Appendix K: National Outbreak Reporting System (NORS) Forms

1) Foodborne Outbreak Form (CDC 52.13) Instructions

http://www.cdc.gov/nors/pdf/NORS_CDC_5213.pdf

2) Waterborne Outbreak Form (CDC 52.12) Instructions

http://www.cdc.gov/nors/pdf/NORS_CDC_5212-form.pdf

For additional information contact the KDPH Division of Epidemiology and Health Planning, Reportable Disease Section, (502) 564-3261

OR

CDC NORS website http://www.cdc.gov/nors/ **Blank Page**

This form is used to report investigations of foodborne of transmission. This form has 5 sections, General, Eti transmission and complete additional sections as indic	dborne Dise Contact, disease outbreak ology, Settings, A	nimal Contact, and Food, as	rson-to-Person mination, Unl ks transmitted by indicated by tabs a	on Disease Tr known Transm contact with perso at the top of each p	ransmission, <i>I</i> nission Mode ns, animals, or env age. Complete the	ironmental sources, General and Etiology		
CDC USE ONLY CDC ID	5	State ID						pproved 0920-0004
General Section – complete for al		ransmission except	water					
Primary Mode of Transmission (Check o Food (complete General, Etiology, au Water (complete CDC 52.12) Animal contact (complete General, b	nd Food tab:		Envir	onmental con plete Genera	ntamination of I, Etiology, and	neral, Etiology ther than food/ d Settings tabs eral, Etiology, a	water ;)	
Investigation Methods (Check all that app	oly)							
Interviews only of ill persons Case-control study Cohort study Food preparation review Water system assessment: Drinking v Water system assessment: Nonpotabl Comments			□ Inves □ Inves □ Food	tigation at fac tigation at ori product or bo onment/food/	tory/productio		nt	tc.)
- 10 - 57 (Databa)								0
50 								
								<u></u>
Dates (mm/dd/yyyy)								
Date first case became ill (required)			Date last cas	e became ill				
Date of initial exposure								
Date of report to CDC (other than this for								
Date of notification to State/Territory or L								
Geographic Location								
Exposure state:								
Exposure occurred in multiple state: Exposure occurred in a single state, Other states: (For multistate exposure or multistate re: Exposure county:	but cases re sidency outbr	eaks, enter the case co						
Exposure occurred in multiple count			ntu or multin	la countion				
Exposure occurred in a single count Other countles:	y, but cases	esided in another Col	inty or multip	le counties				
City/Town/Place of exposure:						18	_	
(Do I	not include pr	oprietary or private faci	lity names)				· · ·	
Primary Cases								
Number of primary cases				or percent of th	e primary cases)			
Lab-confirmed primary cases		#	Male			#		%
Probable primary cases	3	#	Female			#		%
Estimated total primary cases		#	Un <mark>known</mark>			#		%
Primary case outcomes	# Cases	Total # of cases for whom info is available	Age (Number	or percent of th	e primary cases)		Ť	
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	#	%
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General								
Incubation Period,	Duration of Illne	ss. Sians or Sv	notom	s for Pri	marv Cases	: Only		
Incubation Period (Select							es-select appropria	te units)
Shortest		Min, Hours	Davs	Shortest		9		Hours, Days
Median		Min, Hours		Median			-	Hours, Days
Longest		Min, Hours		Longest				Hours, Days
Total # of cases for whom	info is available	init, frouro	, Duyo		cases for whom	n info is available		iouro, Dujo
					own duration of			
Unknown incubation Signs or Symptoms (*Red		andiu E. if appropriate	to daga	Sector Statements		1		
Sign or symptom	eler to terms iron appe	них с, п арргорнае			ns or symptom	- Provide the	cases for whom i	nfo is available
Vomiting			T Case	s with sig	ns or symptom	5 10tai #	cases for whom i	IIIO IS AVAIIADIC
Diarrhea			+					
Bloody stools			-			-		
Fever								
Abdominal cramps			-					
HUS *			-					
*								
*								
*						17		
Secondary Cases								
Mode of secondary tran	smission (Check all th	at apply)		Numbe	r of secondary	cases		
D Food				Lab-co	nfirmed second	lary cases		#
Water Animal contact				Probab	le secondary ca	ises		#
Person-to-person				Estimat	ted total second	larv cases		#
Environmental contan	nination other than foo	od/water		-				16 ····································
Cother/unknown				Estimat	ted total cases ((Primary + Secon	dary)	#
Other CDC System IDs (0	
NEARS ID: 1)							1)	
OHHABS ID: 1)		2)						
Traceback (For food and		public water)						
Please check if traceb								
Source name (if publicly available)	Source type (e.g., pe processing plant, bottle			on of sour		Traceback com	nents	
1. 1	,		State		Country			
	~					×		
<u>.</u>						×		
Recall								
Please check if any fo	NAME AND DECEMBER OF A DECEMBE	oduct was recalled						
Type of item recalled	1.							
Comments:								
Reporting Agency Reporting site:				Ermailt	2			9
					#:			
								_~
Contact title:				1 aX #.				
	riefly describe importa	int aspects of the out	hreakno	t covered	ahove Please in	ndicate if any adv	erse outcomes coo	urred in enecial
District at methaliks District at methaliks	opulations (e.g., pregi	nant women, immund	ocomproi	mised pers	sons)	nucate it any duv	erse ourcomes occi	aneu in special
52 								-
12								
		1.000 March 1.000						

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	Etiolo	ogy									
Etiology Se	ction – complete	for all mo	les of tra	nsmission	i except wa	ter					
Clinical and	Environmental Te	sting									
1. Were any sai	mples collected and t	tested? [Yes	🗆 No		n <i>(lf no ol</i>	r unknown,	skip to Q6,)		
	amples of each type	were tested				1000		20 A			
Type of sample			Te	ested? (ye:	s/no/unknov	vn)	Number	of samples	tested		
Human specin	nen						-				
Animal specim	ien										
Food											
Water											
	ment <mark>al (</mark> specify in ge		50 g.								
☐ Bacteria ☐ Viruses ☐ Parasites ☐ Chemica ☐ Unknown	ls/Toxins n										
Chemica Culture DNA or F Microsce Serologia Tissue cu	RNA Amplification/D opy (e.g., Fluorescen cal/immunological t ulture infectivity ass pecify in general ren	etection <i>(e</i> nt, EM) est <i>(e.g., E</i> ay	e.g., PCR,	RT-PCR)							
If yes, when	crobial susceptibility e was AST performe any antimicrobial re	ed? 🗆 Cl	inical lab	D Put	olic health <mark>l</mark> a	ab [□ Unknow □ CDC-NA □ Yes □	RMS 🗆] Other 🛛 Un] Unknown	nown	
□ Yes	east one confirmed No (unknown	etiology) /	f no, skip	to next sec	ction						
*See http:/	/www.cdc.gov/food			0 0			0- 0				
Etiology	(Name the ba such as phag	e type, viru	lence fact	tors, and m	etabolic pro	file.)	ie, include	the serotyp	e and other charac	teristics	
Genus	Species	Sei	rotype/gei	notype	Other characteri	stics	Etiology or suspe	confirmed cted	# of lab- confirmed cases	Detecte	d in~
		6. 2		\$				2			
~Detected in (choo	ose all that apply): 1 – pat										
Isolates/Stra					ntative for e enotype for e			For noroviri	is outbreaks, prov	de CaliciNe	l key,
	State lab ID/ Accession ID/ CaliciNet key/ PulseNet Key	CDC Pul cluster o or Calici	seNet code	CDC Puls	seNet esignation	CDC Pul pattern designat enzyme	seNet tion for	2.0 10 0 50 50 0 5	sequenced nole genome ng ID	CaliciNet other mol designatio	
						5. X					
5 I.I.				3							

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Settings		Animal Contact			
Settings Section - complete for person-to-person, en	vironmenta	I contamination, a	nd other/unknown	primary i	mode of transmission
Major Setting of Exposure (choose one)					
□ Child day care □ Event space □ Festival/fair Hotel/motel □ 0 □ Long-term care/nursing □ 0 home/assisted living facility □ P		care facility	rivate home/resider eligious facility estaurant chool/college/unive		☐ Shelter/group home/ transitional housing ☐ Ship/boat ☐ Unknown
Specify setting					
Attack Rates for Major Setting of Exposure	Entime	tod averaged in	Estimated ill in	Crude et	teek vete //actimated ill /
Group (based on setting)		ated exposed in setting*	Estimated ill in major setting		tack rate [(estimated ill / d exposed) x 100]
Residents, guests, passengers, patients, etc.					
Staff, crew, etc. *e.g., number of persons on ship, number of residents in nursing home or aff	octod ward				
Other Settings of Exposure (choose all that apply)	ecteu waru				
□ Camp □ Hospital □ 0 □ Child day care □ Hotel/motel □ 0 □ Event space □ Long-term care/nursing □ 0		care facility □ R fy) □ R	rivate home/resider eligious facility estaurant chool/college/unive		☐ Shelter/group home/ transitional housing ☐ Ship/boat ☐ Unknown
Additional Shigella Questions (Complete this section for S	Shigella outh	reaks)			· · · · · ·
 Did any case-patients report travel prior to illness onse If yes, was travel international, domestic, or both? Were any confirmed, suspected, or probable case-patie 3. Were there any confirmed, suspected, or probable case. Animal Contact Section – complete for animal contact 	□ Internat ents immu es among r	nocompromised <i>(e.</i> nen who have sex v	estic □ Both <i>g., HIV/AIDS)</i> ? □ with men? □ Yes	l Yes	Inknown No Unknown Unknown
Animal vehicle undetermined) animal contact, but (undetermined vehicle	e (enter all	that apply from list
Animal	in append				
		1	2		3
Animal Type (select from list in appendix E)	-				
Animal Type (specify)					
Confirmed or suspected vehicle					
Reason(s) confirmed or suspected (enter all that apply from list in appendix E)		-2. 			
1. Settings of exposure (check all that apply)		•	r animal feed imp utbreak?		
□ Agricultural feed store □ Live animal market □ Long-term care/ nursing home/ □ Private h residence □ Animal shelter or sanctuary □ Long-term care/ nursing home/ □ School/c university □ Camp facility □ Veterinar □ Child day care □ Pet store or other retail location □ Zoo or ar exhibit □ Festival or fair □ Petting zoo □ Other (sp Unknowr □ Laboratory □ Prison/jail □ Unknowr	e ollege/ y y clinic nimal <i>ecify*)</i>	If yes, please s Prepackage Pet treats o Homemade Commercia	pecify: ed pet food or chews e pet food ally prepared 'raw' resh feeder rodent: ed		Unknown
3. Did any cases have exposure to livestock or household were experiencing diarrhea? Yes No Unknown	pets that				ations were used to nfections? (check all that
4. Was the "Compendium of Measures to Prevent Disease Associated with Animals in Public Settings" used in the investigation?		☐ Handwashin ☐ Quarantine/s ☐ Venue or eve ☐ Removal of a	top movement		None Other <i>(specify*)</i> Unknown
Animal contact remarks (*If "Other" was chosen, specify h	ere):				

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Food Section - complete for for	odbo	rne primary mode of transmiss	ion			
Food vehicle undetermined				d vehicle (enter all that apply from I	ist	in appendix E):
Food		1		2		3
Name of food (excluding any preparation)						
Confirmed or suspected vehicle		2				
Reason(s) confirmed or suspected (enter all that apply from list in appendi	ix E)					
Ingredient(s) (enter all that apply)		26 76				
Contaminated ingredient(s) (enter all that apply)						
Total # of cases exposed to implicated food						
Method of processing (enter all that apply from list in appendi	ix E)	10				
Method of preparation (select one from list in appendix E)						
Level of preparation (select one from list in appendix E)						
Contaminated food imported to US?		Yes, country Yes, unknown No Unknown		□ Yes, country □ Yes, unknown □ No □ Unknown	2	□ Yes, country □ Yes, unknown □ No □ Unknown
Was product <i>both</i> produced under domestic regulatory oversight <i>and</i> so	d?	□ Yes □ No □ Unknown		🗆 Yes 🗆 No 📄 Unknown		🗆 Yes 🖾 No 🗖 Unknown
Location where food was prepa (check all that apply)	red			cation of exposure (where fo heck all that apply)	od	l was eaten)
Banquet facility (food prepared and served on-site)		ther healthcare facility		Banquet facility (food prepared and served on-site)		Other healthcare facility
🗆 Camp		rison/jail		Camp	C] Prison/jail
Caterer (food prepared off-site from where served)		rivate home/residence		Caterer (food prepared off-site from where served)	C	Private home/residence
🗆 Child day care		leligious facility		Child day care	C	Beligious facility
Fair, festival, other temporary or mobile services		lestaurant- Buffet		Fair, festival, other temporary or mobile services		🛛 Restaurant – Buffet
🗆 Farm/dairy	L	testaurant – 'Fast-food' (drive up service or pay at counter)		Farm/dairy		Restaurant – 'Fast-food' (driv up service or pay at counter)
Grocery store		lestaurant – Other or nknown type		Grocery store] Restaurant – Other or unknown type
🗆 Hospital		lestaurant – Sit-down dining		Hospital	C	🛛 Restaurant – Sit-down dining
🗆 Hotel/motel		chool/college/university		Hotel/motel		School/college/university
Long-term care/nursing home/ assisted living facility		hip/boat		Long-term care/nursing home/ assisted living facility] Ship/boat
🗆 Office/indoor workplace		Inknown		Office/indoor workplace	E] Unknown
Other (specify in 'where prepared	d rem	arks')		Other (specify in 'where eaten re	m	arks')
Where prepared remarks:			W	here eaten remarks:		
Was there a kitchen manager certi	ified i	n food safety at the location of	pre	eparation? 🗆 Yes		No 🗖 Unknown
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	Food
Contributing Factors (check all that contributed to this outbreak)	
Contributing factors unknown	
Contamination factor C1 C2 C3 C4 C5 C6 C7 C8 C9	□ C10 □ C11 □ C12 □ C13 □ C14 □ C15 □ C-N/A
Proliferation/amplification factor (bacterial outbreaks only) □ P1 □ P2 □ P3 □ P4 □ P5 □ P6 □ P7 □ P8 □ P9	□ P10 □ P11 □ P12 □ P-N/A
Survival factor	
Confirmed or Suspected Point of Contamination (check one)	
□ Before preparation □ Preparation □ Unknown If 'before preparation': □ Pre-Harvest □ Processing □ Unkn	IOWN
Reason suspected (check all that apply)	
□ Environmental evidence □ Laboratory evidence □ Epidemiologic evidence □ Prior experience makes this a like	tely source
Was food-worker implicated as the source of contamination? Yes No Unknown If yes, please check only one of the following: Laboratory and epidemiologic evidence Laboratory evidence	 Epidemiologic evidence Prior experience makes this a likely source
 Did the outbreak involve a single or multiple schools? Single Multiple (number of schools:) School characteristics (for all involved students in all involved schools) 	
a. Total approximate enrollment: (number of st. b. Grade level(s) Grade school (grades K-12) Please check all grades affected: C K 1st 2nd 3rd C College/university/technical school Unknown or undetermined	udents) □ Unknown or undetermined
c. Primary funding of involved schools	
3. Describe the preparation of the implicated item: (check all that apply)	 4. How many times has the state, county or local health department inspected this school cafeteria or kitchen in the 12 months before the outbreak?* Once Twice More than two times Not inspected Unknown or undetermined *If multiple schools are involved, please answer for the school with the most cases. 5. Does the school have a HACCP plan in place for the school feeding program?*
 Brought by a student/teacher/parent Other (specify in General Remarks) Unknown or undetermined 	Yes No Unknown or undetermined "If multiple schools are involved, please answer for the school with the most cases.
6. Was implicated food item provided to the school through the National School Lunch/Breakfast Program?	If yes , was the implicated food item donated/purchased by: USDA through the Commodity Distribution Program
□ Yes □ No □ Unknown or undetermined	The state/school authority Other (specify in General Remarks) Unknown or undetermined

	Food
Ground Beef	
 What percentage of ill persons, for whom information is available Was ground beef case-ready? Yes No Unknown (Case-ready ground beef is meat that comes from a manufacturer pack) Was the beef ground or reground by the retailer? Yes No Unknown If yes, was anything added to the beef during grinding (e.g., shop in the second second	aged for sale that is not altered or repackaged by the retailer.)
Eggs 1. Were eggs (check all that apply) in shell, unpasteurized packaged liquid or dry stored with inadequate refrigeration during or after sale consumed raw consumed undercooked pooled	2. Was Salmonella Enteritidis found on the farm? Yes No Unknown Egg comment (e.g., eggs and patients isolates matched by phage type):
the data needed, and completing and reviewing the collection of information. An agency may not	esponse, including the time for reviewing instructions, searching existing data sources, gathering and maintaining conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a aspect of this collection of information, including suggestions for reducing this burden to CDC, Project Clearance ASE REPORTS TO THIS ADDRESS->

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Conorol							·	
General	Nati	onal Outbreal Waterborne Disc	K Reporti ease Transmis	ing Systen	1		Å.	ύ
This form is used to report waterborne disease outbreal results. These are followed by sections specific to the t Public reporting burden of this collection of information is data needed, and completing and reviewing the collection valid OME control number. Send comments regarding thi 1600 Clifton Road, MS D-24, Atlanta, GA, 30333, ATTN: P CDC USE ONLY	ype of water expo s estimated to ave of information. A s burden estimate	sure. Only 1 of the 5 water ex rage 20 minutes per response, n agency may not conduct or s or any other aspect of this col	posure sections sl including the time ponsor, and a perso lection of information	nould be completed. for reviewing instruction on is not required to re- on, including suggestion	ns, searching e spond to a colle	existing data sources, gat action of information unle	hering and mair ss it displays a	taining the currently
CDC ID	5	State ID					Form Ap OMB No. 0	
General Section								
Primary Mode of Transmission (Check o	ne)							
Food (Complete CDC 52.13)	1107		Perso	n-to-person (Co	mplete CD	C 52 13)		
Water (Complete the tabs for General, Lab, Water Samples and the type of w			Enviro		nination otl	her than food/wate	er	
Animal contact (Complete CDC 52.13)	A CALIFORNIA CONTRACTOR OF A CALIFORNIA CONTRACTOR OF A CALIFORNIA CONTRACTOR OF A CALIFORNIA CONTRACTOR A CALIFICATOR A	-	and the second of	, /Unknown <i>(Com</i>		52.13)		
Investigation Methods (Check all that app	nly)							
Interviews only of ill persons			Treate	d or untreated n	ecreational	water venue asse	ssment	
Case-control study						on/treatment plant		
Cohort study Food preparation review				product or bottle		e.g., farm, water s aceback	source, etc.,	2
Water system assessment: Drinking w	vater			onment/food/wat				
Water system assessment: Nonpotabl	e water		C Other					
Comments								
9 <u>0</u> 92								
Dates (mm/dd/yyyy)			Data	10				
Date first case became ill (required)				e became ill				
Date of initial exposure			Date of last e	exposure		<u></u>		
Date of report to CDC (other than this for	7/20140 000	12 GOVE CAS NOT						
Date of notification to State/Territory or L Geographic Location	ocal/moarn	earm Authonnes						
Exposure state:								-
Exposure occurred in multiple states Exposure occurred in a single state, Other states:		sided in another state	or multiple st	ates			174	
(For multistate exposure or multistate re-	sidency outbr	eaks, enter the case co	unt for each st	ate)				
Exposure county: Exposure occurred in multiple count								
Exposure occurred in multiple count Exposure occurred in a single count Other counties:			unty or multip	le counties		125		
City/Town/Place of exposure:	14.2.2							
PROFESSION AND AND AND AND AND AND AND AND AND AN	not include pr	oprietary or private fac	ility names)					
Primary Cases			0					
Number of primary cases	10			or percent of the pr	imary cases)	T		0/
Lab-confirmed primary cases	4	#	Male			#		%
Probable primary cases	4	#	Female	2		#		%
Estimated total primary cases		#	Unknown			#		%
Primary case outcomes	# Cases	Total # of cases for whom info is available	Age (Number	or percent of the pi	imary 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– <mark>1</mark> 9 years	#	%	Unknown	#	%

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General									
Incubation Perio	d, Duration of Illne	ess, Signs or S	mptom	s for Pri	mary Case	es Only			
Incubation Period (Se	Contraction of the International Contraction of the International Contraction of the International Contraction			A CONTRACTOR OF A		mong recovered	cases-selec	t appropriat	e units)
Shortest		Min, Hour	s, Days	Shortest				Min, H	lours, Days
Median		Min, Hour	s. Days	Median			1	Min, H	lours, Days
Longest		Min, Hour		Longest					lours, Days
Total # of cases for wh	om info is available			, in the second	cases for who	om info is availab	le		1.1
Unknown incubatio			_		own duration (
Signs or Symptoms	in ponou			- Containe					
Sign or symptom			# Case	es with sig	ns or sympto	ms Tota	al # cases f	or whom ir	fo available
Vomiting									
Diarrhea									
Bloody stools									
Fever									
Abdominal cramps									
HUS									
100			-						
			-			2			
			-			÷			
			-						
Secondary Cases	1 1 /01 1 ///								
Food	ransmission (Check all th	at appiy)			r of seconda				F
□ Food □ Water				Lab-co	nfirmed seco	ndary cases			
Animal contact				Probab	le secondary	cases			
Person-to-person		10 X		Estimat	ted total seco	ndary cases			
Environmental con Other/Unknown	tamination other than fo	od/water				s (Primary + Sec	condary)		2
Other CDC System ID	e /lf annlicahla)			Lotinia		o (i finiary f coo	Joindary)		i.
	is (II applicable)	2)		3)			4)		
				3)					1
		81 (34)		-					
Traceback (For food a	nd bottled water only, not	public water)							
Please check if trac	ceback conducted								
Source name	Source type (e.g. po		Locati	on of sour	ce	Traceback co	omments		
(if publicly available)	processing plant, bottl	ed water factory)	State	(Country				
			1			Ĩ.			
Recall									
Please check if any	/ food or bottled water pi	oduct was recalled							
Type of item reca	illed:								5
Comments:									
Reporting Agency				-					
				E-mail:					
and the second state of the second state of the			-		#:				72
			-	Fax #:					- C.
Contact title:	n . n				v			49 1	
General Remarks	Briefly describe important in special populations (e.g					if any adverse out	comes occuri	ed	
	speerar populations (8.5	, Fregnant Women, I		promised p					
. 5 .									
<u></u>									:
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Water-Genera									
Water - General Section									
Type of Water Exposure (Check ONE box)									
Treated recreational water (e.g., in man	ufactured ve	enues <mark>such a</mark>	as pools, spa	as/whirlpool	s, hot tubs,	spray pad	s, at-home kid	ldie pools)	
Untreated recreational water (e.g., water	r in natural	venues sucl	h as <mark>fre</mark> shwa	ter lakes, ho	ot springs, m	narine bead	ches/oceans)		
Drinking water in public or individual water exposure pathway (i.e., not limited to interpret to interpret and the interpret of the interpr		s <mark>(e.g., mun</mark>	iicipal syster	n, private we	ell, commerc	cially-bottl	ed water, wate	er kiosk), reg	ardless of the
Other water (e.g., cooling/industrial, wa country streams)	ter reuse, ii	rigation, oc	cupational, c	lecorative/di	isplay; inclue	des water	consumed fro	m sources si	ich as back-
Unknown water uses (i.e., the intended	purpose or	use of the v	vater is unkr	own or the	water expos	ure catego	ory could not l	be determine	d)
Epidemiologic Data									
1. Estimated total number of persons with	primary wa	ter exposure	D:						
2. Were data collected from comparison gr	roups to est	imate risk?	[∃ Yes <i>(spec</i>	ify in table b	elow)	□ No		Jnknown
If NO or UNKNOWN , was water t shared by persons who were ill?	he common	source	ſ	⊐ Yes			□ No		Jnknown
Exposure in epidemiologic investigation (e.g., pool, waterpark, hot spring, well water)	Total # exposed	# ill exposed	Total # not	# ill not exposed	Attack rate (%)	Odds ratio	Relative risk	p-Value (provide exact value)	95% confidence interval
	(A)	(B)	exposed		(B/A)	-			Interval
			6	6	6		2		
		0	2		2				
		-							
Attack rate for residents of reporting state	e:	_%		Attack rat	e for non-re	esidents o	f reporting sta	ite:	%
Geographic Location									
Percent of ill persons (primary cases) livin	g in reporti	ng state:		_%					
Associated Events									
Was exposure associated with a specific e	unt or goth	oringQ							
	Jnknown	eningr							
If YES, what type of event or gathering was	s involved?								
8 <u></u>									
If outbreak occurred during a defined even	t, dates of e	event:							
Start date: End date: _									
(mm/dd/yyyy)	(mm/dd	(yyyy)							
Route of Entry									
□ Ingestion □ Contact		🗆 Inf	nalation		D Other (specify in	remarks)		Unknown
CDC 52.12 Rev. 03 2017		the designment of the second	Outbreak Reporting Sy	etere					162092-A 3

	V	later-E	tiology & Lab						
Outbreak Etiol	ogy (Report the confirme	d and/or	suspected etiological ag	ent(s) he	ere, even if no clinical s	pecimens were tes	ted)		
Confirmed as etiology?	Genus/Chemical/Toxin		Species		Serotype/Serogroup/ Serovar	Genotype/ Subtype	Detected in * (list all that apply)	Total # tested primary cases	Total # positive primary cases
□ Confirmed □ Suspected									
□ Confirmed □ Suspected								8	
□ Confirmed □ Suspected									
Confirmed Suspected									
□ Confirmed □ Suspected					5				
□ Confirmed □ Suspected									
□ Confirmed □ Suspected							×.		
□ Confirmed □ Suspected									
* 1-Clinical Specime	ns, 2-Water Samples, 3-Clinical S	pecimens &	Water Samples, 4-Other (descrit	pe in the ge	eneral remarks), 5-Unknown, 6-	None			
	ites (Links data about mo			di d		Contractor (a	sentative for	each distinct	molec ular
Distance of the second second second second	stem contains this ? (e.g., PulseNet, CaliciNet)		b system outbreak # ulseNet tracking number)	State I (i.e., La	ab ID b tracking number)	Molecular designation 1	12	Aolecular lesignation 2	2
0.				(d)					
				2					
							1		
				63					
Clinical Speci	mens			19			1		
	l diagnostic specimens t S , from how many perso			Yes	□ No	Unknow	n		
Specimen type	et.		Specimen subtype§			Tested for ¹ (list a	ll that apply)		
Aspirate, 9-Saliva, ⁵ Specimen Subtype	Autopsy Specimen (specify subty 10-Serum, 11-Skin Swab, 12-Spu : 1-Bladder, 2-Brain, 3-Dura, 4-Ha rria, 2-Chemicals/Toxins, 3-Fungi,	tum, 13-Sto ir, 5-Intestin	ol, 14-Urine, 15-Vomitus, 16-Wo e, 6-Kidney, 7-Liver, 8-Lung, 9-N	und Swab, ails, 10-Sk	17-Other (describe in the gene in, 11-Stomach, 12-Wound, 13-	ral remarks), 18-Unknow		vab, 7-Ear Swab, 8	3-Endotracheal
Testing Inform	wight the second se								
	elect all test types used for cl	inical spec	cimens)		2. Was Antimicrobial	Susceptibility Tes	ting (AST) pe	erformed?	
Chemical Tes	555 .	a na sa Maran	ogical/Immunological Tes	st	□ Yes □ No □		1899 A.S.		
Culture		(e.g., E	EIA, ELISA)		If yes, where was I			ARMS	
			e culture infectivity assay			Unknown			
(e.g. PCR, RT-		U Unkno	(specify in the general rema own	irks)	If yes, were any an outbreak? Yes	timicrobial resista		sociated with	i the
				18 - XARSE	1			terinoite:	255 5

or attached	nples (Provide representative da	ta about water quality t	esting, chemical or pat	thogen tes	sting. Additional	sample da	ata can be o	lescribed in the rema
Was water		able below) 🗆 🛛	lo 🗆 Unknown					
Results								
Sample n	umber	1	2	3		4		5
Source of (e.g., swimn	sample ning pool, lake)							
	I description f day, location ollection)							
Date (mm/	′dd/yyyy)							5
Volume te	sted, (number, unit)							
Temperati	ure (number, unit)							
Residual/I number, unit	Free disinfectant level - t (if total and combined disinfectant total - combined = free)							
number, unit	disinfectant level - t (if total and free disinfectant total - free = combined)			55				
pH								
Turbidity (NTII)	5	-	0				0
-	nples - Water Quality Indicator	rs (Might not be applie	able for treated rearest	ional wate	ur comnloc)	I		
water odl	Type (e.g., fecal coliforms)	is (might not be applic	abio for treated recreat				Jnit	
Samela				Comment				
	Type (e.g., recar contornis)			Value)	ntration (nume	rical	June	
Sample number	Type (e.g., lecar contornis)				ntration (nume	rical	Junt	
	type (e.g., recar comornis)				ntration (nume	rical	Jim	
					ntration (nume			
					ntration (nume			
					ntration (nume			
					ntration (nume			
number		cal/Toxin Analysis (P	rovide both positive an	value)				
number Water Sar	nples - Microbiology or Chemi		Incenter appendix of the second second second	value)	e test results)			ittern
number		ical/Toxin Analysis (P Species	rovide both positive an Serotype/Serogi Serovar	value)			PFGE pa	ittern
number Water Sar Sample	nples - Microbiology or Chemi		Serotype/Serog	value)	e test results)			ttern
number Water Sar Sample	nples - Microbiology or Chemi		Serotype/Serog	value)	e test results)			ttern
number Water Sar Sample	nples - Microbiology or Chemi		Serotype/Serog	value)	e test results)			ttern
number Water Sar Sample	nples - Microbiology or Chemi		Serotype/Serog	value)	e test results)			ttern
number Water Sar Sample	nples - Microbiology or Chemi		Serotype/Serog	value)	e test results)			ttern
number Water Sar Sample	nples - Microbiology or Chemi		Serotype/Serog	value)	e test results)			ttern
number Water Sar Sample	nples - Microbiology or Chemi		Serotype/Serog	value)	e test results)		PFGE pa	ttern thod (reterance: National i Methods index: http://www.ne
number Water Sar Sample number Sample	nples - Microbiology or Chemi Genus/Chemical/Toxin Test results positive?	Species Concentration	Serotype/Serogi Serovar	value)	e test results) Genotype/S		PFGE pa	
number Water Sar Sample number Sample	nples - Microbiology or Chemi Genus/Chemical/Toxin	Species Concentration	Serotype/Serogi Serovar	value)	e test results) Genotype/S		PFGE pa	
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number Water Sar Sample number Sample	nples - Microbiology or Chemi Genus/Chemical/Toxin Test results positive? Yes No Yes No	Species Concentration	Serotype/Serogi Serovar	value)	e test results) Genotype/S		PFGE pa	
number Water Sar Sample number Sample	nples - Microbiology or Chemi Genus/Chemical/Toxin Cenus/Chemical/Toxin Cenus/Chemical/Toxin Cenus/Chemical/Toxin Cenus/Chemical/Toxin Cenus/Chemical/Toxin Cenus/Chemical/Toxin Cenus/Chemical/Toxin Cenus/Chemical/Toxin Cenus/Chemical/Toxin Cenus/Chemical/Toxin Cenus/Chemical/Toxin Cenus/Chemical/Toxin Cenus/Chemical/Toxin Cenus/Chemical/Toxin Cenus/Chemical/Toxin	Species Concentration	Serotype/Serogi Serovar	value)	e test results) Genotype/S		PFGE pa	

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National Outbreak Reporting System

	Rec Wa	iter-Treated	
Recreational Water	- Treated Venue		
Implicated Water - Recre	eational Water Venue Description		
Venue number (use this number to link the venue with water treatment or fill water data below) 1	Water venue (e.g., spa/whirlpool/hot tub; pool-swimming pool; pool-waterpark)	Water venue subtype (select indoor, outdoor, or unknown)	Setting of exposure (e.g., club, requiring membership; hotel/motel/lodge/inn; waterpark)
2			
3			
4			
5		2	
Implicated Water - Wate	r Treatment Description		
Venue number (reference the appropriate Venue number from above)	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)
Implicated Water - Fill Tr Venue number (reference the appropriate Venue number from above)	reatment Description Fill water type (e.g., public water supply; sea water; untreated ground or surface water; unknown)	If public water supply, USUAL water treatment provided before coming to the venue (e.g., no treatment; disinfection; filtration [treatment plant]; unknown)	If public water supply, fill water treatment subtype (disinfection or filtration: e.g., UV; chlorine dioxide; bag filter; cartridge filter; unknown)
Recreational Water Qual	ity		
	or local recreational water quality regulations?] Yes 🗆 No 🛛	Unknown Dot applicable
Was there a pool operator	r on the payroll with state-approved training or certif	ication? 🗆 Yes 🗆 No	Unknown
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actors L	Contributing to Recreational Water Contamination and/or Increased Exposure in Treated Venues		
ontribut	ting 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		
Pe	Patrons continued to swim when ill with diarrhea		
	Operator error		
	Intentional contamination (explain in remarks)	0	
	Combined pool filtration/recirculation systems led to cross-contamination		
1	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		
esi	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)		
	Supplemental disinfection system malfunctioning or inadequate (e.g., <i>juli now rate)</i>		
	Insufficient system checks so breakdown detection delayed		
	No preventive equipment maintenance programs to reduce breakdowns		
and	Ventilation insufficient for indoor aquatic facilities		
(D)			
ain	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		
-	I ow 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	<u> </u>	Ц
	No aquatics operators on payroll who have completed state/local training		
- Ieu	Untrained/inadequately trained staff on duty		
en -	Remote monitoring system replaces on-site water quality testing		
nag	Unclear communication chain for reporting problems		
Ma	Inadequate water quality monitoring (e.g., inadequate test kit, inadequate testing frequency)		
P _	Employee illness policies absent or not enforced		
a	No or inadequate policies on good chemical handling and storage practices		
	No operator on duty at the time of incident		
8 1	Facility falls outside aquatic health code		
1	No shock/hyperchlorination policy		
	Other, specify:		
1	Unknown		
"Document	c off what was found during investigation. ted/Observed" refers to information gathered through document reviews, direct observations, and/or interviews. "Suspected" refers to factors that p I previously) is available.	robably occurred but for whic	h no documentatio

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National Outbreak Reporting System

ig. and: bis: riverStram; ocean (e.g., Selech yubbic; camptabir/scra	_			Rec Water-Untrea	nted		
Target result IF SPRING OR NOT SPRING, water venue subtype Stilling of exposure (sp. drack disk; riwrid/tran; coash) If exact disk; riwrid/tran; coash) If exact disk; riwrid/tran; coash) Stilling of exposure (sp. drack disk; riwrid/tran; coash) Stilling of exposure (sp. drack disk; riwrid/tran; coash) If the venue meet state or local recreational water quality regulations? Did the venue meet Environmental Protection Agency (EPA) recreational water quality standards? Use are quality standards? If No, splain: If No, splain: Did the venue meet Environmental Protection Agency (EPA) recreational water quality standards? Not applicable If No, splain: If No, splain: If No, splain: State recreational water quality standards? State recreational Observed* State recreational State recreational water to prove the splate to p	Recreat	ional Water - Untreate	d Venue				
General bike riverstram; coan) (e.g., bisch-judic; campatability and campa an	Implicated	d Water - Recreational Water	Venue Description				
g. and: bis: riveristram: ocean) (e.g., bisch-public; campicablic; campicablic remational anal) erecational Water Quality (det rindox outdoor or unknown) (e.g., bisch-public; campicablic remational anal) erecational Water Quality (det venue meet Environmental Protection Agency (EPA) recreational water quality regulations? Use option: Vis No Unknown Not applicable Water quality standards? Not applicable Water quality standards? Vis No Unknown Not applicable Water quality standards? Vis No Unknown Not applicable water quality standards? Vis No Unknown Not applicable mitbining factors (Chock all Mat apply)* Documented/ Suspected Observed?	Water venue IF SPRING OR HOT SPRING, water venue subtype Setting of ex					cosure	
<pre>id the venue meet state or local recreational water quality regulations? Vis</pre>				,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			ational area)
<pre>id the venue meet state or local recreational water quality regulations? Vis</pre>							
1. Yes No Unknown Not applicable No explain: Image: No Unknown Not applicable No explain: Image: No Unknown Not applicable No explain: Image: No Unknown Not applicable Image: No Image: No Image: No Image: No Image: No Image: No attract: Contributing to Exectional Water Contamination and/or Increased Exposure in Untreated Venues Image: No	Recreation	nal Water Quality					
If the index in the index ind	Did the ver	nue meet state or local recrea	tional water quality regulations?	Did the venue meet Enviro	nmental Prote	ction Agency (EPA)	recreational
Optimized Control Documented/ Observed/ Suspected Observed/ Exceeded maximum bather load Primary intended use of water is by disper/toddier-aged children (e.g., kiddie pool)	□ Yes If NO , expl		10	🗆 Yes 🛛 🗆 No			plicable
Optimized Control Documented/ Observed/ Suspected Observed/ Exceeded maximum bather load Primary intended use of water is by disper/toddier-aged children (e.g., kiddie pool)							
Construction C	Factors Co	ontributing to Recreational W	later Contamination and/or Increa	sed Exposure in Untreated V	enues		
Terminary intenside use of watter is by disperchandler- aged children (e.g., kiddle pool) The early omitus accident	Contributi	ng factors (Check all that apply)	•				Suspected
Beavy use by child care center groups							
Staff error Image: Staff error Intentional contamination (<i>e.g., laiper changing facilities</i>) inadequate or distant Image: Staff error Hygine facilities (<i>e.g., toilets, diaper changing facilities</i>) inadequate or distant Image: Staff error Mainucchoring or inadequate on-sile wastewater treatment system ³⁶ Image: Staff error Poor stillig/design of on-sile wastewater treatment system ³⁶ Image: Staff error Stagnant or poorly circulating water in swim area Image: Staff error Bantary sewer overflow (SSO) inpact ¹⁶ Image: Staff error Ocmission aswer overflow (SSO) inpact ¹⁶ Image: Staff error Widtlife contamination - <i>leg. livestock, pets</i>) Image: Staff error Widtlife contamination - Ish kill Image: Staff error Widtlife contamination - Ish kill Image: Staff error Widtlife contamination - Ish kill Image: Staff error Widtlife contamination rom aprice as staff error Image: Staff error Sever line brack ³ Image: Staff error Octamination from aprice and pilotation site (<i>e.g., tetratilese, pesticides</i>) Image: Staff error Octamination from chronical application (<i>e.g., tetratilese, pesticides</i>) Image: Staff error Octamination from chronical application (<i>e.g., tetr</i>				, kiddie pool)			
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Open Open Modificationing or inadequate on-site wastewater treatment system ³⁶	0.775						
Heavy rainfall and runoff	C II					A	
Heavy rainfall and runoff	H H	lygiene facilities (e.g., toilets, dia	per changing facilities) inadequate or di	stant			
Heavy rainfall and runoff	a sic						
Heavy rainfall and runoff	De De						
Sanifary sewer overflow (SSO) impact ⁶	<u>s</u>		ater in swim area				
Combined sever overflow (CSO) impact Domestic animal contamination (e.g., livestock, pets) Widdlife contamination - Birds Widdlife contamination - Fish kil Widdlife contamination on the fish of the set of the			mnact§				
Domestic animal contamination (e.g., livestock, pets) Wildlife contamination (e.g., livestock, pets) Wildlife contamination - Birds Wildlife contamination - Fish kil Wildlife contamination - Fish kil Wildlife contamination - Fish kil Wildlife contamination - Sink kil Wastewater treatment plant filleurent flows past swim area Uning of ballast water Tudil wash (i.e., like exchange or influence by inland water) No or inadequate monitoring of water quality Unclear communication chain for reporting problems Employee illness policies absent or not enforced Other, specify: Unknown Durknown Dur						-	
Wildlife contamination - Birds							
Wildlife contamination - Mammals			(e.g., investock, pers)				
Wildlife contamination - Fish kill			le			10 10 10 10 10 10 10 10 10 10 10 10 10 1	
Wastewater treatment plant effluent flows past swim area							
Wastewater treatment plant malfunction ³	12000						1000
Contamination from chemical pollution not related to agricultural application Water temperature 330°C (286°F) Seasonal variation in water quality (e.g., <i>lake/reservoir turnover events</i>) Inappropriate dumping of sewage into water body (e.g., <i>from boat</i> , <i>RV</i>) Algal bloom Dumping of ballast water Tidal wash (<i>i.e.</i> , <i>tide exchange or influence by inland water</i>) No or inadequate monitoring of water quality No managers have completed state/local required training Untrained/inadequately trained state/local required tr	ile W						
Contamination from chemical pollution not related to agricultural application Water temperature 330°C (286°F) Seasonal variation in water quality (e.g., <i>lake/reservoir turnover events</i>) Inappropriate dumping of sewage into water body (e.g., <i>from boat</i> , <i>RV</i>) Algal bloom Dumping of ballast water Tidal wash (<i>i.e.</i> , <i>tide exchange or influence by inland water</i>) No or inadequate monitoring of water quality No managers have completed state/local required training Untrained/inadequately trained state/local required tr	as						
Contamination from chemical pollution not related to agricultural application Water temperature 330°C (286°F) Seasonal variation in water quality (e.g., <i>lake/reservoir turnover events</i>) Inappropriate dumping of sewage into water body (e.g., <i>from boat</i> , <i>RV</i>) Algal bloom Dumping of ballast water Tidal wash (<i>i.e.</i> , <i>tide exchange or influence by inland water</i>) No or inadequate monitoring of water quality No managers have completed state/local required training Untrained/inadequately trained state/local required tr	N te		site (e.g., human or animal waste application	ation)			
Contamination from chemical pollution not related to agricultural application	e C						20011
Water temperature ≥30°C (≥86°F)							
Inappropriate dumping of sewage into water body (e.g., from boat, RV)							
Inappropriate dumping of sewage into water body (e.g., from boat, RV)							
Dumping of ballast water							
Tidal wash (i.e., tide exchange or influence by inland water)							
No or inadequate monitoring of water quality							
No managers have completed state/local required training							
Untrained/inadequately trained staff on duty Unclear communication chain for reporting problems Employee illness policies absent or not enforced Other, specify: Unknown Only check off what was found during investigation. Toocumented/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 guestion. "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 mailunctioning systems or poor siting and design.	N ent						
Other, specify:	N en a						
Other, specify:	lic)						
Other, specify:	Aan Aan					and the second sec	
Unknown DNJ 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 documentatio 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 guestion. "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 aystems 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 maiturctioning systems or poor siting and design. emarks			or not enforced				Contraction of the second s
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 guestion. "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 maltunctioning systems or poor siting and design. emarks							
emarks	Only check o "Documente (as defined p The release of question. "On-site was systems or o	off what was found during investigation. d/Observed" refers to information gather previously) is available. of sewage does not have to occur at the i stewater treatment system" refers to a sy ther advanced on-site systems). Howeve	property/venue/setting where the people were ex rstem designed to treat and dispose of wastewal r, contamination that originates from these syste	xposed. The sewage may have occurred ter at the point of generation, generally o	at a distant site but s	bly occurred but for whic till affected the property/v the wastewater is genera	h no documentation venue/setting in ted (e.g., septic
55 19 Gar (15 2017) National Directoria Reporting Sections Accession Accessi	contaminant Remarks	is from mailunctioning systems or poor si	ang and design.				
\$5.19 Gar (15.2017) National Patriciana Baperlijin Rustum							
National Cultures Manoral Culture Contact Contact				Day Bartan			

				Drinl	king Water	
Drinking Water						
Implicated Water - Drin	king Water Syste	m 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 or filtration: e.g., boiling; chlorine; rapid sand filter; reserve osmosis)
water system serves year-round be nontransient or transient. Nor to places in which persons do ne < 15 connections or serve < 25 ¹ Number used for EPA reporting ti (SDWIS) online at https://ofmpub Drinking Water Quality	ntransient systems serv ot remain for long period persons. hat uniquely identifies t	e > 25 of the same persons for Is (e.g., restaurants, highway re he public water system within	> 6 months of the year but est stations, and parks). Indi- indi-	not year-round (e.g., factories : vidual water systems are smal	and schools), whereas transient I systems not owned or operate	t systems provide water ed by a water utility that have
Did the drinking water sy	Unknown	Not applicable	the 1 month prior t	o the outbreak?		
. <u>.</u>						2 5
Did the drinking water sy □ Yes □ No If Yes , explain:	Unknown	□ Not applicable	level (MCL) violation	ns in the 1 month prio	r to the outbreak?	
						3
						5
Did the drinking water sy □ Yes □ No If Yes , explain:	vstem have any vi Unknown	olations in the 12 mor	ths prior to the out	oreak?§		
1 2						
-						2
⁶ Sources of information about pas 00 52.12 Rev. 03 2017	st violations can be obta		umer confidence reports (wa	ater quality reports) <mark>,</mark> or <mark>v</mark> iolatio	n records from state or local he	cs262092-A

actors Contributing to Drinking Water Contamination and/or Increased Exposure to Contamination Drinl	ing Water	
	king Water	
Did a problem with the source water (i.e., ground water or surface water) contribute to the disease or out Yes (specify in the table below)	break?	
ource water contributing factors (Check all that apply)*	Documented/ Observed [†]	Suspected [†]
anitary sewer overflow (SSO)§		
ombined sewer overflow (CSO)§		
alfunctioning on-site wastewater treatment system ^{§1}		
ewage treatment plant malfunction [§]		
ewer line break [§] por siting/design of on-site wastewater treatment system ^{§¶}		<u> </u>
earby biosolid/land application site (e.g., human or animal waste application)		
ontamination from agricultural chemical application (e.g., fertilizer, pesticides)		
ontamination from chemical pollution not related to agricultural application		
ontamination by a chemical that the current treatment methods were not designed to remove		
omestic animal contamination (e.g., livestock, concentrated feeding operations, pets)		
'ildlife contamination - Birds		
Idlife contamination - Mammals		
fildlife contamination - Fish kill		
ooding/heavy rains		
gal bloom pagangl variation in water quality (o.g. <i>lake(compute turgeurs quarts compute with compute listica</i>)		
easonal variation in water quality (e.g., lake/reservoir turnover events, resort community with seasonal loading) pw water table (e.g., drought, over-pumping)		
round water under direct influence of surface water (e.g., shallow well)**		
ontamination through limestone or fissured rock (e.g., karst)		
ontaminated recharge water		
se of an alternate source of water by a water utility		
ixing of raw water from different sources		
nproper construction or location of a well or spring		
ater system intake failure (e.g., cracked well casing, cracked intake pipe)		
tentional contamination <i>(explain in remarks)</i> ther, specify:		
nknown		
I Yes (specify in the table below) □ No □ Unknown eatment contributing factors (Check all that apply)*	Documented/	
33	Observed [†]	Suspected [†]
	Observed [†]	1
hange in treatment process (specify in remarks) o disinfection		Suspected [†]
hange in treatment process (specify in remarks)		
hange in treatment process <i>(specify in remarks)</i> o disinfection emporary interruption of disinfection hronically inadequate disinfection		
hange in treatment process <i>(specify in remarks)</i> o disinfection emporary interruption of disinfection inronically inadequate disinfection o filtration		
hange in treatment process (specify in remarks) o disinfection Imporary interruption of disinfection hronically inadequate disinfection o filtration adequate filtration		
hange in treatment process (specify in remarks) o disinfection mporary interruption of disinfection hronically inadequate disinfection o filtration adequate filtration eficiencies in other treatment processes		
hange in treatment process (specify in remarks) o disinfection imporary interruption of disinfection hronically inadequate disinfection o filtration adequate filtration eficiencies in other treatment processes prosion in or leaching from pipes or storage tanks		
hange in treatment process (specify in remarks) o disinfection emporary interruption of disinfection intronically inadequate disinfection o filtration adequate filtration efficiencies in other treatment processes orrosion in or leaching from pipes or storage tanks pe/component failure or break (e.g., pipes, tanks, valves)		
hange in treatment process (specify in remarks) o disinfection imporary interruption of disinfection hronically inadequate disinfection o filtration adequate filtration eficiencies in other treatment processes prosion in or leaching from pipes or storage tanks		
hange in treatment process (specify in remarks) o disinfection emporary interruption of disinfection pronically inadequate disinfection o filtration adequate filtration efficiencies in other treatment processes percosion in or leaching from pipes or storage tanks pe/component failure or break (e.g., pipes, tanks, valves) ontamination during construction or repair of pipes/components		
hange in treatment process (specify in remarks) o disinfection imporary interruption of disinfection hronically inadequate disinfection o filtration adequate filtration efficiencies in other treatment processes orrosion in or leaching from pipes or storage tanks pe/component failure or break (e.g., pipes, tanks, valves) ontamination during construction or repair of pipes/components onstruction or repair of pipes/components without evidence of contamination perator error ther, specify:		
hange in treatment process (specify in remarks) o disinfection imporary interruption of disinfection hronically inadequate disinfection o filtration adequate filtration eficiencies in other treatment processes orrosion in or leaching from pipes or storage tanks pe/component failure or break (e.g., pipes, tanks, valves) ontamination during construction or repair of pipes/components onstruction or repair of pipes/components without evidence of contamination perator error		

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Distribution and storage contributing factors (Check all that apply)*	Documented/ Observed ⁺	Suspected
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		<u> </u>
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 <i>(e.g., pipes, tanks, valves)</i> Water temperature ≥30°C (≥86°F)		
Intentional contamination (specify in remarks)		
Other, specify:		
Unknown		
□ Yes (specify in the 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/ Observed [†]	Suspected
Legionella species in water system		
Cross-connection of potable and nonpotable water pipes resulting in backflow Lack of backflow prevention in plumbing		
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		
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		
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		
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		
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		
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		
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) Construction or repair of plumbing gonstruction 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		
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		
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) Construction or repair of plumbing gonstruction 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		
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 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 construction or repair Construction or repair of plumbing without evidence of contamination 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		
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 or plumbing during construction or repair Construction or repair of plumbing without evidence of contamination Deficiency or contamination of equipment/devices using or distributing water Contamination during shipping, hauling, or storage Contamination at point of use – Tap Contamination at point of use – Hose		
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 (<i>e.g., pipes, tanks, valves</i>) Aging plumbing components (<i>e.g., pipes, tanks, valves</i>) Contamination of plumbing during construction or repair Construction or repair of plumbing without evidence of contamination Deficiency or contamination of equipment/devices using or distributing water Contamination during shipping, hauling, or storage Contamination at point of use – Tap Contamination at point of use – Commercially-bottled water		
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 shipping, hauling, or storage Contamination at point of use – Tap Contamination at point of use – Commercially-bottled water Contamination at point of use – Container, bottle, or pitcher		
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 (<i>e.g., pipes, tanks, valves</i>) Aging plumbing components (<i>e.g., pipes, tanks, valves</i>) Construction or repair of plumbing gonstruction 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 at point of use – Tap 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)		
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 (<i>e.g., pipes, tanks, valves</i>) Aging plumbing components (<i>e.g., pipes, tanks, valves</i>) Contamination of plumbing during construction or repair Construction or repair of plumbing without evidence of contamination Deficiency or contamination of equipment/devices using or distributing water Contamination during shipping, hauling, or storage Contamination at point of use – Tap 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 (<i>specify in remarks</i>)		
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 (<i>e.g., pipes, tanks, valves</i>) Aging plumbing components (<i>e.g., pipes, tanks, valves</i>) Construction or repair of plumbing gonstruction 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 at point of use – Tap 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)		

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					Other or Unkr	iown Water		
Other o	r Unknown Water				-			
Intent for								
What was	the intended use for the	implicated water? (check all that apply)						
Coolin Mister	g/Air Conditioning (e.g., co (e.g., produce in grocery stor	ooling tower, swamp cooler) re, public cooling system) -interactive fountain intended for public display tional use)						
Implicate	d Water - Water Descrip	tion						
Water typ		Setting of exposure	Usual water treatment provided	Water t	reatment subtype	•		
(e.g., coolii	g tower; drainage ditch; rnamental)	(e.g. airport; hospital/health care facility; nursing home; park-state park)	(e.g., no treatment; disinfection; settling/ sedimentation)	(disinfec	tion or filtration: e.g. rapid sand filter; rev	boiling;		
				1				
		ation and/or Increased Exposure to Co	ntaminated Water		Desumented	Cumperstant.		
Contribut	ing factors (Check all that a	apply) *			Documented/ Observed [†]	Suspected [†]		
-	Shutdown for >3 days	s without draining to waste						
	Lack of a maintenance	e program				ā		
~	Lack of a qualified wa							
Isel	Presence of scale or o							
er/ der	Absence of drift elimit	nic matter, or other debris in the cold w	ater basin	2	0			
Cooling tower/ Evaporative condenser	Presence of damaged			-				
ng	History of recent repa			0				
poli	Siting of device near t	building air intakes						
apo	Siting of device near v	Siting of device near windows that can be opened						
ß	Siting of device in immediate area of kitchen exhaust fans, live plants, truck bays, or other sources of organic matter							
		remises of the device within 6 months						
2		00 meters of the premises of the device ental fountain but utilized as an interact		e				
1 Ial		on for recreational use	ive iountain					
Ornamental fountain	Inadequate filtration for							
nan	Presence of submerge	ed lighting						
Pro pt		ning and maintenance program						
Desise /de		nic matter, or other debris in the water	basin					
Recycling	amaged sewer pipe							
	nperature ≥30°C (≥86°F)							
Other, spe						ā		
Unknown								
	off what was found during investig ed/Observed" refers to information	jation. 1 gathered through document reviews, direct observati	ons, and/or interviews, "Suspected" refers to factors	that probably	v occurred but for which	no documentation		
(as defined	previously) is available.							
Remarks								
000 10 40 5	2017		united without -					
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