National Outbreak Reporting System

OMB No. XXXX-XXXX

This form is used to report investigations of foodborne and waterborne disease outbreaks; enteric disease outbreaks transmitted by contact with persons, animals, or environmental sources; or by an unknown mode; and certain fungal disease outbreaks. This form has 16 sections, indicated by the dark purple headers. ***Please complete as much as possible of all applicable sections.***

Public reporting burden of this collection of information is estimated to average 20 minutes per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. An agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a currently valid OMB control number. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden to CDC, Project Clearance Officer, 1600 Clifton Road, MS D-24, Atlanta, GA, 30333, ATTN: PRA (XXXX-XXXX) <---DO NOT MAIL CASE REPORTS TO THIS ADDRESS

Guidance document: https://www.cdc.gov/nors/forms.html

CDC ID *CDC use only*	State ID

Primary Mode of Transmission *Select one*

❍ Animal contact
❍ Environmental contamination other than food/water
❍ Food
❍ Person-to-person
❍ Water
❍ Indeterminate/Unknown

Dates *mm/dd/yyyy*

Date first case became ill *(required)*: _____ Date last case became ill: _____ Date of initial exposure: _____

Date of last exposure: _____ Date of notification to State/Territory or Local/Tribal Health Authorities: _____

Date outbreak investigation began: _____

Geographic Location

Exposure state: _____
❍ Exposures occurred in multiple states
❍ Exposures occurred in a single state, but some or all case(s) resided in a different state(s)

Other states: _____
(For multistate exposure or multistate residency outbreaks, enter the case count for each state)

Exposure county: _____
❍ Exposures occurred in multiple counties in exposure state
❍ Exposures occurred in a single county, but some or all case(s) resided in a different county or multiple counties

Other counties: _____

Exposures occurred on any of the following:
❑ Not applicable (N/A)
❑ Tribal land (within census bureau boundaries)
❑ National park
❑ Other federal land *(e.g., national forest, military base; specify below)*

City/Town/Place of exposure *(e.g., facility name)*: _____

Primary Cases

Primary Case Counts

Primary Case Counts	Number
Lab-confirmed primary cases	#
Probable primary cases	#
Estimated total primary cases *(required)*	#

Sex *Number or percent of the primary cases*	Number	Percent
Male	#	%
Female	#	%
Unknown sex	#	%

For food and animal contact outbreaks, if outbreak occurred during >1 calendar year, # cases per year (by illness onset)

Case Type	Year: _____	Year: _____	Year: _____	Year: _____
Lab-confirmed primary cases				
Probable primary cases				
Estimated total primary cases				

Age *Number or percent of primary cases*

Age	Number	Percent	Age	Number	Percent	Age	Number	Percent
<1 year	#	%	10-17 years	#	%	65-74 years	#	%
1-4 years	#	%	18-49 years	#	%	≥75 years	#	%
5-9 years	#	%	50-64 years	#	%	Unknown	#	%

Signs or Symptoms *Among primary cases*

Commonly reported signs or symptoms	# cases	# cases with info available
Vomiting	#	#
Diarrhea	#	#
Bloody stools	#	#
Abdominal cramps	#	#

Other signs or symptoms *Select all that apply from list in Appendix E*	# cases	# cases with info available
Fever	#	#
Other (*specify*): _____	#	#
Other (*specify*): _____	#	#
Other (*specify*): _____	#	#

Incubation Period *Among primary cases; select appropriate units*

❑ Unknown incubation period

Incubation Period	Number	Increment
Shortest	#	❍ Mins ❍ Hours ❍ Days
Median	#	❍ Mins ❍ Hours ❍ Days
Longest	#	❍ Mins ❍ Hours ❍ Days

# of cases with info available: _____

Duration of Illness *Among recovered primary cases; select appropriate units*

❑ Unknown duration of illness

Illness Duration	Number	Increment
Shortest	#	❍ Mins ❍ Hours ❍ Days
Median	#	❍ Mins ❍ Hours ❍ Days
Longest	#	❍ Mins ❍ Hours ❍ Days

# of cases with info available: _____

Healthcare-Seeking Behaviors *Among primary cases*

Behavior	# cases	# cases with info available
Visited health care provider	#	#
Visited emergency department	#	#
Visited Indian Health Service or tribal facility	#	#

Case Outcomes *Among primary cases*

Outcome	# cases	# cases with info available
Died	#	#
Hospitalized	#	#
Hemolytic uremic syndrome (HUS)	#	#
Disseminated infection *(e.g., pathogen detected in blood, central nervous system, bone/joint)*	#	#
Pregnancy loss *(For # cases with info available, enter number of known pregnant women)*	#	#

Case Characteristics *Among primary cases*

Characteristic *During the exposure period of interest (or the 7 days before illness began for unknown etiologies), indicate how many primary case-patients:*	# cases	# cases with info available
Attended or worked in a child daycare	#	#
Were experiencing homelessness	#	#
Were exposed in the workplace	#	#
Were immunocompromised (*e.g., HIV/AIDS, solid organ or stem cell transplant, cancer)*	#	#
Were men who reported sexual contact with another man (MSM) *Complete only for person-to-person and indeterminate/unknown outbreaks. For # cases with info available, enter number of known men*	#	#

Travel *During the exposure period of interest (or 7 days before illness began for unknown etiologies)*

1. For environmental contamination, person-to-person, water, and indeterminate/unknown outbreaks, did any primary case-patient travel for at least one night away from the primary residence:

   Domestically?* ❍ Yes ❍ No ❍ Unknown ❍ N/A
   Internationally?† ❍ Yes ❍ No ❍ Unknown ❍ N/A

2. For food outbreaks, was the outbreak associated with the source case-patient *(e.g., food worker)* traveling internationally†? ❍ Yes ❍ No ❍ Unknown ❍ N/A

*This includes travel to a different city, state, or territory in the United States
†Case-patients with implicated exposure outside the United States should not be included in case counts for this report. Only outbreaks with domestic exposures should be reported through NORS.

Case characteristics remarks

Secondary Cases

Mode of Secondary Transmission *Select all that apply*

- ❑ Food
- ❑ Water
- ❑ Animal contact
- ❑ Person-to-Person
- ❑ Environmental contamination other than food/water
- ❑ Indeterminate/unknown

Secondary Case Counts

Secondary Case type	Number
Lab-confirmed secondary cases	#
Probable secondary cases	#
Estimated total secondary cases	#
Estimated total cases (Primary + Secondary)	#

Secondary Case Outcomes *Complete for food and animal contact outbreaks only*

Outcome	# secondary cases	# secondary cases with info available
Died	#	#
Hospitalized	#	#
Hemolytic uremic syndrome (HUS)	#	#

Laboratory and Environmental Investigation

Sample Collection and Testing *For human samples, only include primary cases*

1. Were any samples tested? ❍ Yes ❍ No ❍ Unknown
2. What types of samples were tested?
   - **a.** Human ❍ Yes ❍ No ❍ Unknown — From how many persons (including food workers)? _____
     - **i.** Food worker ❍ Yes ❍ No ❍ Unknown
   - **b.** Animal ❍ Yes ❍ No ❍ Unknown
   - **c.** Food ❍ Yes ❍ No ❍ Unknown
   - **d.** Water ❍ Yes ❍ No ❍ Unknown
   - **e.** Other environmental ❍ Yes ❍ No ❍ Unknown ❍ Specify other type(s): _____
3. What were they tested for? *(Select all that apply)*

Human samples

- ❑ Bacterium/bacteria or bacterial toxin(s)
- ❑ Virus(es)
- ❑ Parasite(s)
- ❑ Chemical(s) or non-bacterial toxin(s)
- ❑ Fungus/fungi
- ❑ Other
- ❑ Unknown

Animal, food, water, other environmental samples

- ❑ Bacterium/bacteria or bacterial toxin(s)
- ❑ Virus(es)
- ❑ Parasite(s)
- ❑ Chemical(s) or non-bacterial toxin(s)
- ❑ Fungus/fungi
- ❑ Other
- ❑ Unknown

4. What test types were used? *(Select all that apply)*

Human samples

- ❑ Test for chemical
- ❑ Culture
- ❑ DNA or RNA amplification/detection *(e.g., PCR, RT-PCR, multiplex PCR panels)*
- ❑ Mass spectroscopy *(e.g., MALDI-TOF)*
- ❑ Metagenomics *(e.g., DNAse SISPA, amplicon sequencing, shotgun metagenomics)*
- ❑ Microscopy *(e.g., Fluorescent, electron microscope)*
- ❑ Serological or immunological test *(e.g., EIA, ELISA, UAT)*
  - ❑ Antigen
  - ❑ Antibody
- ❑ Tissue culture infectivity assay
- ❑ Other *(specify)*: _____
- ❑ Unknown

Animal, food, water, other environmental samples

- ❑ Test for chemical
- ❑ Culture
- ❑ DNA or RNA amplification/detection *(e.g., PCR, RT-PCR, multiplex PCR panels)*
- ❑ Mass spectroscopy *(e.g., MALDI-TOF)*
- ❑ Metagenomics *(e.g., DNAse SISPA, amplicon sequencing, shotgun metagenomics)*
- ❑ Microscopy *(e.g., Fluorescent, electron microscope)*
- ❑ Serological or immunological test *(e.g., EIA, ELISA, UAT)*
  - ❑ Antigen
  - ❑ Antibody
- ❑ Tissue culture infectivity assay
- ❑ Other *(specify)*: _____
- ❑ Unknown

5. Did CDC NARMS perform antimicrobial susceptibility testing? ❍ Yes ❍ No ❍ Unknown

Waterborne Disease Outbreak Environmental Investigation *Complete only for waterborne disease outbreaks*

1. Which of the following sampling locations were tested? *Select all that apply from list in Appendix E.*

_____

2. Did environmental sampling results implicate water as the primary mode of transmission?

- ❍ Yes
- ❍ No *(skip to b)*
- ❍ Unknown *(skip to b)*

a. Did the results implicate the vehicle(s) of transmission? *(e.g., pool, community water system, cooling tower)*

❍ Yes ❍ No ❍ Unknown

Please summarize the environmental sampling results that implicated water in support of the epidemiologic findings. *(Select all that apply)*

Environmental sampling results	**Are there supporting environmental sampling results?**	**Please describe relevant environmental sampling results** *(e.g., fecal indicators identified in well water on [insert date].)*
Fecal indicators	❍ Yes ❍ No	
pH	❍ Yes ❍ No	
Temperature	❍ Yes ❍ No	
Turbidity	❍ Yes ❍ No	
Residual/free disinfectant	❍ Yes ❍ No	
Combined disinfectant	❍ Yes ❍ No	
Etiologic agent(s)	❍ Yes ❍ No	
Other *(specify)*: _____	❍ Yes ❍ No	

b. Did historical or other environmental health evidence implicate water as the primary mode of transmission?

❍ Yes ❍ No ❍ Unknown

If yes, please describe: _____

3. Would you like to attach environmental sampling results to this report? ❍ Yes ❍ No

Etiology and Isolates

Is there at least one confirmed* or suspected outbreak etiology(s)? ❍ Yes ❍ No (unknown etiology) ***(If no, skip to next section)***

**See the guidance document for guidelines on confirming the etiology of the outbreak.*

Etiology *If available, include the subtype and other characteristics such as virulence factors and metabolic profile.*

Genus	Species	Subtype *(e.g., serotype, genotype)*	Other characteristics	Total # positive primary cases	Detected in*	Outbreak etiology confirmed or suspected
				Total #: _____ # culture-confirmed: _____ # CIDT-positive only: _____		
				Total #: _____ # culture-confirmed: _____ # CIDT-positive only: _____		

*Detected in *(select all that apply)*: 1 – patient specimen; 2 – food sample; 3 – environmental sample; 4 – food worker specimen; 5 – water sample; 6 – animal specimen

Isolates or Strains *For PulseNet isolates, complete only the first four columns. For all other isolates/strains, enter all available information.*

CDC system *(PulseNet, CaliciNet, CryptoNet, Other, Unknown, None)*	State lab: sample ID	CDC lab: sample ID *(e.g., PulseNet key, CaliciNet key, CryptoNet key)*	CDC lab: outbreak ID *(e.g., PulseNet outbreak code, CaliciNet outbreak number, CryptoNet outbreak number)*	PFGE pattern	Sequencing information *(e.g., allele code, sequenced region)*	Subtype information *(e.g., serotype, genotype)*	Source/ sample type *(e.g., environmental sample; refer to list in Appendix E)*
				Enzyme 1: _____ Enzyme 2: _____			
				Enzyme 1: _____ Enzyme 2: _____			

Settings

Setting(s) of Exposure: Animal Contact, Environmental Contamination, Food, Person-to-Person, and Indeterminate/Unknown

Enter all settings of exposure using list in Appendix E. Select a single setting unless exposures occurred in multiple settings. If multiple options could describe a single outbreak setting, choose the option that best applies and provide details in the remarks box below. For foodborne disease outbreaks, this is the location where food was eaten. *Setting(s) where food was prepared is captured in the next section.*

Setting 1/Major Setting*	Setting 2	Setting 3	Setting 4	Other *(specify):*

*Major setting for person-to-person, environmental, and indeterminate/unknown outbreaks should be entered in Setting 1

Setting of exposure remarks:

_____

_____

_____

_____

_____

Setting(s) of Preparation: Food *Complete only for food outbreaks*

Enter all settings where food was prepared using the list in Appendix E. Select a single setting unless preparation occurred in multiple settings.

Setting 1	Setting 2	Setting 3	Setting 4	Other *(specify):*

Setting of preparation remarks:

Setting(s) of Exposure and Implicated Vehicle Description: Water *Complete only for water outbreaks*

Implicated type(s) of water exposure *Select all that apply and complete appropriate water exposure sections*

- ❑ Treated recreational water *(e.g., in manufactured venues such as pools, spas/whirlpools, hot tubs, spray pads, at-home kiddie pools)*
- ❑ Untreated recreational water *(e.g., natural venues such as freshwater lakes, hot springs, marine beaches/oceans)*
- ❑ Drinking water in public or individual water systems *(e.g., municipal system, private well, commercially-bottled water, water kiosk)*, regardless of the exposure pathway *(i.e., not limited to ingestion)*
- ❑ Other exposures to water, including other environmental exposures to water *(e.g., cooling/industrial, water reuse, irrigation, occupational, decorative/display; includes water consumed from sources such as back-country streams)*
- ❑ Undetermined exposures to water *(i.e., the intended purpose or use of the water is unknown or the water exposure category could not be determined)*

Implicated water — recreational water venue description

Water venue *(e.g., spa/whirlpool/ hot tub; refer to list in Appendix E)*	**Water venue subtype** *(Refer to list in Appendix E)*	**Setting of exposure** *(e.g., hotel/motel; refer to list in Appendix E)*	(TREATED WATER OUTBREAKS ONLY) **How was the water in the venue treated?** *(e.g., disinfection, filtration)*	(TREATED WATER OUTBREAKS ONLY) **Treatment description** *(e.g., chlorine) Select all that apply from list in Appendix E*	(TREATED WATER OUTBREAKS ONLY) **What were chlorine stabilizer levels at the time of the outbreak?**

Implicated water — drinking water system description

Water system* *(e.g., community water system; refer to list in Appendix E)*	**Public water system EPA ID number†**	**Water source** *(e.g., ground water, surface water; refer to list in Appendix E)*	**Water source description** *((e.g., spring, well, lake; refer to list in Appendix E)*	**How was the water in the system treated?** *(e.g., disinfection, filtration)*	**Treatment description** *(e.g., chlorine) Select all that apply from list in Appendix E*	**Setting of exposure** *(e.g., hotel/motel; refer to list in Appendix E)*

* Water system definitions: Community and non-community water systems are public water systems that have ≥15 service connections or serve an average of ≥25 residents for ≥60 days/year. A community water system serves year-round residents of a community, subdivision, or mobile home park. A non-community water system serves an institution, industry, camp, park, hotel, or business and can be non-transient or transient. Non-transient systems serve ≥25 of the same persons for >6 months of the year but not year-round (e.g., factories and schools), whereas transient systems provide waterto places in which persons do not remain for long periods (e.g., restaurants, highway rest stations, and parks). Individual water systems are small systems not owned or operated by a water utility that have<15 connections or serve <25 persons.

† Number used for EPA reporting that uniquely identifies the public water system within a specific state. The water system ID number can be found by searching the Safe Drinking Water Information System (SDWIS) online at https://ofmpub.epa.gov/apex/sfdw/f?p=108:200.

Implicated water — other and undetermined exposure to water description

System or source of the water *(e.g., cooling tower; refer to list in Appendix E)*	**Setting of exposure** *(e.g., hotel/motel; refer to list in Appendix E)*	(OTHER AND ENVIRONMENTAL EXPOSURES TO WATER OUTBREAKS ONLY) **Was the water system/source treated to reduce or prevent the risk of disease transmission?**	(OTHER AND ENVIRONMENTAL EXPOSURES TO WATER OUTBREAKS ONLY) **If yes, how was the water in the system/source treated?**

Water setting of exposure remarks

_____

_____

Associated Events *Refer to list in Appendix E*

Was exposure associated with a specific event(s) or gathering(s)? ❍ Yes *(specify):* _____ ❍ No ❍ Unknown

Long-term Care Outbreaks *Complete this section only if "Long-term care/nursing home/assisted living facility," "Long term care facility," or "Assisted Living/rehab" is selected as a setting above*

Types of care affected *(Select all that apply)*

❑ Nursing home/skilled nursing

❑ Assisted living
❑ Independent living *(in continuous care community)*
❑ Intermediate care
❑ Memory care
❑ Other *(specify)*:

_____

School Outbreaks *Complete this section only if "School/College/University" is selected as a setting above*

1. Did the outbreak involve one or more schools?
❍ One ❍ More than one (number of schools: _____) ❍ Unknown

2. Grades affected *(Select all that apply)*
❑ K ❑1 ❑2 ❑3 ❑4 ❑5 ❑6 ❑7 ❑8 ❑9 ❑10 ❑11 ❑12
❑ College/university/technical school
❑ Unknown or undetermined grade level(s)

3. Number of schools with public or private funding *(If a single school was involved, write "1" next to the funding type):*
Public: _____ Private: _____ Unknown or undetermined: _____

Correctional or Detention Facility Outbreaks *Complete this section only if "Correctional/Detention Facility" is selected as a setting above*

1. What was the name of the correctional/detention facility? _____

2. Is the facility run by the government or by a privately contracted business?
❍ Government ❍ Private ❍ Unknown

3. What was the type of facility?
❍ Federal prison ❍ Juvenile detention center ❍ Other *(specify):*
❍ State prison ❍ Immigration detention center
❍ State/local jail ❍ Unknown

_____

Complete for foodborne disease outbreaks only:

4. Who is involved in food preparation at this facility?
Inmate food workers ❍ Yes ❍ No ❍ Unknown
Other food workers ❍ Yes ❍ No ❍ Unknown

5. If contamination from a food worker was a contributing factor (also answer yes in the Food Contributing Factors section), were any of the following types of food workers implicated? *(cite C9, C10, or C11 within the food contributing factors section)*
Inmate food workers ❍ Yes ❍ No ❍ Unknown
Other food workers ❍ Yes ❍ No ❍ Unknown

Attack Rates *Complete for person-to-person, environmental contamination, and indeterminate/unknown outbreaks that occurred in a single setting only*			
Group	**Estimated # exposed***	**Estimated # ill**	**Crude attack rate** *[(estimated # ill / estimated # exposed) x 100]*
Residents, guests, attendees, patients, etc.	#	#	%
Staff, crew, etc.	#	#	%

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

Animal Contact Section *Complete for animal contact outbreaks*

Animal vehicle undetermined? ❍ Yes ❍ No

If animal vehicle undetermined, reason(s) supporting animal contact as the mode of transmission *(Select all that apply)*

❑ Epidemiologic evidence
❑ Laboratory evidence
❑ Environmental evidence
❑ Traceback investigation
❑ Other *(specify)*: ______

Question	Animal Vehicle 1	Animal Vehicle 2	Animal Vehicle 3
Animal type			
Vehicle confirmed or suspected			
Reason(s) confirmed or suspected *Enter all from list in Appendix E*			
Animal(s) experienced diarrhea or illness that could be related to outbreak illnesses?	❍ Yes ❍ No ❍ Unknown	❍ Yes ❍ No ❍ Unknown	❍ Yes ❍ No ❍ Unknown
Animal(s) imported to US?	❍ Yes, country: ______ ❍ Yes, country unknown ❍ No ❍ Unknown	❍ Yes, country: ______ ❍ Yes, country unknown ❍ No ❍ Unknown	❍ Yes, country: ______ ❍ Yes, country unknown ❍ No ❍ Unknown
Did the animal(s) implicated in the outbreak meet any of the following criteria? *(Select all that apply)*	❑ Backyard/residential livestock or poultry ❑ Commercial livestock or poultry ❑ Pet/companion animal ❑ Interactive exhibit animal ❑ Wild animal/wild game ❑ Other *(specify)*: ______ ❑ Unknown	❑ Backyard/residential livestock or poultry ❑ Commercial livestock or poultry ❑ Pet/companion animal ❑ Interactive exhibit animal ❑ Wild animal/wild game ❑ Other *(specify)*: ______ ❑ Unknown	❑ Backyard/residential livestock or poultry ❑ Commercial livestock or poultry ❑ Pet/companion animal ❑ Interactive exhibit animal ❑ Wild animal/wild game ❑ Other *(specify)*: ______ ❑ Unknown

1. How many animals were involved in the outbreak? ______ # or ❑ Unknown

a. How many animals died during the outbreak period of interest? ______ # or ❑ Unknown

b. How many animal deaths were presumed to be the result of outbreak-associated illness? ______ # or ❑ Unknown

2. Was the animal's living environment implicated as a source of the outbreak? ❍ Yes ❍ No ❍ Unknown

3. If any outbreak-associated case-patients were exposed in the workplace, specify the occupation(s) of primary cases exposed in the workplace *(Select all that apply)*

❑ Farm/dairy worker
❑ Pet store worker
❑ Agricultural store worker (e.g., farm/rural supply store)
❑ Processing plant/slaughterhouse worker
❑ Other *(specify)*: ______

4. Was pet food or animal feed implicated as a source? ❍ Yes ❍ No ❍ Unknown

If yes, specify:

❑ Prepackaged pet food
❑ Homemade pet food
❑ Frozen or fresh feeder rodents or chicks
❑ Pet treats or chews
❑ Commercially prepared "raw" pet food
❑ Feed *(e.g., livestock feed, poultry feed, fish feed)*
❑ Other *(specify)*: ______
❑ Unknown

5. Was the "Compendium of Measures to Prevent Disease Associated with Animals in Public Settings" used during the investigation?
❍ Yes ❍ No ❍ Unknown

Animal Contact Remarks

Fungal Disease Outbreaks *Complete for blastomycosis, coccidioidomycosis, histoplasmosis, and sporotrichosis outbreaks*

Treatments

Treatment	# Cases	# Cases with info available
Treated with systemic antibacterial medication before fungal infection was diagnosed *(e.g., oral, IV)*	#	#
Treated with systemic antifungal medication *(e.g., oral, IV)*	#	#

Environmental Sampling

Environmental samples collected? ❍ Yes ❍ No ❍ Unknown

Results:

Contributing Factors *Select all that apply*

- ❑ Demolition, construction, or renovation
- ❑ Disruption of bat droppings
- ❑ Disruption of bird droppings
- ❑ Disruption of plant matter
- ❑ Disruption of soil
- ❑ Natural disaster or phenomenon *(e.g., earthquake, dust storm) (specify)*:
- ❑ Bats *(specify)*:
- ❑ Birds *(specify)*:
- ❑ Other *(specify)*:
- ❑ Unknown

Occupational Exposures

Specify major industry/industries* *(employer's type of business, e.g., hospital, elementary school, clothing manufacturing, restaurant):*

Specify major occupation(s)* *(type of work, e.g., registered nurse, janitor, cashier, auto mechanic):*

*Resources for industry and occupation coding are available at: https://www.cdc.gov/niosh/topics/coding/collecting.html

Personal Protective Equipment (PPE)

PPE use	# Cases	# Cases with info available
Wore PPE at any time during the suspected exposure	#	#

Specify type(s) of PPE:

Food Section *Complete for food outbreaks*

Food vehicle undetermined? ❍ Yes ❍ No

If food vehicle undetermined, reason(s) supporting foodborne as the mode of transmission *(Select all that apply)*

❑ Epidemiologic evidence
❑ Laboratory evidence
❑ Environmental evidence
❑ Traceback investigation
❑ Other *(specify)*: _____

Question	Food Vehicle 1	Food Vehicle 2	Food Vehicle 3
Name of food			
Vehicle confirmed or suspected			
Reason(s) confirmed or suspected *Enter all from list in Appendix E*			
Ingredient(s) *Enter all*			
Contaminated ingredient(s) *Enter all*			
Method of processing *Enter all from list in Appendix E*			
Level of preparation *Enter all from list in Appendix E*			
Method of preparation & service *Enter all from list in Appendix E*			
Type of packaging *Enter all from list in Appendix E*			
Contaminated food imported to US?	❍ Yes, country: _____ ❍ Yes, country unknown ❍ No ❍ Unknown	❍ Yes, country: _____ ❍ Yes, country unknown ❍ No ❍ Unknown	❍ Yes, country: _____ ❍ Yes, country unknown ❍ No ❍ Unknown
Was product produced under U.S. domestic regulatory oversight?	❍ Yes, federal ❍ Yes, state only ❍ No ❍ Unknown	❍ Yes, federal ❍ Yes, state only ❍ No ❍ Unknown	❍ Yes, federal ❍ Yes, state only ❍ No ❍ Unknown
Was product sold under U.S. domestic regulatory oversight?	❍ Yes, federal ❍ Yes, state only ❍ No ❍ Unknown	❍ Yes, federal ❍ Yes, state only ❍ No ❍ Unknown	❍ Yes, federal ❍ Yes, state only ❍ No ❍ Unknown

Does the location of preparation have a certified food protection manager? ❍ Yes ❍ No ❍ Unknown

If yes, is the certified manager on-site during all hours of operation for the location of preparation? ❍ Yes ❍ No ❍ Unknown

Was an infectious food worker implicated as the source of contamination? ❍Yes ❍No ❍Unknown

If yes, select C9, C10, or C11 below

Food Contributing Factors *Select all that contributed to this outbreak*

❑ Select if Contributing factors unknown

Point of final preparation/sale (POS): restaurant, grocery store, private home/residence.

Before point of final preparation/sale:

- Pre-Harvest: farm or dairy, harvest area, growing field
- Post-Harvest: processing or pasteurization plant, distribution or storage facility, during transit
- Unknown if pre or post-harvest: occurred before point of final prep/sale, but point unknown

Contamination Factors:

If no contamination factor available to enter, please select reason:

❍N/A (does not apply to etiologic agent) ❍Unknown ❍None identified

Factor code	Factor	Source(s)	
C1	❑Toxin or chemical agent naturally part of tissue in food *(e.g., ciguatera, scombroid, mushroom poisoning)*	❑Point of Final Prep/Sale ❑Before POS Post-Harvest ❑Unknown location	❑Before POS Pre-Harvest ❑Before POS Unknown Pre or Post Harvest
C2	❑Poisonous substance or infectious agent **intentionally** added to food to cause illness *(does not include injury)*	❑Point of Final Prep/Sale ❑Before POS Post-Harvest ❑Unknown location	❑Before POS Pre-Harvest ❑Before POS Unknown Pre or Post Harvest
C3	❑Poisonous substance **accidentally/inadvertently** added to food *(e.g., cleaning compound or metallic ingredients accidentally added to food)*	❑Point of Final Prep/Sale ❑Before POS Post-Harvest ❑Unknown location	❑Before POS Pre-Harvest ❑Before POS Unknown Pre or Post Harvest
C4	❑Ingredients toxic in large amounts **accidentally** added to food *(e.g., niacin poisoning in bread, nitrites in cured meat)*	❑Point of Final Prep/Sale ❑Before POS Post-Harvest ❑Unknown location	❑Before POS Pre-Harvest ❑Before POS Unknown Pre or Post Harvest
C5	❑Container or equipment used to hold or convey food was made with toxic substances *(e.g., galvanized container used to store acidic food/beverage, flour stored in container that previously held toxic materials)*	❑Point of Final Prep/Sale ❑Before POS Post-Harvest ❑Unknown location	❑Before POS Pre-Harvest ❑Before POS Unknown Pre or Post Harvest
C6	❑Food contaminated by animal or environmental source **at point of final preparation/sale** (restaurant, private home, grocery store, etc.) *(e.g., mouse feces in pantry, leaking roof in restaurant)*	❑Point of Final Prep/Sale	
C7	❑Food contaminated by animal or environmental source **before arriving at point of final preparation** (pre or post-harvest) *(e.g., shellfish from polluted waters, crops contaminated by irrigation water,* Salmonella *in eggs, peanut butter in processing plant)*	❑Before POS Pre-Harvest ❑Before POS Post-Harvest	❑Before POS Unknown Pre or Post Harvest
C8	❑Cross-contamination of foods, excluding infectious food workers/handlers *(e.g., contamination of vehicle via contaminated surface, food, or fomites including, but not limited to, worker's hand, cutting board, preparation table, utensils, processing line)*	❑Point of Final Prep/Sale ❑Before POS Post-Harvest ❑Unknown location	❑Before POS Pre-Harvest ❑Before POS Unknown Pre or Post Harvest
C9	❑Contamination from infectious food worker/handler through **bare-hand contact** with food	❑Point of Final Prep/Sale ❑Before POS Post-Harvest ❑Unknown location	❑Before POS Pre-Harvest ❑Before POS Unknown Pre or Post Harvest
C10	❑Contamination from infectious food worker/handler through **gloved-hand contact** with food	❑Point of Final Prep/Sale ❑Before POS Post-Harvest ❑Unknown location	❑Before POS Pre-Harvest ❑Before POS Unknown Pre or Post Harvest
C11	❑Contamination from infectious food worker/handler through **unknown type of hand contact** with food or **indirect contact** with food *(e.g., contact with utensils in food)*	❑Point of Final Prep/Sale ❑Before POS Post-Harvest ❑Unknown location	❑Before POS Pre-Harvest ❑Before POS Unknown Pre or Post Harvest
C12	❑Contamination from infectious **non-food worker/handler** through direct or indirect contact with food *(e.g., contact with utensils in food)*	❑Point of Final Prep/Sale ❑Before POS Post-Harvest ❑Unknown location	❑Before POS Pre-Harvest ❑Before POS Unknown Pre or Post Harvest
C13	❑Other source of contamination (*specify*): _____	❑Point of Final Prep/Sale ❑Before POS Post-Harvest ❑Unknown location	❑Before POS Pre-Harvest ❑Before POS Unknown Pre or Post Harvest

Proliferation Factors: Bacterial and fungal outbreaks only

If no proliferation factor available to enter, select reason:
❍ N/A (does not apply to etiologic agent) ❍ Unknown ❍ None identified

Factor code	Factor	Source(s)
P1	❑ Allowing foods to remain out of temperature control for a prolonged period of time **during preparation** *(e.g., lengthy preparation time, allowing frozen foods to thaw at room temperature)*	❑ Point of Final Prep/Sale ❑ Before POS Pre-Harvest ❑ Before POS Post-Harvest ❑ Before POS Unknown Pre or Post Harvest ❑ Unknown location
P2	❑ Allowing foods to remain out of temperature control for a prolonged period of time **during food service or display** *(e.g., during buffet line)*	❑ Point of Final Prep/Sale ❑ Before POS Pre-Harvest ❑ Before POS Post-Harvest ❑ Before POS Unknown Pre or Post Harvest ❑ Unknown location
P3	❑ Inadequate **cold holding temperature** due to **malfunctioning refrigeration equipment**	❑ Point of Final Prep/Sale ❑ Before POS Pre-Harvest ❑ Before POS Post-Harvest ❑ Before POS Unknown Pre or Post Harvest ❑ Unknown location
P4	❑ Inadequate **cold holding temperature** due to an **improper practice** *(e.g., overloaded refrigerator/cooler, storing food above fill line)*	❑ Point of Final Prep/Sale ❑ Before POS Pre-Harvest ❑ Before POS Post-Harvest ❑ Before POS Unknown Pre or Post Harvest ❑ Unknown location
P5	❑ Inadequate **hot holding temperature** due to **malfunctioning equipment**	❑ Point of Final Prep/Sale ❑ Before POS Pre-Harvest ❑ Before POS Post-Harvest ❑ Before POS Unknown Pre or Post Harvest ❑ Unknown location
P6	❑ Inadequate **hot holding temperature** due to an **improper practice** *(e.g., steam table not turned on, overloaded hot holder/crockpot used to heat or reheat food)*	❑ Point of Final Prep/Sale ❑ Before POS Pre-Harvest ❑ Before POS Post-Harvest ❑ Before POS Unknown Pre or Post Harvest ❑ Unknown location
P7	❑ Improper cooling of food *(e.g., food refrigerated in large quantities during cooling process)*	❑ Point of Final Prep/Sale ❑ Before POS Pre-Harvest ❑ Before POS Post-Harvest ❑ Before POS Unknown Pre or Post Harvest ❑ Unknown location
P8	❑ Extended refrigeration of food for an unsafe amount of time, relative to the food product and pathogen *(e.g., Listeria growth after refrigeration of deli meat for more than 7 days)*	❑ Point of Final Prep/Sale ❑ Before POS Pre-Harvest ❑ Before POS Post-Harvest ❑ Before POS Unknown Pre or Post Harvest ❑ Unknown location
P9	❑ Inadequate Reduced Oxygen Packaging (ROP) of food *(e.g., vacuum-packed fish, salad in gas-flushed bag, garlic packaged in oil)*	❑ Point of Final Prep/Sale ❑ Before POS Pre-Harvest ❑ Before POS Post-Harvest ❑ Before POS Unknown Pre or Post Harvest ❑ Unknown location
P10	❑ Inadequate non-temperature dependent processes *(e.g., acidification, water activity, fermentation)* applied to a food to prevent pathogens from multiplying	❑ Point of Final Prep/Sale ❑ Before POS Pre-Harvest ❑ Before POS Post-Harvest ❑ Before POS Unknown Pre or Post Harvest ❑ Unknown location
P11	❑ Other situations that promoted or allowed microbial growth or toxic production *(specify):* _____	❑ Point of Final Prep/Sale ❑ Before POS Pre-Harvest ❑ Before POS Post-Harvest ❑ Before POS Unknown Pre or Post Harvest ❑ Unknown location

Survival Factors: Bacterial, viral, parasitic, and fungal outbreaks only

If no survival factor available to enter, select reason:
❍ N/A (does not apply to etiologic agent) ❍ Unknown ❍ None identified

Factor code	Factor	Source(s)
S1	❑ Inadequate time and temperature control during **initial cooking/ thermal processing of food** *(e.g., inadequate pasteurization of milk, inadequate cooking of meats/poultry prior to service)*	❑ Point of Final Prep/Sale ❑ Before POS Pre-Harvest ❑ Before POS Post-Harvest ❑ Before POS Unknown Pre or Post Harvest ❑ Unknown location
S2	❑ Inadequate time and temperature control during **reheating** of food *(e.g., insufficient reheating of sauces)*	❑ Point of Final Prep/Sale ❑ Before POS Pre-Harvest ❑ Before POS Post-Harvest ❑ Before POS Unknown Pre or Post Harvest ❑ Unknown location
S3	❑ Inadequate time and temperature control during **freezing** of food designed for pathogen destruction	❑ Point of Final Prep/Sale ❑ Before POS Pre-Harvest ❑ Before POS Post-Harvest ❑ Before POS Unknown Pre or Post Harvest ❑ Unknown location
S4	❑ Inadequate non-temperature dependent processes *(e.g., acidification, water activity, fermentation)* applied to food to prevent pathogen from surviving	❑ Point of Final Prep/Sale ❑ Before POS Pre-Harvest ❑ Before POS Post-Harvest ❑ Before POS Unknown Pre or Post Harvest ❑ Unknown location

Factor code	Factor	Source(s)
S5	❑ No attempt was made to inactivate the contaminant through initial cooking/thermal processing, freezing, or chemical processes	❑ Point of Final Prep/Sale ❑ Before POS Pre-Harvest ❑ Before POS Post-Harvest ❑ Before POS Unknown Pre or Post Harvest ❑ Unknown location
S6	❑ Other process failures that permit pathogen survival (*specify*): _____	❑ Point of Final Prep/Sale ❑ Before POS Pre-Harvest ❑ Before POS Post-Harvest ❑ Before POS Unknown Pre or Post Harvest ❑ Unknown location

Food Contributing Factors Remarks:

_____

_____

_____

Traceback & Recall *Complete only for food and animal contact outbreaks*

Traceback Investigation *Include all traceback points that played a role in the contamination of the implicated vehicle or helped amplify or spread the contaminant, and any details regarding the implicated point of service/sale*

Traceback point(s)	1	2	3
Company name			
Company type *Description of implicated company (e.g., restaurant, retailer, farm, breeder, supplier/ distributor, manufacturer, processor, producer, etc.)*			
Country			
State			
Traceback findings *Select all that apply from list in Appendix E*			

What federal agencies were involved in the traceback investigation? *(Select all that apply)*

❑ CDC ❑ FDA ❑ USDA/APHIS ❑ USDA/FSIS ❑ Other *(specify)*: _____ ❑ None

Recall

❑ Food product was recalled

Exact item(s) recalled: _____

Link to official recall announcement(s): _____

Comments:

_____

Water Section *Complete for water outbreaks*

Supporting evidence

1. Estimated total number of persons with primary water exposure: _____ #

2. What evidence implicated the water exposure(s)? *(Select all that apply)*

❑ Epidemiologic data ❑ Clinical laboratory data ❑ Environmental health data ❑ Prior experience makes this a likely source

3. Were data collected to estimate association *(e.g., odds ratio)* ? ❍ Yes ❍ No ❍ Unknown

a. If **no or unknown,** was water the common source shared by persons who were ill? ❍ Yes ❍ No ❍ Unknown

b. If **yes**, please provide the epidemiologic data that implicates the water exposure:

Exposure description	Attack rate *(number ill/number exposed as n/N)*	Effect measure *(numeric)*	Type of effect measure *(e.g., odds ratio, relative risk)*	p-Value	95% confidence interval

Water Remarks

Legionella and Other Biofilm-Associated Pathogens

Additional questions for biofilm-associated pathogens

1. Did the outbreak occur in a facility with any of the following characteristics? (*Select all that apply)*

- ❑ >10 stories
- ❑ "Green" components *(e.g., low-flow engineering)*
- ❑ Construction in building within the last six months
- ❑ Construction nearby within the last six months
- ❑ Associated cooling towers
- ❑ Other associated aerosolizing devices *(e.g., hot tub, decorative fountains, misters)*
- ❑ Supplemental building disinfection system
- ❑ Centralized hot water system
- ❑ Other *(specify)*: _____
- ❑ Unknown
- ❑ None

Facility characteristic remarks: _____

2. Did the facility have a water management program in place before the outbreak? ❍ Yes ❍ No ❍ Unknown

a. If **yes**, which of these elements did the program include: (*Select all that apply)*

- ❑ Multi-disciplinary water management program team
- ❑ Diagram of the building's water system
- ❑ Identification of control points/locations *(e.g., areas of potential* Legionella *growth and spread)*
- ❑ Established control limits
- ❑ Regular water parameter testing *(e.g., disinfectant, temperature, pH)*
- ❑ Plan for implementing corrective action *(tasks taken when monitoring values are outside of control limits)*
- ❑ Method of plan verification *(e.g., pathogen testing, clinical surveillance)*
- ❑ Documentation of water management program performance and activities
- ❑ Unknown
- ❑ None

b. If **yes**, who designed the water management program: *(Select all that apply)*

- ❑ Facility
- ❑ Outside contractor
- ❑ Public health department
- ❑ Other *(specify)*: _____
- ❑ Unknown

3. Were recommendations provided to the facility to decrease the risk of *Legionella* or other biofilm-associated pathogen exposure?
❍ Yes ❍ No ❍ Unknown ❍ Not applicable

a. If **yes**, please select all that apply:

- ❑ Flushing potable water system
- ❑ Superheat potable water system
- ❑ Implement secondary potable water disinfection system
- ❑ Implement point of use filter(s)
- ❑ Hyperchlorination of potable water system
- ❑ Hyperchlorination of recreational water system
- ❑ Low level chlorination of potable water system
- ❑ Water restrictions *(e.g., discontinuing use of showers, faucets, or other water uses)*
- ❑ Closure of an associated device *(e.g., shutdown of a fountain, hot tub)*
- ❑ Other *(specify):*

_____

4. Were samples tested for *Legionella* at a laboratory participating in a national proficiency program *(e.g., ELITE, ELAP, AIHA)*?
❍ Yes ❍ No ❍ Unknown ❍ Not applicable

Biofilm-associated pathogen remarks

Recreational Water — Treated Venue

Water quality management — treated recreational water

1. Was water venue(s) inspected in the 6 months before the outbreak? ❍ Yes ❍ No ❍ Unknown ❍ Not applicable

[NOTE: If yes, attach inspection report(s)]

Treated recreational water remarks

Factors contributing to recreational water contamination or increased exposure in treated venues

Factor	Recreational water *(treated venue)* contributing factors *Select all that apply**	Documented/observed or Suspected†	
Unknown	❑ Contributing factors are unknown	N/A	
People	❑ Maximum bather load exceeded	❍ Documented/observed	❍ Suspected
	❑ Water venue(s) primarily used by children ages <5 years	❍ Documented/observed	❍ Suspected
	❑ Fecal/vomit incident in water	❍ Documented/observed	❍ Suspected
	❑ Patrons or staff entered the water when ill with diarrhea	❍ Documented/observed	❍ Suspected
Facility Design	❑ Hygiene facilities *(e.g., toilets, diaper-changing stations)* inadequate or distant from water venue(s)	❍ Documented/observed	❍ Suspected
	❑ Cross connection with other water venue(s) or with wastewater/ non-potable water	❍ Documented/observed	❍ Suspected
	❑ Ventilation insufficient in indoor aquatic facility	❍ Documented/observed	❍ Suspected
	❑ New construction or alteration of water venue or indoor facility	❍ Documented/observed	❍ Suspected
Maintenance	❑ Chemical feed continues when no or low water in recirculation system	❍ Documented/observed	❍ Suspected
	❑ Disinfection *(e.g., chlorine, bromine)* inadequate or absent	❍ Documented/observed	❍ Suspected
	❑ Disinfection *(e.g., chlorine, bromine)* excessive	❍ Documented/observed	❍ Suspected
	❑ Chloramine concentration >0.4 ppm	❍ Documented/observed	❍ Suspected
	❑ Filtration system malfunctioning or inadequate	❍ Documented/observed	❍ Suspected
	❑ Recirculation pump off or restarted with swimmers in water	❍ Documented/observed	❍ Suspected
	❑ No regular scrubbing to remove slime/biofilm	❍ Documented/observed	❍ Suspected
	❑ No regular hot tub/spa draining	❍ Documented/observed	❍ Suspected
	❑ Stagnant water in hot tub/spa piping	❍ Documented/observed	❍ Suspected
Policy and management	❑ No qualified operator§ on payroll or under contract	❍ Documented/observed	❍ Suspected
	❑ No qualified operator§ or responsible supervisor¶ on duty during outbreak	❍ Documented/observed	❍ Suspected
	❑ Water quality monitoring *(e.g., test kit, testing frequency)* inadequate or absent	❍ Documented/observed	❍ Suspected
	❑ Record keeping *(e.g., water quality testing results, fecal incident response)* inadequate or absent	❍ Documented/observed	❍ Suspected
	❑ Employee illness policies not enforced or absent	❍ Documented/observed	❍ Suspected
	❑ Water venue(s) not regulated as recreational water venue(s) *(e.g., does not meet state/local definition)*	❍ Documented/observed	❍ Suspected

*Only select what was found during investigation.
†"Documented/Observed" refers to information gathered through document reviews, direct observations, and/or interviews. "Suspected" refers to factors that probably occurred but for which no documentation (as defined previously) is available.
§A qualified operator is defined as someone who has completed training approved by appropriate state/local officials.
¶A responsible supervisor is defined as someone who conducts and records results of water quality testing, properly maintains water quality, performs general maintenance procedures, and identifies when to close venues to protect public health without a full-time onsite qualified operator.

Other contributing factors

Recreational Water — Untreated Venue

Water quality management — untreated recreational water

1. Did the venue meet recreational water quality standards *(e.g., applicable local, state, or Environmental Protection Agency [EPA] criteria)* at the time of the outbreak?

❍ Yes ❍ No ❍ Unknown ❍ Not Applicable

2. Do you have microbiological water quality testing results collected in the 3 months before the outbreak?

❍ Yes ❍ No ❍ Unknown

[NOTE: If yes, please attach results]

Untreated recreational water remarks

Factors contributing to recreational water contamination and/or increased exposure in untreated venues

Factor	Recreational water ***(untreated venue)*** contributing factors *Select all that apply**	Documented/observed or Suspected†	
Unknown	❑ Contributing factors are unknown	N/A	
People	❑ Maximum bather load exceeded	❍ Documented/observed	❍ Suspected
	❑ Water venue(s) primarily used by children ages <5 years	❍ Documented/observed	❍ Suspected
	❑ Fecal/vomit incident in water	❍ Documented/observed	❍ Suspected
	❑ Patrons or staff entered the water when ill with diarrhea	❍ Documented/observed	❍ Suspected
	❑ Stagnant or poorly circulating shallow water in swim area	❍ Documented/observed	❍ Suspected
Environment	❑ Heavy rainfall and runoff	❍ Documented/observed	❍ Suspected
	❑ Algal bloom	❍ Documented/observed	❍ Suspected
	❑ Seasonal variation in water quality	❍ Documented/observed	❍ Suspected
	❑ Animal contamination: Domestic: pet *(e.g., dog)*	❍ Documented/observed	❍ Suspected
	❑ Animal contamination: Domestic: livestock *(e.g., cow, pig)*	❍ Documented/observed	❍ Suspected
	❑ Animal contamination: Wildlife: birds *(e.g., goose)*	❍ Documented/observed	❍ Suspected
	❑ Animal contamination: Wildlife: Other *(specify): (e.g., deer)*	❍ Documented/observed	❍ Suspected
	❑ Animal contamination: Other *(specify):*	❍ Documented/observed	❍ Suspected
	❑ Sewage contamination: Wastewater treatment plant, sewer system	❍ Documented/observed	❍ Suspected
	❑ Sewage contamination: Septic tanks	❍ Documented/observed	❍ Suspected
	❑ Improper dumping of sewage *(e.g., from boat, RV)*	❍ Documented/observed	❍ Suspected
	❑ Application or release of chemical	❍ Documented/observed	❍ Suspected
Policy and management	❑ No trained beach manager§ on payroll or under contract	❍ Documented/observed	❍ Suspected
	❑ No trained beach manager§ on duty when initial outbreak exposure	❍ Documented/observed	❍ Suspected
	❑ Monitoring of microbiological water quality *(e.g., frequency, site of water sample collection)* inadequate or absent	❍ Documented/observed	❍ Suspected
	❑ Inadequate communication *(e.g., signage, website posting)* to patrons of poor recreational water quality or closures	❍ Documented/observed	❍ Suspected
	❑ Hygiene facilities *(e.g., toilets, diaper-changing stations)* inadequate or distant from water venue(s)	❍ Documented/observed	❍ Suspected
	❑ Water venue(s) not designated and managed by state/local jurisdiction(s) as recreational water venue(s)	❍ Documented/observed	❍ Suspected

*Only select what was found during investigation.

† "Documented/Observed" refers to information gathered through document reviews, direct observations, and/or interviews. "Suspected" refers to factors that probably occurred but for which no documentation (as defined previously) is available.

§A trained beach manager is defined as someone who has successfully completed training approved by appropriate state/local officials.

Other contributing factors

Drinking Water Systems

Water quality management — drinking water system(s)

1. Did the drinking water system(s) have any monitoring violations in the 1 month before the outbreak?
❍ Yes ❍ No ❍ Unknown ❍ Not Applicable

a. If **yes**, explain: _____

2. Did the drinking water system(s) have any maximum contaminant level (MCL) violations in the 1 month before the outbreak?
❍ Yes ❍ No ❍ Unknown ❍ Not Applicable

a. If **yes**, explain: _____

3. Did the drinking water system(s) have any violations in the 12 months before the outbreak?§
❍ Yes ❍ No ❍ Unknown ❍ Not Applicable

a. If **yes**, explain: _____

§ Sources of information about past violations can be obtained from utility records, consumer confidence reports (water quality reports), or violation records from state or local health departments

Drinking water remarks

Factors contributing to drinking water contamination or increased exposure to contaminated drinking water

Location in system contributing to drinking water contamination

1. Was there a problem with the quality of the source water?
❍ Yes *(See contributing factor section 1 below)* ❍ No ❍ Unknown

2. Was water quality affected by a problem occurring with the water treatment or within the distribution system before entry into a building or house?
❍ Yes *(See contributing factor section 2 below)* ❍ No ❍ Unknown
(NOTE: For a community water system, distribution refers to the system of pipes and storage infrastructure under the jurisdiction of the water utility prior to the water meter or property line if the system is not metered. For non-community and non-public water systems, distribution refers to the system of pipes and storage infrastructure prior to entry into a building or house)

3. Was water quality affected by a problem occurring after the water meter or outside the jurisdiction of a water utility?
(e.g., in a service line leading to a house/building, in the plumbing inside a house/building, during shipping/hauling, during storage other than in the distribution system, at the point of use, involving commercially-bottled water)
❍ Yes *(See contributing factor section 3 below)* ❍ No ❍ Unknown

Drinking Water Contributing Factors

Factor	Drinking water contributing factors *Select all that apply**	Documented/observed or Suspected†	
Unknown	❑ Contributing factors are unknown	N/A	
Source water	❑ Groundwater under direct influence of surface water *(e.g., shallow well)*	❍ Documented/observed	❍ Suspected
	❑ Contamination through limestone or fissured rock *(e.g., karst)*	❍ Documented/observed	❍ Suspected
	❑ Use of alternative source of water by a water utility	❍ Documented/observed	❍ Suspected
	❑ Algal bloom	❍ Documented/observed	❍ Suspected
	❑ Domestic animal contamination *(e.g., livestock, concentrated feeding operation, pets)*	❍ Documented/observed	❍ Suspected
	❑ Wildlife contamination	❍ Documented/observed	❍ Suspected
	❑ Improper construction, location, or maintenance of a well or spring	❍ Documented/observed	❍ Suspected
	❑ Extreme weather in area *(e.g., flooding/heavy rains, drought)*	❍ Documented/observed	❍ Suspected
	❑ Contamination from agricultural chemical application (*e.g., fertilizer, pesticides)*	❍ Documented/observed	❍ Suspected
	❑ Contamination from chemical pollution not related to agricultural application	❍ Documented/observed	❍ Suspected
	❑ Wastewater contamination of drinking water source *(e.g., septic system contaminating groundwater, community sewer system malfunction or overflow)*	❍ Documented/observed	❍ Suspected
Water treatment/ distribution system	❑ Filtration inadequate or absent in drinking water system	❍ Documented/observed	❍ Suspected
	❑ Disinfection *(e.g., chlorine, monochloramine)* inadequate or absent in drinking water system	❍ Documented/observed	❍ Suspected
	❑ Aging or corroded water distribution components *(e.g., pipes, tanks, valves)*	❍ Documented/observed	❍ Suspected
	❑ Low water pressure event§ in the distribution system	❍ Documented/observed	❍ Suspected
	❑ Wastewater contamination after water treatment *(e.g., cross connection or malfunctioning back-flow preventer in distribution system)*	❍ Documented/observed	❍ Suspected
Outside water utility jurisdiction or at point of use	❑ Temperatures in optimal range for opportunistic plumbing pathogen growth	❍ Documented/observed	❍ Suspected
	❑ Disinfectant *(e.g., chlorine, monochloramine)* inadequate or absent in building water system	❍ Documented/observed	❍ Suspected
	❑ Stagnation of water in building water system *(e.g., sporadic occupancy, poorly designed water system, interruption in water supply)*	❍ Documented/observed	❍ Suspected
	❑ Construction in or around building	❍ Documented/observed	❍ Suspected
	❑ Water system components *(e.g., pipe, tanks, disinfectant system, thermostat, valves)* not functioning as designed	❍ Documented/observed	❍ Suspected
	❑ Equipment/device *(e.g., soda machine)* contamination or failure *(e.g., leaching from device's water line, manufacturer maintenance recommendations not followed, design flaw)*	❍ Documented/observed	❍ Suspected
	❑ Missing or poor adherence to industry compliant water management programs	❍ Documented/observed	❍ Suspected
	❑ Contamination of commercially-bottled water at point of use	❍ Documented/observed	❍ Suspected

*Only select what was found during investigation.
†"Documented/Observed" refers to information gathered through document reviews, direct observations, and/or interviews. "Suspected" refers to factors that probably occurred but for which no documentation (as defined previously) is available.
§Low water pressure is relative to what is normally observed in the distribution system. Sources of low pressure could include events such as main breaks, maintenance activities, issues with back-flow or cross-connections, pump station activity, service interruptions (e.g., due to power outages), hydrant flushing, and heightened water demand.

Other contributing factors

Other Exposures to Water, Including Other Environmental Exposures to Water

Implicated water — water exposure description

1. How did the exposure(s) to the water system/source occur? *Refer to list in Appendix E* _____

Other exposures to water remarks

_____

_____

_____

Factors contributing to contamination and/or increased exposure to contaminated water

Factor	Contributing factors *Select all that apply**	Documented/observed or Suspected†	
Unknown	❑ Contributing factors are unknown	N/A	
Cross cutting	❑ Missing or poor adherence to industry compliant water management programs	❍ Documented/observed	❍ Suspected
	❑ Presence of dirt, organic matter, or other debris in the basin or fill	❍ Documented/observed	❍ Suspected
	❑ Construction in or around the building	❍ Documented/observed	❍ Suspected
	❑ Missing or inadequate disinfectant	❍ Documented/observed	❍ Suspected
	❑ Lack of a written cleaning and maintenance plan/program	❍ Documented/observed	❍ Suspected
	❑ Temperatures in optimal range for opportunistic plumbing pathogen growth	❍ Documented/observed	❍ Suspected
	❑ Broken/damaged sewer pipe	❍ Documented/observed	❍ Suspected
	❑ Recycling of water	❍ Documented/observed	❍ Suspected
Other	❑ Improper start-up or shutdown procedures	❍ Documented/observed	❍ Suspected
	❑ Presence of scale or corrosion	❍ Documented/observed	❍ Suspected
	❑ Damaged or missing drift eliminators	❍ Documented/observed	❍ Suspected
	❑ Missing or inadequate scale and corrosion inhibitors	❍ Documented/observed	❍ Suspected
	❑ History of recent repairs to the device	❍ Documented/observed	❍ Suspected
	❑ Location of device near high risk area *(e.g., building air intake, windows that can be opened)*	❍ Documented/observed	❍ Suspected
	❑ Intended as an ornamental fountain but utilized as an interactive fountain	❍ Documented/observed	❍ Suspected
	❑ Inadequate disinfection for recreational use	❍ Documented/observed	❍ Suspected
	❑ Inadequate filtration for recreational use	❍ Documented/observed	❍ Suspected
	❑ Presence of submerged lighting	❍ Documented/observed	❍ Suspected

*Only select what was found during investigation.
† "Documented/Observed" refers to information gathered through document reviews, direct observations, and/or interviews. "Suspected" refers to factors that probably occurred but for which no documentation (as defined previously) is available.

Other contributing factors

_____

_____

_____

_____

_____

_____

Undetermined Exposures to Water

Implicated water — water description

1. Which water exposure(s) were suspected in the outbreak? *(Select all that apply)*
- ❑ Treated recreational water
- ❑ Untreated recreational water
- ❑ Drinking water in public or individual water systems
- ❑ Other exposures to water including environmental exposure to water
- ❑ Specific water exposure(s) could not be identified

Undetermined exposure to water remarks

Factors contributing to contamination and/or increased exposure to contaminated water

1. Were any contributing factors documented or suspected† in this outbreak investigation? ❍ Yes ❍ No ❍ Unknown

† "Documented" refers to information gathered through document reviews, direct observations, and/or interviews. "Suspected" refers to factors that probably occurred but for which no documentation (as defined previously) is available.

If yes, please describe the contributing factors below.

Contributing factors

Outbreak Detection & Investigation Methods

Outbreak Detection — How was the outbreak initially detected? *Select all that apply*

- ❑ Public complaint to health department
- ❑ Routine public health surveillance interview
- ❑ Notification from facility *(e.g., long-term care facility, school, prison, restaurant)*
- ❑ Healthcare provider report
- ❑ Notification from CDC lab system *(e.g., PulseNet)*
- ❑ Notification from other CDC group
- ❑ Notification from other public health lab
- ❑ Website or social media *(e.g., Twitter, Yelp, Facebook)*
- ❑ Media report from news outlet
- ❑ Other *(specify):*

Investigation Methods *Select all that apply*

Epidemiologic
- ❑ Binomial probability assessment
- ❑ Case-control study
- ❑ Case-case study
- ❑ Cohort study
- ❑ Interviews only of ill persons
- ❑ Other *(specify):*

Environmental
- ❑ Food preparation review
- ❑ Water system assessment: drinking water
- ❑ Water system assessment: non-potable water
- ❑ Treated or untreated recreational water venue assessment
- ❑ Environmental, food, water, animal, or sample testing
- ❑ Other *(specify):*

Traceback
- ❑ Food, animal, or water investigation
- ❑ Consumer purchase records *(e.g., shopper card)*
- ❑ Investigation at distributor, supplier, or production facilities *(e.g., factory, treatment plant)*
- ❑ Investigation at original source *(e.g., farm, water source)*
- ❑ Other *(specify):*

Investigation methods comments

Other Linked CDC Systems

NEARS

NEARS Evaluation ID 1. _____ 2. _____ 3. _____ 4. _____

OHHABS

OHHABS ID 1. _____ 2. _____

Interventions

1. Were any interventions recommended or implemented to help stop the outbreak? ❍ Yes ❍ No ❍ Unknown

a. If no, explain why none were recommended or implemented.

_____

_____

_____

b. If yes, what type(s) of interventions were recommended or implemented to help stop the outbreak? *Select all that apply in the table below using list in Appendix E.*

Directions:

Intervention Type

Any intervention type can be selected for any mode of transmission regardless of the header listed for each table below.

Any Point of Intervention OR Point of Exposure

Complete for all modes of transmission. For animal contact, foodborne, and indeterminate/unknown outbreaks, enter interventions at the point of exposure in the "**Any Point of Intervention OR Point of Exposure**" column.

Recommended or implemented at other points of intervention

Complete only for animal contact, foodborne, and indeterminate/unknown outbreaks for columns:

- **Point of distribution**
- **Point of processing**
- **Source**

Facility/site/venue and equipment – *Recommended and Implemented Interventions*

Intervention type	**Any Point of Intervention OR Point of Exposure** *(Complete for all modes of transmission. For animal contact, foodborne, and indeterminate/unknown outbreaks, enter interventions at the point of exposure)*	**Point of distribution*** *(e.g., shipping facility, transportation equipment)*	**Point of processing*** *(e.g., pasteurization plant)*	**Source*** *(e.g., farm)*
Facility/site/venue closed *(for at least 1 day)*				
Facility/site/venue closed <1 day or partially closed				
Cleaning protocol modified				
Facility/site/venue deep cleaned				
Equipment deep cleaned				
Equipment acquired, adjusted, repaired, replaced, or discarded				
Facility/site/venue physically or structurally modified				
Health promotion signage posted				
Personal protective equipment provided by facility				

*Complete for animal contact, foodborne, and indeterminate/unknown outbreaks

People – ***Recommended and Implemented Interventions***

Intervention type	**Any Point of Intervention OR Point of Exposure** *(Complete for all modes of transmission. For animal contact, foodborne, and indeterminate/unknown outbreaks, enter interventions at the point of exposure)*	**Point of distribution*** *(e.g., shipping facility, transportation equipment)*	**Point of processing*** *(e.g., pasteurization plant)*	**Source*** *(e.g., farm)*
Ill workers excluded				
Ill workers restricted				
Ill children or persons excluded				
Ward(s) closed to new admissions				
Visitors excluded				
Asymptomatic persons' stools screened *(e.g., for exclusion)*				
Ill persons' stools screened *(e.g., for exclusion)*				
Vaccination or prophylaxis				
Isolation/quarantine/cohorting				
Education/training *(e.g., hand washing, certification)*				

*Complete for animal contact, foodborne, and indeterminate/unknown outbreaks

Animals– ***Recommended and Implemented Interventions***

Intervention type	**Any Point of Intervention OR Point of Exposure** *(Complete for all modes of transmission. For animal contact, foodborne, and indeterminate/unknown outbreaks, enter interventions at the point of exposure)*	**Point of distribution*** *(e.g., shipping facility, transportation equipment)*	**Point of processing*** *(e.g., pasteurization plant)*	**Source*** *(e.g., farm)*
Animal(s) quarantined or movement stopped				
Animal(s) relocated				
Herd culled				
Vaccination or prophylaxis				

*Complete for animal contact, foodborne, and indeterminate/unknown outbreaks

Food – ***Recommended and Implemented Interventions***

Intervention type	**Any Point of Intervention OR Point of Exposure** *(Complete for all modes of transmission. For animal contact, foodborne, and indeterminate/unknown outbreaks, enter interventions at the point of exposure)*	**Point of distribution*** *(e.g., shipping facility, transportation equipment)*	**Point of processing*** *(e.g., pasteurization plant)*	**Source*** *(e.g., farm)*
Menu modified				
Food preparation processes modified				
Self-service discontinued				
Food withdrawn (before recall)				
Food discarded				
Food embargoed				
Food source modified *(e.g., vendor)*				

*Complete for animal contact, foodborne, and indeterminate/unknown outbreaks

Water – ***Recommended and Implemented Interventions***

Intervention type	**Any Point of Intervention OR Point of Exposure** *(Complete for all modes of transmission. For animal contact, foodborne, and indeterminate/unknown outbreaks, enter interventions at the point of exposure)*	**Point of distribution*** *(e.g., shipping facility, transportation equipment)*	**Point of processing*** *(e.g., pasteurization plant)*	**Source*** *(e.g., farm)*
Water restrictions issued				
Water advisory issued *(e.g., drinking, swimming)*				
Water chemically treated *(e.g., hyperchlorination, secondary disinfection)*				
Water filtered				
Water system superheated				
Water system flushed				

*Complete for animal contact, foodborne, and indeterminate/unknown outbreaks

Other – ***Recommended and Implemented Interventions***

Intervention type	**Any Point of Intervention OR Point of Exposure** *(Complete for all modes of transmission. For animal contact, foodborne, and indeterminate/unknown outbreaks, enter interventions at the point of exposure)*	**Point of distribution*** *(e.g., shipping facility, transportation equipment)*	**Point of processing*** *(e.g., pasteurization plant)*	**Source*** *(e.g., farm)*
Other *(specify):* _____				
Other *(specify):* _____				
Other *(specify):* _____				

*Complete for animal contact, foodborne, and indeterminate/unknown outbreaks

2. Were any public communications released for this outbreak*? (e.g., press release or outbreak notice)* ❍ Yes ❍ No ❍ Unknown

If yes, by what group(s)? (*Select all that apply)*

- ❑ State/local/territorial health department
- ❑ Other state/local/territorial government agency *(specify)*: _____
- ❑ Federal government
- ❑ Industry
- ❑ Facility
- ❑ Other *(specify)*: _____

Remarks about interventions

Remarks

General Remarks *Briefly describe any important aspects of the outbreak not covered above, including links to communications or publications.*

Please attach summaries or add links to relevant publications.

Thank you for completing this form. These data will help us prevent illnesses.