General

National Outbreak Reporting System

Waterborne Disease Transmission

This form is used to report waterborne disease outbreak investigations. This form has 6 parts, indicated by tabs at the top of each page. Part 1 asks for the minimum or basic information about the outbreak investigation. Part 2 asks for epidemiological data and clinical specimen test results. Parts 3, 4, 5 and 6 collect information about types of water exposure (treated recreational water, untreated recreational water, drinking water, and water not intended for drinking/unknown intent). Only 1 of these 4 water exposure parts should be completed for an outbreak investigation report.

CDC USE ONLY

CDC Report ID	State Report ID
A	B

Form Approved
OMB No. 0920-0004

General Section

Primary Mode of Transmission *(check one)* C

- ☐ Food *(Complete CDC 52.13)*
- ☐ Water *(Complete tabs for General, Water-General and type of water exposure)*
- ☐ Animal contact *(Complete CDC 52.13)*
- ☐ Person-to-person *(Complete CDC 52.13)*
- ☐ Environmental contamination other than food/water *(Complete CDC 52.13)*
- ☐ Indeterminate/Other/Unknown *(Complete CDC 52.13)*

Investigation Methods *(check all that apply)* D

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

Comments E,F

Dates (mm/dd/yyyy)

Date first case became ill *(required)* _____ G

Date last case became ill _____ H

Date of initial exposure _____ I

Date of last exposure _____ J

Date of report to CDC (other than this form) _____ K

Date of notification to State/Territory or Local/Tribal Health Authorities _____ L

Geographic Location

Reporting state: M

☐Exposure occurred in multiple states N

☐Exposure occurred in a single state but cases resided in multiple states O

Other states: P

Reporting county: Q

☐Exposure occurred in multiple counties in reporting state R

☐Exposure occurred in a single county but cases resided in multiple counties in reporting state S

Other counties: T

City/Town/Place of exposure: U

Do not include proprietary or private facility names

Primary Cases

Number of Primary Cases	
# Lab-confirmed cases	V
# Probable cases	W
# Estimated total primary cases	X

Sex *(estimated percent of the primary cases)*		
Male	Y	%
Female	Z	%

	# Cases	Total # of cases for whom info is available
# Died	AA	AE
# Hospitalized	AB	AF
# Visited Emergency Room	AC	AG
# Visited health care provider (excluding ER visits)	AD	AH

Approximate percent of primary cases in each age group			
<1 year	AI %	20–49 years	AM %
1–4 years	AJ %	50–74 years	AN %
5–9 years	AK %	≥ 75 years	AO %
10–19 years	AL %	Unknown	AP %

General

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

Incubation Period *(select appropriate units)*				Duration of Illness *(among recovered cases-select appropriate units)*			
Shortest	AO	AR	Min, Hours, Days	Shortest	AY	AZ	Min, Hours, Days
Median	AS	AT	Min, Hours, Days	Median	BA	BB	Min, Hours, Days
Longest	AU	AV	Min, Hours, Days	Longest	BC	BD	Min, Hours, Days
Total # of cases for whom info is available		AW		Total # of cases for whom info is available		BE	
☐ Unknown incubation period	AX			☐ Unknown duration of illness	BF		

Signs or Symptoms

Feature	# Cases with signs or symptoms	Total # cases for whom info available
Vomiting		
Diarrhea		
Bloody stools		
Fever	BG	BH	BI
Abdominal cramps		
HUS		
Asymptomatic		

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	BJ	# Lab-confirmed secondary cases	BK
		# Probable secondary cases	BL
		Estimated total secondary ill	BM
		Total # of cases (Primary + Secondary)	BN

Environmental Health Specialists Network *(if applicable)*

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

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

☐ Please check if traceback conducted BP

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

Recall

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

Type of item recalled: BW

Comments: BX

Reporting Agency

Agency name: BY

E-mail: CB

Contact name: BZ

Contact title: CC

Phone no.: CA

Fax no.: CD

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)*

CE

Waterborne Disease and Outbreaks - General

Type of Water Exposure *(check ONE box)* GA

- ☐ Water intended for recreational purposes – treated venue (e.g., pool, spa/whirlpool/hot tub, spray pad)
- ☐ Water intended for recreational purposes – untreated venue (e.g., freshwater lake, hot spring, marine beach)
- ☐ Water intended for drinking (includes water used for bathing/showering)
- ☐ Water not intended for drinking or water of unknown intent (e.g., cooling/industrial, occupational, decorative/display)

Geographic Location

Percent of primary cases living in reporting state : GB ___%

Associated Events

Was exposure associated with a specific event or gathering? GC

☐ Yes ☐ No ☐ Unknown

If **Yes**, what type of event or gathering was involved?

GD _____

If outbreak occurred during a defined event, dates of event:

Start date: GE _____ (mm/dd/yyyy) End date: GF _____ (mm/dd/yyyy)

Symptoms

For each category, indicate # of persons with:

Gastrointestinal symptoms/ conditions GH GI _____

Respiratory symptoms/ conditions _____

Skin symptoms/conditions _____

Ear symptoms/conditions _____

Eye symptoms/conditions _____

Neurologic symptoms/ conditions _____

Wound infections _____

Other, specify (e.g., hepatitis A, leptospirosis): _____

Route of Entry

☐ Ingestion GJ

☐ Contact

☐ Inhalation

☐ Other, specify: _____

☐ Unknown

Epidemiologic Data

1. Estimated total number of persons with primary exposure: GK _____
2. Were data collected from comparison groups to estimate risk? ☐ Yes *(specify in table below)* ☐ No ☐ Unknown GL

   If ***No*** or ***Unknown***, was water the only common source shared by persons who were ill? GM ☐ Yes ☐ No ☐ Unknown

Exposure (Vehicle/Setting) *(e.g., pool—waterpark; hot spring; well water)*	Total # Exposed (A)	# Ill Exposed (B)	Total # Not Exposed	# Ill Not Exposed	Attack Rate (%) (B/A)	Odds Ratio	Relative Risk	p-Value *(provide exact value)*	95% Confidence Interval
GN	GO	GP	GQ	GR	GS	GT	GU	GV	GW

Attack rate for residents of reporting state: GX ___%

Attack rate for non-residents of reporting state: GY ___%

Clinical Specimens - Laboratory Results *(refer to the laboratory findings from the outbreak investigation)*

1. Were clinical diagnostic specimens taken from persons? ☐ Yes ☐ No *(go to next tab)* ☐ Unknown *(go to next tab)* GZ

If ***Yes***, from how many persons were specimens taken? HA _____

Specimen Type*	Specimen Subtype**	Tested for § *(list all that apply)*
HB	HC	HD

* Specimen Type: 1- Autopsy Specimen (specify subtype), 2-Biopsy (specify), 3-Blood, 4-Bronchial Alveolar Lavage (BAL), 5-Cerebrospinal Fluid (CSF), 6-Conjunctiva/Eye Swab, 7-Ear Swab, 8-Endotracheal Aspirate, 9-Saliva, 10-Serum, 11-Skin Swab, 12-Sputum, 13-Stool, 14-Urine, 15-Vomitus, 16-Wound Swab, 17-Unknown

** Specimen Subtype: 1-Bladder, 2-Brain, 3-Dura, 4-Hair, 5-Intestine, 6-Kidney, 7-Liver, 8-Lung, 9-Nails, 10-Skin, 11-Stomach, 12-Wound, 13-Other, 14-Unknown

§ Tested for: 1-Bacteria, 2-Chemicals/Toxins, 3-Fungi, 4-Parasites, 5-Viruses

Report the confirmed and/or suspected etiological agent(s) in the table below..

Clinical Specimen Row Number	Genus/ Chemical/ Toxin	Species	Serotype/ Serogroup/ Serovar	Genotype/ Subtype
1	HE	HF	HG	HH
2				
3				
4				

Clinical Specimen Row Number	Confirmed as Etiology ?	Concentration *(numerical value)*	Unit	Specimen Type *	Specimen Subtype **
1	☐ Yes HI	HJ	HK	HL	HM
2	☐ Yes				
3	☐ Yes				
4	☐ Yes				

Clinical Specimen Row Number	Test Type §	Total # People Tested	Total # People Positive
1	HN	HO	HP
2			
3			
4			

* Specimen Type: 1- Autopsy Specimen (specify subtype), 2-Biopsy (specify), 3-Blood, 4-Bronchial Alveolar Lavage (BAL), 5-Cerebrospinal Fluid (CSF), 6-Conjunctiva/Eye Swab, 7-Ear Swab, 8-Endotracheal Aspirate, 9-Saliva, 10-Serum, 11-Skin Swab, 12-Sputum, 13-Stool, 14-Urine, 15-Vomitus, 16-Wound Swab, 17-Unknown

** Specimen Subtype: 1-Bladder, 2-Brain, 3-Dura, 4-Hair, 5-Intestine, 6-Kidney, 7-Liver, 8-Lung, 9-Nails, 10-Skin, 11-Stomach, 12-Wound, 13-Other, 14-Unknown

§ Test Type: 1-Culture, 2-DNA or RNA Amplification/Detection (e.g., PCR, RT-PCR), 3-Microscopy (e.g., fluorescent, EM), 4-Serological/Immunological Test (e.g., EIA, ELISA), 5-Phage Typing, 6-Chemical Testing, 7-Tissue Culture Infectivity Assay

Isolates

State Lab Isolate ID	Specimen Profile 1 *(e.g., the PFGE, MLVA, or genotype sequence)*	Specimen Profile 2 *(e.g., the PFGE, MLVA, or genotyping method used)*
HQ	HR	HS

Recreational Water – Treated Venue

Recreational Water Vehicle Description

Water Vehicle Number	Water Type *(e.g., spa/whirlpool/hot tub; pool- swimming pool; pool- waterpark)*	Water Subtype *(select indoor, outdoor, or unknown)*	Setting of Exposure *(e.g., club, requiring membership; hotel/motel/lodge/inn; waterpark)*
1 HT	HU	HV	HW
2			
3			

Water Vehicle Number *(reference the appropriate Water Vehicle Number)*	USUAL Water Treatment Provided at Venue *(e.g., no treatment; coagulation; disinfection; flocculation; filtration (pool); unknown)*	Venue Treatment Subtype *(disinfection or pool filtration: e.g., UV; chlorine dioxide; bag filter; cartridge filter; unknown)*	Chlorination Subtype *(chlorine disinfection only- e.g., gaseous; sodium hypochlorite; cyanurates /stabilized chlorine)*
HX	HY	HZ	IA

Water Vehicle Number *(reference the appropriate Water Vehicle Number)*	Fill Water Type *(e.g., public water supply; sea water; untreated ground or surface water; unknown)*	IF PUBLIC WATER WAS USED TO FILL, USUAL Water Treatment Provided for Fill Water Before Coming to the Venue *(e.g., no treatment; disinfection; filtration (treatment plant); unknown)*	IF PUBLIC WATER WAS USED TO FILL, Fill Water Treatment Subtype *(disinfection or filtration: e.g., UV; chlorine dioxide; bag filter; cartridge filter; unknown)*
IB	IC	ID	IE

Recreational Water Quality

Did the venue meet state or local recreational water quality regulations? ☐ Yes ☐ No ☐ Unknown ☐ Not applicable IF

If **No**, explain: IG _____

Was there a pool operator on the payroll with state-approved training or certification? IH ☐ Yes ☐ No ☐ Unknown

Laboratory Section - Recreational Water Samples from Treated Venues

Was water from treated recreational water venues tested? II ☐ Yes *(specify in table below)* ☐ No ☐ Unknown

Results						
Sample		1 IJ	2	3	4	5
Source of Sample *(e.g., swimming pool, hot tub)*		IK				
Additional Description *(e.g., time of day, backwash sample, etc.)*		IL				
Date *(mm/dd/yyyy)*		IM				
Volume Tested	Number	IN				
	Unit	IO				
Temperature	Number	IP				
	Unit	IQ				
Residual/Free Disinfectant Level *(if total and combined disinfectant levels given, total - combined = free)*	Number	IR				
	Unit	IS				
Combined Disinfectant Level *(if total and free disinfectant levels given, total - free = combined)*	Number	IT				
	Unit	IU				
pH		IV				

Microbiology or Chemical/Toxin Analysis *(refer to the laboratory findings from the outbreak investigation)*

Sample Number	Genus/ Chemical/ Toxin	Species	Serotype/ Serogroup/ Serovar	Genotype/ Subtype	PFGE Pattern
IW	IX	IY	IZ	JA	JB

Sample Number	Test Results Positive?	Concentration *(numerical value)*	Unit	Test Type*	Test Method *(reference: National Environmental Methods Index: http://www.nemi.gov)*
	☐ Yes JD	JE	JF	JG	JH
	☐ Yes				
	☐ Yes				

*** Test Type: 1-Culture, 2-DNA or RNA Amplification/Detection (e.g., PCR, RT-PCR), 3-Microscopy (e.g., fluorescent, EM), 4-Serological/Immunological Test (e.g., EIA, ELISA), 5-Phage Typing, 6-Chemical Testing, 7-Tissue Culture Infectivity Assay**

Factors Contributing to Recreational Water Contamination and/or Increased Exposure in Treated Venues

	Factors *(check all that apply)***	Documented/ Observed***	Suspected***
	Exceeded maximum bather load JI	☐ JJ	☐ JK
PEOPLE	Primary intended use of water is by diaper/toddler-aged children (e.g., kiddie pool)	☐	☐
PEOPLE	Heavy use by child care center groups	☐	☐
PEOPLE	Fecal/vomitus accident	☐	☐
PEOPLE	Patrons continued to swim when ill with diarrhea	☐	☐
	Operator error	☐	☐
	Intentional contamination (explain in remarks)	☐	☐
FACILITY DESIGN	Combined pool filtration/recirculation systems led to cross-contamination	☐	☐
FACILITY DESIGN	Hygiene facilities (e.g., toilets, diaper changing facilities) inadequate or distant	☐	☐
FACILITY DESIGN	Some spray feature water bypasses filtration/treatment system and returns to feature unfiltered/untreated	☐	☐
FACILITY DESIGN	No supplemental disinfection installed that would have inactivated pathogen (e.g., *Cryptosporidium*)	☐	☐
FACILITY DESIGN	Water temperature ≥30°C (≥86°F)	☐	☐
	Cross-connection with wastewater or non-potable water	☐	☐
	Disinfectant control system malfunctioning, inadequate, or lacking (e.g., hand feed chemicals)	☐	☐
	Incorrect settings on disinfectant control system	☐	☐
	pH control system malfunctioning, inadequate, or lacking (e.g., hand feed chemicals)	☐	☐
	Incorrect settings on pH control system	☐	☐
	Filtration system malfunctioning or inadequate (e.g., low flow rate)	☐	☐
	Supplemental disinfection system malfunctioning or inadequate (e.g., ultraviolet light, ozone)	☐	☐
MAINTENANCE	Insufficient system checks so breakdown detection delayed	☐	☐
MAINTENANCE	No preventive equipment maintenance programs to reduce breakdowns	☐	☐
MAINTENANCE	Ventilation insufficient for indoor aquatic facilities	☐	☐
MAINTENANCE	Chemical handling error (e.g., chemical hookup, improper mixing or application)	☐	☐
MAINTENANCE	Maintenance chemicals not flushed from system before opening to swimmers	☐	☐
MAINTENANCE	Recirculation pump off or restarted with swimmers in water	☐	☐
	Low or zero water flow combined with continuous feed of chemicals resulted in excess chemicals in water	☐	☐
	Extensive slime/biofilm formation	☐	☐
	Recent construction	☐	☐
	Cyanurate level excessive	☐	☐
	Lack of draining/cleaning	☐	☐
	Stagnant water in spa piping was aerosolized	☐	☐
	No aquatics operators on payroll who have completed state/local training	☐	☐
	Untrained/inadequately trained staff on duty	☐	☐
POLICY AND MANAGEMENT	Remote monitoring system replaces on-site water quality testing	☐	☐
POLICY AND MANAGEMENT	Unclear communication chain for reporting problems	☐	☐
POLICY AND MANAGEMENT	Inadequate water quality monitoring (e.g., inadequate test kit, inadequate testing frequency)	☐	☐
POLICY AND MANAGEMENT	Employee illness policies absent or not enforced	☐	☐
POLICY AND MANAGEMENT	No or inadequate policies on good chemical handling and storage practices	☐	☐
POLICY AND MANAGEMENT	No operator on duty at the time of incident	☐	☐
POLICY AND MANAGEMENT	Facility falls outside aquatic health code	☐	☐
	No shock/hyperchlorination policy	☐	☐
	Other, specify:	☐	☐
	Unknown	☐	☐

**** Only check off what was found during investigation.**
***** The release of sewage does not have to occur at the property/venue/setting where the people were exposed. The sewage may have occurred at a distant site but still affected the property/venue/setting in question.**

Remarks

JL

Recreational Water – Untreated Venue

Recreational Water Vehicle Description

Water Type *(e.g., canal; lake; river/stream; ocean)*	IF SPRING OR HOT SPRING, Water Subtype *(select indoor, outdoor or unknown)*	Setting of Exposure *(e.g., beach-public; camp/cabin/recreational area)*
JM	JN	JO

Recreational Water Quality

Did the venue meet state or local recreational water quality regulations? ☐ Yes ☐ No ☐ Unknown ☐ Not applicable JP

If **No**, explain: JQ

Did the venue meet Environmental Protection Agency (EPA) recreational water quality standards? JR

☐ Yes ☐ No ☐ Unknown ☐ Not applicable

If **No**, explain: JS

Laboratory Section - Recreational Water Samples from Untreated Venues

Was water from untreated recreational water venues tested? JT ☐ Yes *(specify in table below)* ☐ No ☐ Unknown

Results						
Sample		1 JU	2	3	4	5
Source of Sample *(e.g., lake or stream)*		JV				
Additional Description *(e.g., specific location, time of day, etc)*		JW				
Date *(mm/dd/yyyy)*		JX				
Volume Tested	Number	JY				
	Unit	JZ				
Temperature	Number	KA				
	Unit	KB				

Water Quality Indicator

Sample Number	Type *(e.g., fecal coliforms)*	Concentration *(numerical value)*	Unit
KC	KD	KE	KF

Microbiology or Chemical/Toxin Analysis *(refer to the laboratory findings from the outbreak investigation)*

Sample Number	Genus/ Chemical/ Toxin	Species	Serotype/ Serogroup/ Serovar	Genotype/ Subtype	PFGE Pattern
KG	KH	KI	KJ	KK	KL

Sample Number	Test Results Positive?	Concentration *(numerical value)*	Unit	Test Type*	Test Method *(reference: National Environmental Methods Index: http://www.nemi.gov)*
	☐ Yes KN	KO	KP	KQ	KR
	☐ Yes				
	☐ Yes				
	☐ Yes				

*** Test Type: 1-Culture, 2-DNA or RNA Amplification/Detection (e.g., PCR, RT-PCR), 3-Microscopy (e.g., fluorescent, EM), 4-Serological/Immunological Test (e.g., EIA, ELISA), 5-Phage Typing, 6-Chemical Testing, 7-Tissue Culture Infectivity Assay**

Factors Contributing to Recreational Water Contamination and/or Increased Exposure in Untreated Venues

	Factors *(check all that apply)**	Documented/ Observed**	Suspected**
	Exceeded maximum bather load KS	☐ KT	☐ KU
PEOPLE	Primary intended use of water is by diaper/toddler aged children (e.g., kiddie pool)	☐	☐
PEOPLE	Heavy use by child care center groups	☐	☐
PEOPLE	Fecal/vomitus accident	☐	☐
PEOPLE	Patrons continued to swim when ill with diarrhea	☐	☐
	Staff error	☐	☐
	Intentional contamination (explain in remarks)	☐	☐
SWIM AREA DESIGN	Hygiene facilities (e.g., toilets, diaper changing facilities) inadequate or distant	☐	☐
SWIM AREA DESIGN	Malfunctioning or inadequate on-site wastewater treatment system *** ≠	☐	☐
SWIM AREA DESIGN	Poor siting/design of on-site wastewater treatment system *** ≠	☐	☐
SWIM AREA DESIGN	Stagnant or poorly circulating water in swim area	☐	☐
	Heavy rainfall and runoff	☐	☐
	Sanitary sewer overflow (SSO) impact ***	☐	☐
	Combined sewer overflow (CSO) impact ***	☐	☐
	Domestic animal contamination (e.g., livestock, pets)	☐	☐
WATER QUALITY	Wildlife contamination - Birds	☐	☐
WATER QUALITY	Wildlife contamination - Mammals	☐	☐
WATER QUALITY	Wildlife contamination - Fish kill	☐	☐
WATER QUALITY	Wastewater treatment plant effluent flows past swim area	☐	☐
WATER QUALITY	Wastewater treatment plant malfunction ***	☐	☐
WATER QUALITY	Sewer line break ***	☐	☐
WATER QUALITY	Nearby biosolid/land application site (e.g., human or animal waste application)	☐	☐
	Contamination from agricultural chemical application (e.g., fertilizer, pesticides)	☐	☐
	Contamination from chemical pollution not related to agricultural application	☐	☐
	Water temperature ≥30°C (≥86°F)	☐	☐
	Seasonal variation in water quality (e.g., lake/reservoir turnover events)	☐	☐
	Inappropriate dumping of sewage into water body (e.g., from boat, RV)	☐	☐
	Algal bloom	☐	☐
	Dumping of ballast water	☐	☐
	Tidal wash (i.e., tide exchange or influence by inland water)	☐	☐
POLICY AND MANAGEMENT	No or inadequate monitoring of water quality	☐	☐
POLICY AND MANAGEMENT	No managers have completed state/local required training	☐	☐
POLICY AND MANAGEMENT	Untrained/inadequately trained staff on duty	☐	☐
POLICY AND MANAGEMENT	Unclear communication chain for reporting problems	☐	☐
POLICY AND MANAGEMENT	Employee illness policies absent or not enforced	☐	☐
	Other, specify:	☐	☐
	Unknown	☐	☐

*** Only check off 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.**

***** The release of sewage does not have to occur at the property/venue/setting where the people were exposed. The sewage may have occurred at a distant site but still affected the property/venue/setting in question.**

≠ "On-site wastewater treatment system" refers to a system designed to treat and dispose of wastewater at the point of generation, generally on the property where the wastewater is generated (e.g., septic systems or other advanced on-ite systems). However, contamination that originates from these systems can still occur off the property where treatment and disposal takes place due to migration of contaminants from malfunctioning systems or poor siting and design.

Remarks

KV

Drinking Water Vehicle Description

Drinking Water Vehicle Description

Water Type* *(e.g., commercially-bottled water, community water system, individual water system)*	**Public Water System EPA ID Number****	**Water Source** *(select ground water, surface water or unknown)*	**Water Source Description** *(e.g., spring; well; lake)*	**Setting of Exposure** *(e.g., airport, mobile home park)*	**USUAL Water Treatment Provided** *(e.g., no treatment, disinfection, home filtration)*	**Water Treatment Subtype** *(disinfection or filtration: e.g., boiling; chlorine; rapid sand filter; reverse osmosis)*
KW	KX	KY	KZ	LA	LB	LC

***Water system definitions: Community and noncommunity 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 noncommunity water system serves an institution, industry, camp, park, hotel, or business and can be nontransient or transient. Nontransient 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 water to 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 water system within a specific state. The water system ID number can be found at http://www.epa.gov/safewater/dwinfo/index.html by first selecting a state and then selecting a county.**

Drinking Water Quality

Did the drinking water system have any monitoring violations in the 1 month prior to the outbreak? LD

☐ Yes ☐ No ☐ Unknown ☐ Not applicable

If **Yes**, explain: LE

Did the drinking water system have any maximum contaminant level (MCL) violations in the 1 month prior to the outbreak? LF

☐ Yes ☐ No ☐ Unknown ☐ Not applicable

If **Yes**, explain: LG

Did the drinking water system have any violations in the 12 months prior to the outbreak?*** LH

☐ Yes ☐ No ☐ Unknown ☐ Not applicable

If **Yes**, explain: LI

*****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**

Laboratory Section - Drinking Water

Was drinking water tested? LJ ☐ Yes *(specify in table below)* ☐ No ☐ Unknown

Results						
Sample		LK 1	2	3	4	5
Source of Sample		LL				
Additional Description *(e.g., kitchen faucet, well, reservoir)*		LM				
Date *(mm/dd/yyyy)*		LN				
Volume Tested	**Number**	LO				
	Unit	LP				
Temperature	**Number**	LQ				
	Unit	LR				
Residual/Free Disinfectant Level *(if total and combined disinfectant levels given, total - combined = free)*	**Number**	LS				
	Unit	LT				
pH		LU				
Turbidity (NTU)		LV				

Water Quality Indicator

Sample Number	Type *(e.g., fecal coliforms)*	Concentration *(numerical value)*	Unit
LW	LX	LY	LZ

Microbiology or Chemical/Toxin Analysis *(refer to the laboratory findings from the outbreak investigation)*

Sample Number	Genus/ Chemical/ Toxin	Species	Serotype/ Serogroup/ Serovar	Genotype/ Subtype	PFGE Pattern
MA	MB	MC	MD	ME	MF

Sample Number	Test Results Positive?	Concentration *(numerical value)*	Unit	Test Type*	Test Method *(reference: National Environmental Methods Index: http://www.nemi.gov)*
	☐ Yes MH	MI	MJ	MK	ML
	☐ Yes				
	☐ Yes				

*** Test Type: 1-Culture, 2-DNA or RNA Amplification/Detection (e.g., PCR, RT-PCR), 3-Microscopy (e.g., fluorescent, EM), 4-Serological/Immunological Test (e.g., EIA, ELISA), 5-Phage Typing, 6-Chemical Testing, 7-Tissue Culture Infectivity Assay**

Factors Contributing to Drinking Water Contamination and/or Increased Exposure to Contaminated Drinking Water

Did a problem with the source water (i.e., ground water or surface water) contribute to the disease or outbreak? MM

☐ Yes *(specify in table below)* ☐ No ☐ Unknown

Source Water Factors *(check all that apply)***	Documented/ Observed***	Suspected***
Sanitary sewer overflow (SSO) **** MN	☐ MO	☐ MP
Combined sewer overflow (CSO) ****	☐	☐
Malfunctioning on-site wastewater treatment system **** ≠	☐	☐
Sewage treatment plant malfunction ***	☐	☐
Sewer line break ***	☐	☐
Poor siting/design of on-site wastewater treatment system **** ≠	☐	☐
Nearby biosolid/land application site (e.g., human or animal waste application)	☐	☐
Contamination from agricultural chemical application (e.g., fertilizer, pesticides)	☐	☐
Contamination from chemical pollution not related to agricultural application	☐	☐
Contamination by a chemical that the current treatment methods were not designed to remove	☐	☐
Domestic animal contamination (e.g., livestock, concentrated feeding operations, pets)	☐	☐
Wildlife contamination - Birds	☐	☐
Wildlife contamination - Mammals	☐	☐
Wildlife contamination - Fish kill	☐	☐
Flooding/heavy rains	☐	☐
Algal bloom	☐	☐
Seasonal variation in water quality (e.g., lake/reservoir turnover events, resort community with seasonal loading)	☐	☐
Low water table (e.g., drought, over-pumping)	☐	☐
Ground water under direct influence of surface water (e.g., shallow well)≠ ≠	☐	☐
Contamination through limestone or fissured rock (e.g., karst)	☐	☐
Contaminated recharge water	☐	☐
Use of an alternate source of water by a water utility	☐	☐
Mixing of raw water from different sources	☐	☐
Improper construction or location of a well or spring	☐	☐
Water system intake failure (e.g., cracked well casing, cracked intake pipe)	☐	☐
Intentional contamination (explain in remarks)	☐	☐
Other, specify:	☐	☐
Unknown	☐	☐

**** Only check off what was found during investigation.**

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****** The release of sewage does not have to occur on the property in which persons have become ill. The sewage release may have occurred at a distant site but still affected the property in question.**

≠ "On-site wastewater treatment system" refers to a system designed to treat and dispose of wastewater at the point of generation, generally on the property where the wastewater is generated (e.g., septic systems or other advanced on-site systems). However, contamination that originates from these systems can still occur off the property where treatment and disposal takes place due to migration of contaminants from malfunctioning systems or poor siting and design.

≠ ≠ Any water beneath the surface of the ground with substantial occurrence of insects or other macroorganisms, algae, or large-diameter pathogens (e.g., *Giardia intestinalis* or *Cryptosporidium*), or substantial and relatively rapid shifts in water characteristics (e.g., turbidity, temperature, conductivity, or pH) that closely correlate with climatologic or surface water conditions. Direct influence must be determined for individual sources in accordance with criteria established by the state.

Factors Contributing to Drinking Water Contamination and/or Increased Exposure to Contaminated Drinking Water

Did a problem with the water treatment prior to entry into a house or building contribute to the disease or outbreak? MQ

☐ Yes *(specify in table below)* ☐ No ☐ Unknown

Treatment Factors *(check all that apply)**	Documented/ Observed**	Suspected**
Change in treatment process (explain in remarks) MR	☐ MS	☐ MT
No disinfection	☐	☐
Temporary interruption of disinfection	☐	☐
Chronically inadequate disinfection	☐	☐
No filtration	☐	☐
Inadequate filtration	☐	☐
Deficiencies in other treatment processes	☐	☐
Corrosion in or leaching from pipes or storage tanks	☐	☐
Pipe/component failure or break (e.g., pipes, tanks, valves)	☐	☐
Contamination during construction or repair of pipes/components	☐	☐
Construction or repair of pipes/components without evidence of contamination	☐	☐
Operator error	☐	☐
Other, specify:	☐	☐
Unknown	☐	☐

Did a problem with the distribution system contribute to the disease or outbreak? ☐ Yes *(specify in table below)* ☐ No ☐ Unknown MU

(NOTE: For a community water system, the distribution system refers to the 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 noncommunity and nonpublic water systems, the distribution system refers to the pipes and storage infrastructure prior to entry into a building or house)

Distribution and Storage Factors *(check all that apply)**	Documented/ Observed**	Suspected**
Cross-connection of potable and nonpotable water pipes resulting in backflow MV	☐ MW	☐ MX
Low pressure or change in water pressure in the distribution system	☐	☐
Change in water flow direction in the distribution system	☐	☐
Mixing of treated water from different sources	☐	☐
Pipe/component failure or break (e.g., pipes, tanks, valves)	☐	☐
Corrosion in or leaching from pipes or storage tanks	☐	☐
Contamination of mains during construction or repair	☐	☐
Construction or repair of mains without evidence of contamination	☐	☐
Scheduled flushing of the distribution system	☐	☐
Contamination of storage facility	☐	☐
Aging water distribution components (e.g., pipes, tanks, valves)	☐	☐
Water temperature ≥30°C (≥86°F)	☐	☐
Intentional contamination (explain in remarks)	☐	☐
Other, specify:	☐	☐
Unknown	☐	☐

Did a problem occur after the water meter or outside the jurisdiction of a water utility that contributed to the disease or outbreak? (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)

MY ☐ Yes *(specify in table below)* ☐ No ☐ Unknown

Factors Not Under the Jurisdiction of a Water Utility or Factors at the Point of Use *(check all that apply)**	Documented/ Observed**	Suspected**
Legionella species in water system MZ	☐ NA	☐ NB
Cross-connection of potable and nonpotable water pipes resulting in backflow	☐	☐
Lack of backflow prevention in plumbing	☐	☐
Low pressure or change in water pressure in the plumbing	☐	☐
Change in water flow direction in the plumbing	☐	☐
Corrosion in or leaching from pipes or storage tanks	☐	☐
Pipe/component failure or break (e.g., pipes, tanks, valves)	☐	☐
Aging plumbing components (e.g., pipes, tanks, valves)	☐	☐
Contamination of plumbing during construction or repair	☐	☐
Construction or repair of plumbing without evidence of contamination	☐	☐
Deficiency in building/home-specific water treatment after the water meter or property line	☐	☐
Deficiency or contamination of equipment/devices using or distributing water	☐	☐
Contamination during commercial bottling	☐	☐
Contamination during shipping, hauling, or storage	☐	☐
Contamination at point of use – Tap	☐	☐
Contamination at point of use – Hose	☐	☐
Contamination at point of use – Commercially-bottled water	☐	☐
Contamination at point of use – Container, bottle, or pitcher	☐	☐
Contamination at point of use – Unknown	☐	☐
Water temperature ≥30°C (≥86°F)	☐	☐
Intentional contamination (explain in remarks)	☐	☐
Other, specify:	☐	☐
Unknown	☐	☐

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Remarks

NC

Water Not Intended for Drinking or Water of Unknown Intent (WNID/WUI)

Intent for Use

What was the intended use for the implicated water? *(check all that apply)* ND

- ☐ Cooling/Air Conditioning (e.g., cooling tower, swamp cooler)
- ☐ Mister (e.g., produce in grocery store, public cooling system)
- ☐ Ornamental (e.g., a decorative non-interactive fountain intended for public display and not designed for swimming or recreational use)
- ☐ Industrial/Occupational (e.g., steam cleaner)
- ☐ Agricultural Irrigation
- ☐ Waste water
- ☐ Other (specify): _____
- ☐ Unknown

Water Description

Water Type *(e.g., cooling tower; drainage ditch; fountain- ornamental)*	**Setting of Exposure** *(e.g., airport; hospital/ health care facility, nursing home; park- state park)*	**USUAL Water Treatment Provided** *(e.g., no treatment; disinfection; settling/sedimentation)*	**Water Treatment Subtype** *(disinfection or filtration: e.g., boiling; chlorine; rapid sand filter; reverse osmosis)*
NE	NF	NG	NH

Laboratory Section - Water Not Intended for Drinking of Water of Unknown Intent

Was the implicated water tested? NI ☐ Yes *(specify in table below)* ☐ No ☐ Unknown

Results						
Sample		1 NJ	2	3	4	5
Source of Sample		NK				
Additional Description *(e.g., time of day, specific location, etc.)*		NL				
Date *(mm/dd/yyyy)*		NM				
Volume Tested	**Number**	NN				
	Unit	NO				
Temperature	**Number**	NP				
	Unit	NQ				
Residual/Free Disinfectant Level *(if total and combined disinfectant levels given, total - combined = free)*	**Number**	NR				
	Unit	NS				
Turbidity (NTU)		NT				
pH		NU				

Water Quality Indicator

Sample Number	**Type** *(e.g., fecal coliforms)*	**Concentration** *(numerical value)*	**Unit**
NV	NW	NX	NY

Microbiology or Chemical/Toxin Analysis *(refer to the laboratory findings from the outbreak investigation)*

Sample Number	Genus/ Chemical/ Toxin	Species	Serotype/ Serogroup/ Serovar	Genotype/ Subtype	PFGE Pattern
NZ	OA	OB	OC	OD	OE

Sample Number	Test Results Positive?	Concentration *(numerical value)*	Unit	Test Type*	Test Method *(reference: National Environmental Methods Index: http://www.nemi.gov)*
	☐ Yes OG	OH	OI	OJ	OK
	☐ Yes				
	☐ Yes				
	☐ Yes				

*** Test Type: 1-Culture, 2-DNA or RNA Amplification/Detection (e.g., PCR, RT-PCR), 3-Microscopy (e.g., fluorescent, EM), 4-Serological/Immunological Test (e.g., EIA, ELISA), 5-Phage Typing, 6-Chemical Testing, 7-Tissue Culture Infectivity Assay**

Factors Contributing to Contamination and/or Increased Exposure to Contaminated Water

Factors *(check all that apply)** OL	Documented/ Observed** OM	Suspected** ON
Cooling tower/evaporative condenser – shutdown for >3 days without draining to waste	☐	☐
Cooling tower/evaporative condenser – lack of a maintenance program	☐	☐
Cooling tower/evaporative condenser – lack of a qualified water quality specialist	☐	☐
Cooling tower/evaporative condenser – presence of scale or corrosion	☐	☐
Cooling tower/evaporative condenser – presence of dirt, organic matter, or other debris in the cold water basin	☐	☐
Cooling tower/evaporative condenser – absence of drift eliminators	☐	☐
Cooling tower/evaporative condenser – presence of damaged drift eliminators	☐	☐
Cooling tower/evaporative condenser – history of recent repairs to the device	☐	☐
Cooling tower/evaporative condenser – siting of device near building air intakes	☐	☐
Cooling tower/evaporative condenser – siting of device near windows that can be opened	☐	☐
Cooling tower/evaporative condenser – siting of device in immediate area of kitchen exhaust fans, live plants, truck bays, or other sources of organic matter	☐	☐
Cooling tower/evaporative condenser – construction on the premises of the device within 6 months before the index case	☐	☐
Cooling tower/evaporative condenser – construction within 100 meters of the premises of the device within 6 months before the index case	☐	☐
Ornamental fountain – presence of submerged lighting	☐	☐
Ornamental fountain – lack of a written cleaning and maintenance program	☐	☐
Ornamental fountain – presence of dirt, organic matter, or other debris in the water basin	☐	☐
Broken/damaged sewer pipe	☐	☐
Recycling of water	☐	☐
Water temperature ≥30°C (≥86°F)	☐	☐
Other, specify:	☐	☐
Unknown	☐	☐

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Remarks

OO

Epidemic and laboratory assistance for the investigation of a waterborne disease outbreak is available upon request by the State Health Department to the Centers for Disease Control and Prevention. Please enter this report into the National Outbreak Reporting System (NORS). State/Local investigation reports and questionnaires can also be attached to the report in the electronic system. Communications and requests for epidemic and laboratory assistance may be directed to: Waterborne Disease and Outbreak Surveillance Coordinator. Division of Parasitic Diseases, National Center for Zoonotic, Vector-Borne, and Enteric Diseases, Coordinating Center for Infectious Diseases, CDC 4770 Buford Highway, NE, MS F-22, Atlanta, GA, 30341-3724 or (770) 488-7775

Public reporting burden of this collection of information is estimated to average 20 minutes per response, including the 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 (0920-0004) <--DO NOT MAIL CASE REPORTS TO THIS ADDRESS-