



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

Form Approved
OMB No. 0920-0004

General Section

Primary Mode of Transmission (check one)

Food (Complete CDC 52.13)

Person-to-person (Complete CDC 52.13)

Water (Complete tabs for General, Water-General and type of water exposure)

Environmental contamination other than food/water (Complete CDC 52.13)

Animal contact (Complete CDC 52.13)

Indeterminate/Other/Unknown (Complete CDC 52.13)

Investigation Methods (check all that apply)

- 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

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 report to CDC (other than this form) _____

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

Geographic Location

Reporting state: _____
 Exposure occurred in multiple states
 Exposure occurred in a single state but cases resided in multiple states
 Other states: _____

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

City/Town/Place of exposure: _____
Do not include proprietary or private facility names

Primary Cases

Number of primary cases		Sex (number or percent of the primary cases)					
Lab-confirmed primary cases		#	Male	#	%		
Probable primary cases		#	Female	#	%		
Estimated total primary cases		#	Unknown	#	%		
	# Cases	Total # of cases for whom info is available	Age (number or percent of the primary cases)				
Died	#	#	<1 year	#	%	20–49 years	# %
Hospitalized	#	#	1–4 years	#	%	50–74 years	# %
Visited Emergency Room	#	#	5–9 years	#	%	≥ 75 years	# %
Visited health care provider (excluding ER visits)	#	#	10–19 years	#	%	Unknown	# %

General

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

Incubation Period <i>(select appropriate units)</i>			Duration of Illness <i>(among recovered cases-select appropriate units)</i>		
Shortest		Min, Hours, Days	Shortest		Min, Hours, Days
Median		Min, Hours, Days	Median		Min, Hours, Days
Longest		Min, Hours, Days	Longest		Min, Hours, Days
Total # of cases for whom info is available			Total # of cases for whom info is available		
Unknown incubation period			Unknown duration of illness		

Signs or Symptoms

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

Secondary Cases

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

Environmental Health Specialists Network *(if applicable)*

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

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

Please check if traceback conducted

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

Recall

Please check if any food or bottled water product was recalled

Type of item recalled:

Comments:

Reporting Agency

Agency name: _____ E-mail: _____
 Contact name: _____ Contact title: _____
 Phone no.: _____ Fax no.: _____

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)*

Waterborne Disease and Outbreaks - General

Type of Water Exposure (check ONE box)

- 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	Symptoms	Route of Entry
Percent of primary cases living in reporting state : _____ %	For each category, indicate # of persons with:	
Associated Events	Gastrointestinal symptoms/ conditions _____	Ingestion
Was exposure associated with a specific event or gathering? Yes No Unknown	Respiratory symptoms/ conditions _____	Contact
If Yes , what type of event or gathering was involved? _____	Skin symptoms/conditions _____	Inhalation
If outbreak occurred during a defined event, dates of event: Start date: _____ End date: _____ (mm/dd/yyyy) (mm/dd/yyyy)	Ear symptoms/conditions _____	Other, specify: _____
	Eye symptoms/conditions _____	Unknown
	Neurologic symptoms/ conditions _____	
	Wound infections _____	
	Other, specify (e.g., hepatitis A, leptospirosis): _____	

Epidemiologic Data

1. Estimated total number of persons with primary exposure: _____
2. Were data collected from comparison groups to estimate risk?

Yes (specify in table below)	No	Unknown
If No or Unknown , was water the only common source shared by persons who were ill?	Yes	No
		Unknown

Exposure (Vehicle/Setting) <small>(e.g., pool—waterpark; hot spring; well water)</small>	Total # Exposed (A)	# Ill Exposed (B)	Total # Not Exposed	# Ill Not Exposed	Attack Rate (%) (B/A)	Odds Ratio	Relative Risk	p-Value <small>(provide exact value)</small>	95% Confidence Interval

Attack rate for residents of reporting state: _____ % **Attack rate for non-residents of reporting state:** _____ %

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)

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

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

* 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-Vomit, 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				
2				
3				
4				

Clinical Specimen Row Number	Confirmed as Etiology ?	Concentration (numerical value)	Unit	Specimen Type *	Specimen Subtype **
1	Yes				
2	Yes				
3	Yes				
4	Yes				

Clinical Specimen Row Number	Test Type §	Total # People Tested	Total # People Positive
1			
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-Vomit, 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

Which system contains this isolate profile? (e.g., PulseNet, State Lab)	Lab Isolate ID	Specimen Profile	Lab Method Used (e.g., PFGE, MLVA, GP60, PCR)

Recreational Water – Treated Venue

Recreational Water Vehicle Description

Water Vehicle Number	Water Type <i>(e.g., spa/whirlpool/hot tub; pool- swimming pool; pool- waterpark)</i>	Water Subtype <i>(select indoor, outdoor, or unknown)</i>	Setting of Exposure <i>(e.g., club, requiring membership; hotel/motell/lodge/inn; waterpark)</i>
1			
2			
3			
Water Vehicle Number <i>(reference the appropriate Water Vehicle Number)</i>	USUAL Water Treatment Provided at Venue <i>(e.g., no treatment; coagulation; disinfection; flocculation; filtration (pool); unknown)</i>	Venue Treatment Subtype <i>(disinfection or pool filtration: e.g., UV; chlorine dioxide; bag filter; cartridge filter; unknown)</i>	Chlorination Subtype <i>(chlorine disinfection only- e.g., gaseous; sodium hypochlorite; cyanurates /stabilized chlorine)</i>
Water Vehicle Number <i>(reference the appropriate Water Vehicle Number)</i>	Fill Water Type <i>(e.g., public water supply; sea water; untreated ground or surface water; unknown)</i>	IF PUBLIC WATER WAS USED TO FILL, USUAL Water Treatment Provided for Fill Water Before Coming to the Venue <i>(e.g., no treatment; disinfection; filtration (treatment plant); unknown)</i>	IF PUBLIC WATER WAS USED TO FILL, Fill Water Treatment Subtype <i>(disinfection or filtration: e.g., UV; chlorine dioxide; bag filter; cartridge filter; unknown)</i>

Recreational Water Quality

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

If **No**, explain: _____

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

Laboratory Section - Recreational Water Samples from Treated Venues

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

Results Sample	1	2	3	4	5
Source of Sample <i>(e.g., swimming pool, hot tub)</i>					
Additional Description <i>(e.g., time of day, backwash sample, etc.)</i>					
Date <i>(mm/dd/yyyy)</i>					
Volume Tested	Number				
	Unit				
Temperature	Number				
	Unit				
Residual/Free Disinfectant Level <i>(if total and combined disinfectant levels given, total - combined = free)</i>	Number				
	Unit				
Combined Disinfectant Level <i>(if total and free disinfectant levels given, total - free = combined)</i>	Number				
	Unit				
pH					

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
Sample Number	Test Results Positive?	Concentration (numerical value)	Unit	Test Type*	Test Method (reference: National Environmental Methods Index: http://www.nemi.gov)
	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 Treated Venues

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

** 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