

National Outbreak Reporting System



Waterborne Disease Transmission

This form is used to report waterborne disease outbreaks. Pages 1-5 ask for the minimum or basic information about the outbreak investigation, epidemiological data, and clinical specimen and water test results. These are followed by sections specific to the type of water exposure. Only 1 of the 5 water exposure sections should be completed.

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 data sources, gathering and maintaining the data needed, and completing and reviewing instructions.

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CDC USE ONLY

CDC Report ID State Report ID

							Form OMB N	n Approved lo. 0920-0004
General Section								
Primary Mode of Transmission (Check one	e)							
■ Food (Complete CDC 52.13)		■ Pe	rson-to-pers	on (Comple	te CDC 52.1	3)		
□ Water (Complete the tabs for General, Water-Ger Etiology & Lab, Water Samples and the type of wa			vironmental omplete CDC 52		ation other	than food/wa	ater	
■ Animal contact (Complete CDC 52.13)		■ Ot	her/Unknow	n (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 wate ☐ Water system assessment: Nonpotable water system assessment:		□ In\ □ In\ □ Fo	vestigation a vestigation a od product o vironment/fo	t factory/pi t original s or bottled v	roduction/f ource (e.g vater trace		nt	
Dates (mm/dd/yyyy)								
				_				
Date first case became ill (required)				Date		ecame ill		
Date of initial exposure Date of report to CDC (other than this form)				Date	or last expe	osure		
Date of notification to State/Territory or Local/Tr								
Geographic Location								
Reporting state: □Exposure occurred in multiple states □Exposure occurred in a single state but can other states: Reporting county: □Exposure occurred in multiple counties in □Exposure occurred in a single county but of other counties:	reporting s	state						
City/Town/Place of exposure:	pprietary o	r private facilitv n	ames					
Primary Cases	. ,							
Number of primary cases			I	Sex (Numb	er or percen	t of the primary	cases)	
Lab-confirmed primary cases		#	Male			#		%
Probable primary cases		#	Female			#		%
Estimated total primary cases		#	Unknown			#		%
Primary Case Outcomes	# Cases	Total # of case for whom info is available		Age (Numb	er or percer	nt 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	#	%

Incubation Period, Duration	on of Illness, Signs o	or Symptoms f	or Primary C	ases only			
Incubation Period (Select a	ppropriate units)		Duration o	f Illness (Among recovered cases-sel	ect appropriate units)		
Shortest		Min, Hours, Days	Shortest		Min, Hours, Days		
Median		Min, Hours, Days	Median	Median			
Longest		Min, Hours, Days	Longest		Min, Hours, Days		
Total # of cases for whom info i	s available		Total # of cases for whom info is available				
☐ Unknown incubation period			□ Unknown d	luration of illness			
Signs or Symptoms							
Feature		# Cases with sign	ns or symptoms	Total # cases for whom info	available		
Vomiting							
Diarrhea							
Bloody stools							
Fever							
Abdominal cramps							
HUS							
Asymptomatic							
Secondary Cases Mode of Secondary Transmission	(Check all that apply)		Number of Se	condary Cases			
-	(2						
□ Food □ Water			Lab-confirm	med secondary cases	#		
☐ Animal contact			Probable se	econdary cases	#		
☐ Person-to-person			Estimated total secondary cases				
□ Environmental contaminatio□ Other/Unknown	on other than food/watei	ſ	Estimated total cases (Primary + Secondary)				
Environmental Health Spe	ecialists Network (If	applicable)					
EHS-Net Evaluation ID: 1.) _		2)	3)	4.)			
•		-		.,,			
Traceback (For food and bottl		water)					
☐ Please check if traceback con			_	To a charle O commonts			
Source name (if publicly available)	Source type (e.g. poultry farm, tomato		of source	Traceback Comments			
(ii pabiloly available)	processing plant, bottled	State	Country				
	water factory)						
Recall							
☐ Please check if any food or b	ottled water product was	s recalled					
Type of item recalled:							
Comments:							
Reporting Agency							
Agency name:			_ E-mail:				
Contact name:			Phone no.:				
Contact title:							
General Remarks Briefly	describe important aspect	s of the outbreak r	not covered above	e. Please indicate if any adverse outcomes			
populat	lions (e.g., pregnant wome	en, immunocompro	omised persons)				

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Water - General section Type of Water Exposure (Check ONE box) ☐ Treated recreational water (e.g., in manufactured venues such as pools, spas/whirlpools, hot tubs, spray pads, at-home kiddle pools) ☐ Untreated recreational water (e.g., water in natural venues such as a 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 water (e.g., cooling/industrial, water reuse, irrigation, occupational, decorative/display; includes water consumed from sources such as back-country streams) ☐ Unknown water uses (i.e., the intended purpose or use of the water is unknown or the water exposure category could not be determined) **Epidemiologic Data** 1. Estimated total number of persons with primary water exposure: __ 2. Were data collected from comparison groups to estimate risk? \square No ☐ Yes (specify in table below) □ Unknown If No or Unknown, was water the common source □ No ☐ Yes □ Unknown shared by persons who were ill? **Exposure in epidemiologic investigation** Total # # III Total # Not # III Not Attack Odds Relative p-Value 95% Confidence Exposed (e.g., pool, waterpark, **Exposed Exposed Exposed** Rate (%) Ratio Risk (provide exact Interval value) hot spring, well water) (A) (B) (B/A) Attack rate for residents of reporting state: ___ Attack rate for non-residents of reporting state: ___ **Geographic Location Symptoms/Conditions Route of Entry** For each category, indicate the Percent of ill persons (primary cases) living in reporting state: ______% # of ill persons (primary cases) with: **Associated Events** Gastrointestinal symptoms/ □ Ingestion conditions Was exposure associated with a specific event or gathering? Respiratory symptoms/ □ Contact ☐ Yes □ No ☐ Unknown conditions Skin symptoms/conditions □ Inhalation If Yes, what type of event or gathering was involved? Ear symptoms/conditions □ Other, specify: Eye symptoms/conditions Neurologic symptoms/ □ Unknown conditions If outbreak occurred during a defined event, dates of event: Wound infections Start date: _ _ End date: _ Other, specify (e.g., (mm/dd/yyyy) (mm/dd/yyyy) hepatitis A, leptospirosis):

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	Wa	ater-Etiology & Lab							
Outbreak	K Etiology (Papart th	a confirmed and/o	or suspector	d etiological agent(s) here	oven if ne clir	nical spec	imone wo	ero tostod)	
Confirmed as Etiology?	Genus/ Chemical/ Toxin		or suspecied	Serotype/ Serogroup/ Serovar		ibtype Det	ected In*	Total # People Tested	Total # Peopl Positive
☐ Yes						t rat	ирріу)		
☐ Yes									
☐ Yes									
☐ Yes									
☐ Yes									
☐ Yes									
☐ Yes									
☐ Yes									
* 1-Clinical Spe	cimens, 2-Water Samples, 3-Cli	nical Specimens & Wate	r Samples, 4-Ot	ther (describe in the general remark	ks), 5-Unknown, 6-N	one			
		about molecular c	characteriza	ntion across multiple system	ms. For each p	athogen, p	orovide a	representative	for each
Which CDC s	le? (e.g., PulseNet,	CDC Lab System O Number (e.g., Pulsel tracking number)		State Lab ID (i.e., Lab tracking number)	Mole	cular Desi	gnation 1	Molecular	Designation 2
Olivinal	3								
Clinical	Specimens								
1. Were o	clinical diagnostic speci	imens taken from	persons?	□ Yes □ No □ Unkno	own				
If	Yes, from how many pe	ersons were spec	imens take	n?					
Specimen Ty	уре [†]		Specimen S	ubtype§	Teste	ed for¶(lis	t all that a	oply)	
7-Ear Swab, 8-E	Endotracheal Aspirate, 9-Saliva,	10-Serum, 11-Skin Swab	, 12-Sputum, 13	, 3-Blood, 4-Bronchial Alveolar Lav 3-Stool, 14-Urine, 15-Vomitus, 16-Wo 8-Lung, 9-Nails, 10-Skin, 11-Stomacl	ound Swab, 17-Other	r (describe in	the general	onjunctiva/Eye Swal remarks), 18-Unkno	o, own
¶ Tested for: 1-	Bacteria, 2-Chemicals/Toxins, 3-	-Fungi, 4-Parasites, 5-Vir	ruses, 6-Other (describe in general remarks), 7-Unk	known				
Test Type	es (Select all test types	s used for clinical	specimens)	1					
□ Culture			[□ Phage Typing					
□ DNA or	RNA Amplication/Dete	ction (e.g., PCR,	TR-PCR)	☐ Chemical Testing					
□Microsc	opy (e.g., fluorescent, E	ΞM)	I	☐ Tissue Culture Infectivit	ty Assay				
□Serolog	ical/Immunological Tes	t (e.g., EIA, ELISA	A) [□ Unknown					
□ Other (c	describe in the general	remarks)							

			Water	oa	IIIpies				
	Samples (Provide repres rks or attached)	entative da	ata about water	qua	ality testing, chemical or p	athogen testing	. Additional	sample data	can be described in
Was wa	ater tested? Yes (sp	ecify in ta	ble below)	⊐ N	lo □ Unknown				
Results		-							
Sample N	lumber		1		2	3		4	5
Source of (e.g., swi	f Sample imming pool, lake)								
	Il Description e of day, location of sample co	ollection)							
	m/dd/yyyy)	•							
Volume 1	ested	Number Unit							
Temperat	hire	Number							
Tompora	uio	Unit							
	/Free Disinfectant Level	Number							
levels giv	en, total - combined = free)	Unit							
	d Disinfectant Level	Number							
	al - free = combined)	Unit							
рH									
Turbidity									
Water 9	Samples - Water Quali	ty Indica	ators (Might no	ot b	e applicable for treated re	creational water	samples)		
Sample Number	Type (e.g., fecal coliforms)				Concentration (numerical v	value)	Unit		
Water	Samples - Microbiolo	gy or Ch	emical/Toxir	ı A	nalysis (Provide both po	ositive and nega	tive test res	sults)	
Sample Number	Genus/ Chemical/ Toxin	Speci	es	Se	rotype/ Serogroup/ Serovar	Genotype/ Sub	type	PFGE Patte	ern
Sample Number	Test Results Positive?		entration erical value)	Un	it	Test Type*			nd (reference: National ntal Methods Index: nemi.gov)
	☐ Yes								
	☐ Yes								
	☐ Yes								
	☐ Yes								
	☐ Yes								
	☐ Yes								
	☐ Yes								
	☐ Yes								
*Test Type:	1-Culture, 2-DNA or RNA Amplificati	ion/Detection	(e.g., PCR, RT-PCR),	3-Mi	croscopy (e.g., fluorescent, EM), 4-	Serological/Immunolo	ogical Test (e.g.	, EIA, ELISA), 5-PI	hage Typing,
6-Cnemical	Testing, 7-Tissue Culture Infectivity	Assay, 8-Othe	r (aescribe in the ge	neral	remarks), 9-Unknown				

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Recreational Water - Treated Venue Implicated Water - Recreational Water Venue Description Water Venue Subtype **Venue Number Water Venue** Setting of Exposure (use this number to (e.g., spa/whirlpool/hot tub; (select indoor, outdoor, or (e.g., club, requiring membership; link the venue with pool- swimming pool; pool- waterpark) unknown) hotel/motel/lodge/inn; waterpark) water treatment or fill water data below) 1 2 3 4 5 6 Venue Number **USUAL Water Treatment Venue Treatment Subtype Chlorination Subtype** (Reference the (disinfection or pool filtration: e.g., UV; (chlorine disinfection only: e.g., gaseous; **Provided at Venue** appropriate Venue chlorine dioxide; bag filter; cartridge filter; sodium hypochlorite; cyanurates /stabilized (e.g., no treatment; coagulation; Number from above) disinfection; flocculation; filtration unknown) (pool); unknown) **Venue Number** Fill Water Type IF PUBLIC WATER WAS USED IF PUBLIC WATER WAS USED TO FILL. (Reference the (e.g., public water supply; sea water; **TO FILL, USUAL Water Treatment Fill Water Treatment Subtype** appropriate Venue untreated ground or surface water; **Provided for Fill Water Before** (disinfection or filtration: e.g., UV; chlorine Number from above) unknown) dioxide; bag filter; cartridge filter; unknown) **Coming to the Venue** (e.g., no treatment; disinfection; filtration (treatment plant); unknown) **Recreational Water Quality** Did the venue meet state or local recreational water quality regulations? □ Yes □No □ Unknown □ Not applicable If No, explain: _____ □ Yes □No Was there a pool operator on the payroll with state-approved □Unknown

training or certification?

Rec Water-Treated

ntributing Factors (Check all that apply)*	Documented/ Observed†	Suspected
Exceeded maximum bather load		
Primary intended use of water is by diaper/toddler-aged children (e.g., kiddie pool)		
Heavy use by child care center groups		
Fecal/vomitus accident		
Patrons continued to swim when ill with diarrhea		
Operator error		
Intentional contamination (explain in remarks)		
Combined pool filtration/recirculation systems led to cross-contamination		
Hygiene facilities (e.g., toilets, diaper changing facilities) inadequate or distant Some spray feature water bypasses filtration/treatment system and returns to feature unfiltered/untreated No supplemental disinfection installed that would have inactivated pathogen (e.g., Cryptosporidium)		
Some spray feature water bypasses filtration/treatment system and returns to feature unfiltered/untreated		
No supplemental disinfection installed that would have inactivated pathogen (e.g., Cryptosporidium)		
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)	П	
Supplemental disinfection system malfunctioning or inadequate (e.g., ultraviolet light, ozone)		
Insufficient system checks so breakdown detection delayed		
No preventive equipment maintenance programs to reduce breakdowns		
Ventilation insufficient for indoor aquatic facilities		i i
Chemical handling error (e.g., chemical hookup, improper mixing or application)		
Maintenance chemicals not flushed from system before opening to swimmers		
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		H
Recent construction		
Cyanurate level excessive	П	
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		
Remote monitoring system replaces on-site water quality testing		
Unclear communication chain for reporting problems		
Unclear communication chain for reporting problems Inadequate water quality monitoring (e.g., inadequate test kit, inadequate testing frequency) Employee illness policies absent or not enforced No or inadequate policies on good chemical handling and storage practices No operator on duty at the time of incident		
Employee illness policies absent or not enforced		H
No or inadequate policies on good chemical handling and storage practices		
No operator on duty at the time of incident		
Facility falls outside aquatic health code		
No shock/hyperchlorination policy	— <u> </u>	H
Other, specify:		
Unknown		

 $[\]ensuremath{^{\star}}$ Only check off what was found during investigation.

Remarks

^{† &}quot;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.

			Rec Water-Untrea	ted		
Rec	creational Water - Untreat	ed Venue				
Impl	icated Water - Recreational Water	Venue Description				
	r Venue , canal; lake; river/stream; ocean)	IF SPRING OR HOT SPRING, type (select indoor, outdoor		Setting of Exposure (e.g., beach-publi		ecreational area)
Rec	reational Water Quality					
	the venue meet state or local recreatity regulations? S No Unknown Not ap	recreational v	e meet Environme vater quality stand lo 🔲 Unknown	lards?		
If No	o, explain:		If No , explain	:		
Fact	ors Contributing to Recreational	Water Contamination an	d/or Increased	Evnosure in Un	treated Venue	•
	ibuting Factors (Check all that apply)*	water contamination an	u/or increased	Exposure in on	Documented/	Suspected [†]
	Exceeded maximum bather load				Observed†	
- J.	Primary intended use of water is by diaper/to Heavy use by child care center groups	oddler aged children (e.g., kiddie	pool)			
PEOPLE	Fecal/vomitus accident Patrons continued to swim when ill with diar	rhea				
	Staff error Intentional contamination (explain in remark	s)				
REA.	Hygiene facilities (e.g., toilets, diaper changi Malfunctioning or inadequate on-site wastev	ng facilities) inadequate or distan	t			
SWIM AREA DESIGN	Poor siting/design of on-site wastewater trea	tment system § ¶				
NS I	Stagnant or poorly circulating water in swim Heavy rainfall and runoff	area				
	Sanitary sewer overflow (SSO) impact § Combined sewer overflow (CSO) impact§					
	Domestic animal contamination (e.g., livesto	ock, pets)				
<u></u>	Wildlife contamination - Birds Wildlife contamination - Mammals					
QÜALITY	Wildlife contamination - Fish kill	act cwim area				
WATER	Wastewater treatment plant effluent flows pa Wastewater treatment plant malfunction §	ist swill area				
W	Sewer line break §		- \			
	Nearby biosolid/land application site (e.g., h. Contamination from agricultural chemical applications and the contamination from agricultural chemical applications.	uman or anımaı waste applicatior pplication (e.g., fertilizer, pesticide	n) :s)			
	Contamination from chemical pollution not re	elated to agricultural application	,			
	Water temperature ≥30°C (≥86°F) Seasonal variation in water quality (e.g., lake	e/reservoir turnover events)				
	Inappropriate dumping of sewage into water Algal bloom	body (e.g., from boat, RV)				
	Dumping of ballast water					
-	Tidal wash (i.e., tide exchange or influence h				B	
POLICY AND MANAGEMENT	No or inadequate monitoring of water quality No managers have completed state/local re-					
AGE	Untrained/inadequately trained staff on duty					
MAN -	Unclear communication chain for reporting p Employee illness policies absent or not enfo					
	Other, specify:					
+ O	Unknown					
†"Docu	theck off what was found during investigation. mented/Observed" refers to information gathered throu entation (as defined previously) is available.	gh document reviews, direct observation	ns, and/or interviews. "Su	uspected" refers to factors	that probably occurred t	out for which no
§ The re	lease of sewage does not have to occur at the property y/venue/setting in question.	/venue/setting where the people were ex	posed. The sewage may	have occurred at a distant	site but still affected the	
¶"On-s septic s	yvernesseumy in question. ite wastewater treatment system" refers to a system des systems or other advanced on-site systems). However, c on of contaminants from malfunctioning systems or po	ontamination that originates from these	r at the point of generati systems can still occur	on, generally on the proper off the property where treat	ty where the wastewater ment and disposal take	r is generated (e.g., s place due to
	narks					
						

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Drinking Wat	er _					
Implicated Water		ater System I	Description			
Water System* (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 of filtration: e.g., boiling; chlorine; rapid sand filter; reverse osmosis)
munity water system server can be nontransient or tran water to places in which pe that have < 15 connections † Number used for EPA rep selecting a state and then s	s year-round residents sient. Nontransient sy rsons do not remain fo or serve < 25 persons orting that uniquely id- selecting a county.	of a community, subdistems serve ≥ 25 of the prior long periods (e.g., ro.	livision, or mobile home park. A re same persons for > 6 months oestaurants, highway rest stations	have ≥ 15 service connections or oncommunity water system serve f the year but not year-round (e.g. , and parks). Individual water syst ter system ID number can be four	es an institution, industry, camp, , factories and schools), wherea ems are small systems not own	, park, hotel, or business and is transient systems provide ed or operated by a water utility
Drinking Water (vina violationa in the d	month major to the out	the words O	
Dia the arinking w	ater system na	ive any monito	ring violations in the i	month prior to the ou ☐ Yes	tbreak? ☐ No ☐ Unknown	□ Not applicable
If Yes , explair	n:					
-	•	·	um contaminant level	(MCL) violations in the □ Yes	e 1 month prior to the □ No □ Unknown	
_		-	ns in the 12 months p	rior to the outbreak?§ □ Yes	□ No □ Unknown	□ Not applicable

§ 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

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

□ Yes (specify in table below) □	outbreak? No □ Unkno	own
Source Water Contributing Factors (Check all that apply)*	Documented/ Observed†	Suspected [†]
Sanitary sewer overflow (SSO) §		
Combined sewer overflow (CSO) §		
Malfunctioning on-site wastewater treatment system § ¶ Sewage treatment plant malfunction §		
Sewage treatment plant manunction s		
Poor siting/design of on-site wastewater treatment system § ¶	П	
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)		Н
Intentional contamination (explain in remarks)		
Other, specify:		
Unknown		
Factors Contributing to Drinking Water Contamination and/or Increased Exposure to Contami	inated Drinki	ng Water
2. Did a problem with the water treatment prior to entry into a house or building contribute to the diseas	e or outhroak	2
☐ Yes (specify in table below)		nknown
Treatment Contributing Factors (Check all that apply)*	Documented/ Observed†	Suspected [†]
Change in treatment process (explain in remarks)	Observed†	
Change in treatment process (explain in remarks) No disinfection	Observed†	
Change in treatment process (explain in remarks) No disinfection Temporary interruption of disinfection	Observed†	
Change in treatment process (explain in remarks) No disinfection Temporary interruption of disinfection Chronically inadequate disinfection No filtration	Observed†	
Change in treatment process (explain in remarks) No disinfection Temporary interruption of disinfection Chronically inadequate disinfection No filtration Inadequate filtration	Observed†	
Change in treatment process (explain in remarks) No disinfection Temporary interruption of disinfection Chronically inadequate disinfection No filtration Inadequate filtration Deficiencies in other treatment processes	Observed†	
Change in treatment process (explain in remarks) 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	Observed†	
Change in treatment process (explain in remarks) No disinfection Temporary interruption of disinfection Chronically inadequate disinfection No filtration Inadequate filtration Deficiencies in other treatment processes	Observed†	
Change in treatment process (explain in remarks) 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	Observed†	
Change in treatment process (explain in remarks) 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	Observed†	
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Change in treatment process (explain in remarks) 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 * 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 the documentation (as defined previously) is available. § 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	Observed†	but for which no
Change in treatment process (explain in remarks) 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 * 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 the documentation (as defined previously) is available. § 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 ""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 (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 system" refers to a system designed to treat and dispose of wastewater at the point of generation, generally on the property	Observed†	but for which no sperty in question.
Change in treatment process (explain in remarks) 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 * 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 the documentation (as defined previously) is available. § 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 a linear treatment system" refers to a system designed to treat and dispose of wastewater at the point of generation, generally on the property.	Observed† Observed† Observed† Observed† Observed† Observed† Observed† Observed† Observed† Observed* Observed*	but for which no sperty in question.

Drinking Water		
3. Did a problem with the distribution system contribute to the disease or outbreak? \Box Yes (specify in the disease)	able below) 🛚	No 🗆 Unknown
(NOTE: For a community water system, the distribution system refers to the pipes and storage infrastructure under the	ne jurisdiction of th	e water utility
prior to the water meter (or property line if the system is not metered). For noncommunity and nonpublic water system the pipes and storage infrastructure prior to entry into a building or house)	ns, the distributior	n system refers to
the pipes and storage initiastructure prior to entry into a building or nouse)		
Distribution and Storage Contributing Factors (Check all that apply)*	Documented/	Suspected [†]
Distribution and storage contributing rastore (oriests an area apply)	Observed†	
Cross-connection of potable and nonpotable water pipes resulting in backflow		
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		
		<u> </u>
4. Did a problem occur after the water meter or outside the jurisdiction of a water utility that contribute	d to the disease	e or outbreak?
(e.g., in a service line leading to a house/building, in the plumbing inside a house/building, during ship	oping/hauling, d	uring storage
other than in the distribution system, at the point of use, involving commercially-bottled water)		Links acces
☐ Yes (specify in table below)	□No□	Unknown
Factors Not Under the Jurisdiction of a Water Utility or Contributing Factors at the Point of Use (Check all that apply)*	Documented/	Suspected [†]
	Observed†	
Legionella species in water system 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		
* 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.	. ,	
Remarks		

Other or Unknown Water

Other or Unknown Water				
Intent for Use				
What was the intended use for the implicated water? (check all tha ☐ 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)		t apply) □ Industrial/Occupational (e.g., steam cleaner) □ Agricultural Irrigation □ Waste water □ Other (specify):		
Implicated Water - 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)	
Factors Contribution to Co	ntoncination and/or brayes and Eve	and the Company is a tool Water		
Factors Contributing to Contamination and/or Increased Exposure to Contaminated Water				Output a start
Contributing Factors (Check all th	at apply)*		Documented/ Observed†	Suspected [†]
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 – filstory 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				
Ornamental fountain – intended as an ornamental fountain but utilized as an interactive fountain				
Ornamental fountain – inadequate disinfection for recreational use				
Ornamental fountain – inadequate filtration for recreational use				
Broken/damaged sewer pipe				
Recycling of water Water temperature ≥30°C (≥86°F)				
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.				
Remarks				
Tiemarks				

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