____

Traceback (for food and bottled water only, not public water)

☐ Please check if traceback conducted

Source name (If publicly available)	Source type (e.g. poultry farm, tomato processing plant, bottled water factory)	Location of source		Comments
		State	Country	

Recall

☐ Please check if any food or bottled water product was recalled

Type of item recalled:

Comments:

Reporting Agency

Agency name: Cook County Department of Public Health E-mail: sgerber@cookcountyhhs.org
 Contact name: Susan Gerber, M.D. Contact title: Associate Medical Director
 Phone no.: 708-633-8006 Fax no.: 708-633-8650

Remarks Briefly describe important aspects of the outbreak not covered above. Please indicate if any adverse outcomes occurred in special populations (e.g., pregnant women, immunocompromised persons)

See addendum.

Laboratory Section

Etiology known? ☒ Yes ☐ No

If etiology is *unknown*, were patient specimens collected? ☐ Yes ☐ No ☐ Unknown

If yes, how many specimens collected? (provide numeric value) _____

What were they tested for? (check all that apply) ☐ Bacteria ☐ Chemicals/Toxins ☐ Viruses ☐ Parasites

Etiology

(Name the bacterium, chemical/toxin, virus, or parasite. 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 or MMWR2000/Vol. 49/SS-1/App. B)

Genus	Species	Serotype	Confirmed outbreak etiology	Other Characteristics	Detected in*	# Lab-confirmed cases
Norovirus		G2	☒ yes		1, 4	7
			☐ yes			
			☐ yes			
			☐ yes			

*Detected in (choose all that apply): 1 - patient specimen 2 - food specimen 3 - environment specimen 4 - food worker specimen

Isolates

(For bacterial pathogens, provide a representative for each distinct pattern; provide lab ID for all specimens submitted for viral sequencing)

State Lab ID	PulseNet Outbreak Code	CDC PulseNet Pattern Designation for Enzyme 1	CDC PulseNet Pattern Designation for Enzyme 2	Other Molecular Designation	Other Molecular Designation

Person to Person**Major setting of exposure (choose one)**

- | | | | |
|---|---|---|------------------------------------|
| ☐ Camp | ☐ Hotel | ☐ Private setting (residential home) | ☐ School |
| ☐ Child day care | ☐ Nursing home | ☐ Religious facility | ☐ Ship |
| ☐ Community-wide | ☐ Prison or detention facility | ☐ Restaurant | ☐ Workplace |
| ☐ Hospital | ☐ Other, please specify: _____ | | |

Attack rates for major settings of exposure

Group (based on setting)	Estimated exposed in major setting*	Estimated ill in major setting	Crude attack rate [(estimated ill / estimated exposed) x 100]
residents, guests, passengers, patients, etc.			
staff, crew, etc.			

*e.g., number of persons on ship, number of residents in nursing home or affected ward

Other settings of exposure (choose all that apply)

- | | | | |
|---|---|---|------------------------------------|
| ☐ Camp | ☐ Hotel | ☐ Private setting (residential home) | ☐ School |
| ☐ Child day care | ☐ Nursing home | ☐ Religious facility | ☐ Ship |
| ☐ Community-wide | ☐ Prison or detention facility | ☐ Restaurant | ☐ Workplace |
| ☐ Hospital | ☐ Other, please specify: _____ | | |

Animals and their environment

Setting of exposure	Type of animal	Remarks

Food-specific data
☐ Food vehicle undetermined Total # of cases exposed to implicated food 196

Food	1	2	3
Name of food (excluding any preparation)	Coleslaw	Green Beans	Vegetables
Ingredient(s) (enter all that apply)			
Contaminated ingredients (enter all that apply)			
Reason(s) suspected (enter all that apply from list in appendix)	1	1	1
Method of processing (enter all that apply from list in appendix)			
Method of preparation (select one from list in appendix)			
Level of preparation (select one from list in appendix)			
Contaminated food imported to US?	☐ Yes, Country _____ ☐ Yes, Unknown ☒ No	☐ Yes, Country _____ ☐ Yes, Unknown ☒ No	☐ Yes, Country _____ ☐ Yes, Unknown ☒ No
Was product <i>both</i> produced under domestic regulatory oversight <i>and</i> sold?	☐ Yes ☐ No ☐ Unknown	☐ Yes ☐ No ☐ Unknown	☐ Yes ☐ No ☐ Unknown
Location where food was prepared (Check all that apply)		Location of exposure (where food was eaten) (Check all that apply)	
☐ Restaurant – 'Fast-food' (drive up service or pay at counter)	☐ Nursing home, assisted living facility, home care	☐ Restaurant – 'Fast-food' (drive up service or pay at counter)	☐ Nursing home, assisted living facility, home care
☒ Restaurant – Sit-down dining	☐ Hospital	☒ Restaurant – Sit-down dining	☐ Hospital
☐ Restaurant – Other or unknown type	☐ Child day care center	☐ Restaurant – Other or unknown type	☐ Child day care center
☐ Private home	☐ School	☐ Private home	☐ School
☐ Banquet Facility (food prepared and served on-site)	☐ Prison, jail	☐ Banquet Facility (food prepared and served on-site)	☐ Prison, jail
☐ Caterer (food prepared off-site from where served)	☐ Church, temple, religious location	☐ Caterer (food prepared off-site from where served)	☐ Church, temple, religious location
☐ Fair, festival, other temporary or mobile services	☐ Camp	☐ Fair, festival, other temporary or mobile services	☐ Camp
☐ Grocery store	☐ Picnic	☐ Grocery store	☐ Picnic
☐ Workplace, not cafeteria	☐ Other (describe in Prepared/Remarks)	☐ Workplace, not cafeteria	☐ Other (describe in Eaten/Remarks)
☐ Workplace cafeteria	☐ Unknown	☐ Workplace cafeteria	☐ Unknown
Remarks:		Remarks:	
		Most individuals ate the food in the restaurant. Two individuals stated that they placed take-out orders and ate the food at home.	

Contributing Factors (Check all that contributed to this outbreak)☒ Contributing factors unknown**Contamination Factor**☐ C1 ☐ C2 ☐ C3 ☐ C4 ☐ C5 ☐ C6 ☐ C7 ☐ C8 ☐ C9 ☐ C10 ☐ C11 ☐ C12 ☐ C13 ☐ C14 ☐ C15 ☐ C-N/A**Proliferation/Amplification Factor (bacterial outbreaks only)**☐ P1 ☐ P2 ☐ P3 ☐ P4 ☐ P5 ☐ P6 ☐ P7 ☐ P8 ☐ P9 ☐ P10 ☐ P11 ☒ P12 ☐ P-N/A**Survival Factor**☐ S1 ☐ S2 ☐ S3 ☐ S4 ☐ S5 ☐ S-N/A**The confirmed or suspected point of contamination (Check one)**☐ Before preparation ☐ PreparationIf 'before preparation': ☐ Pre-Harvest ☐ Processing ☐ Unknown**Reason suspected (Check all that apply)**☐ Environmental evidence☐ Laboratory evidence☐ Epidemiologic evidence☐ Prior experience makes this a likely sourceWas food-worker implicated as the source of contamination? ☐ Yes ☒ No**If yes, please check only one of the following**

- ☐ Laboratory **and** epidemiologic evidence
☐ Epidemiologic evidence
☐ Laboratory evidence
☐ Prior experience makes this a likely source

School Questions*(Complete this section only if school is checked in either sections "Location where food was prepared" or "Location of exposure (where food eaten)")***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)

☐ 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 schools

☐ Public☐ Private☐ Unknown**3. Describe the preparation of the implicated item:
(check all that apply)**

- ☐ 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 or fundraising event
☐ Made in the classroom
☐ Brought by a student/teacher/parent
☐ Other (describe in General/Remarks)
☐ 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 multiple schools are 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
☐ The state/school authority
☐ Other (describe in General/Remarks)
☐ Unknown or Undetermined

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? ☐ Yes ☐ No ☐ Unknown
(Case-ready ground beef is meat that comes from a manufacturer packaged for sale that is not altered or repackaged by the retailer)
3. Was the beef ground or reground by the retailer?
☐ Yes ☐ No ☐ Unknown
- If yes, was anything added to the beef during grinding (such as shop trim or any product to alter the fat content)? _____

Additional Salmonella Questions

(Complete this section for Salmonella outbreaks)

1. Phage type(s) of patient isolates:

_____ if RDNC* then include # _____
 _____ if RDNC* then include # _____
 _____ if RDNC* then include # _____
 _____ if RDNC* then include # _____

* Reacts, Does Not Conform

Eggs

1. Were eggs (check all that apply)

- ☐ in shell, unpasteurized?
☐ in shell, pasteurized?
☐ packaged liquid or dry?
☐ stored with inadequate refrigeration during or after sale?
☐ consumed raw?
☐ consumed undercooked?
☐ pooled?

2. Was Salmonella enteritidis found on the farm? ☐ Yes ☐ No ☐ Unknown

Comment (e.g., eggs and patients isolates matched by phage type): _____