

Table 3. Number of reported foodborne disease outbreaks and outbreak-associated illnesses, by etiology and place where food was eaten* — United States, 2008

Etiology	Outbreaks (Illnesses) Attributed to a Single Consumption Location											Outbreaks (Illnesses) Attributed to a Single Consumption Location	Outbreaks (Illnesses) Attributed to Multiple Consumption Locations	Outbreaks (Illnesses) Attributed to Unknown Consumption Location	Total Outbreaks (Illnesses)					
	Banquet facility	Camp	Church, temple, etc	Day care center	Fair, festival, temporary mobile service	Grocery store	Hospital	Nursing home	Office setting	Picnic										
Bacterial																				
<i>Salmonella</i> §	1 (4)	--	3 (232)	1 (594)	3 (171)	--	--	3 (20)	--	1 (71)	90 (2082)	14 (490)	13 (2388)	117 (4960)						
<i>Clostridium perfringens</i>	3 (272)	--	3 (77)	--	2 (108)	--	--	1 (22)	2 (18)	--	37 (1366)	1 (10)	2 (33)	40 (1409)						
<i>Escherichia coli</i> , Shiga toxin-producing¶	1 (15)	1 (59)	1 (17)	--	2 (17)	--	--	--	--	2 (9)	24 (369)	6 (391)	6 (160)	36 (920)						
<i>Campylobacter</i> **	--	--	--	--	--	--	--	--	--	1 (11)	19 (305)	4 (302)	2 (8)	25 (615)						
<i>Bacillus cereus</i>	--	--	--	--	--	--	--	--	--	--	15 (122)	--	--	15 (122)						
<i>Staphylococcus enterotoxin</i> ††	--	--	1 (30)	--	--	--	--	--	--	--	13 (268)	1 (43)	--	14 (311)						
<i>Shigella</i> §§	--	--	--	2 (29)	--	--	--	--	--	--	6 (170)	--	--	6 (170)						
<i>Clostridium botulinum</i>	--	--	--	--	--	--	--	--	--	--	4 (10)	--	--	4 (10)						
Other bacterial	2 (85)	--	--	--	1 (3)	--	--	--	--	--	3 (88)	--	--	3 (88)						
<i>Listeria</i> ¶¶	--	--	--	--	--	--	1 (5)	--	--	--	2 (13)	1 (20)	--	3 (33)						
<i>Vibrio parahaemolyticus</i>	--	--	--	--	--	--	--	--	--	--	1 (2)	--	--	1 (2)						
<i>Vibrio</i> other	--	--	--	--	--	--	--	--	--	--	1 (3)	--	--	1 (3)						
Bacterial total	7 (376)	1 (59)	8 (356)	3 (623)	8 (299)	0 (0)	1 (5)	4 (42)	2 (18)	4 (91)	215 (4798)	27 (1256)	23 (2589)	265 (8643)						
Chemical and toxin																				
Scombroid toxin/histamine	1 (30)	--	--	--	--	1 (2)	--	--	--	--	11 (52)	--	--	1 (3)	12 (55)					
Ciguatoxin	--	--	--	--	--	--	--	--	--	1 (8)	12 (66)	--	--	2 (15)	14 (81)					
Cleaning agents	--	--	--	1 (4)	--	--	--	--	--	--	3 (14)	--	--	3 (14)						
Heavy metals	--	--	--	--	--	--	--	--	1 (2)	--	2 (54)	--	--	2 (54)						
Other chemical	--	--	--	--	--	--	--	--	--	--	2 (42)	--	--	2 (42)						
Mycotoxins	--	--	--	--	--	--	--	--	--	--	1 (3)	--	--	1 (3)						
Paralytic shellfish poison	--	--	--	--	--	--	--	--	--	--	--	--	1 (3)	1 (3)						
Plant/herbal toxins	--	--	--	--	--	--	--	--	--	--	1 (6)	--	--	1 (6)						
Chemical and toxin total	1 (30)	0 (0)	0 (0)	1 (4)	0 (0)	1 (2)	0 (0)	0 (0)	1 (2)	1 (8)	32 (237)	0 (0)	4 (21)	36 (258)						
Parasitic																				
<i>Cyclospora</i>	1 (3)	--	--	--	--	--	--	--	--	--	2 (7)	1 (59)	--	3 (66)						
<i>Cryptosporidium</i>	--	--	--	--	--	--	--	--	--	--	--	--	2 (32)	2 (32)						
<i>Giardia</i>	--	--	--	--	--	--	--	--	1 (8)	--	1 (8)	--	--	1 (8)						
Parasitic total	1 (3)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (8)	0 (0)	3 (15)	1 (59)	2 (32)	6 (106)						
Viral																				
Norovirus	37 (1119)	4 (103)	4 (88)	1 (9)	--	--	2 (90)	6 (150)	19 (418)	--	305 (7069)	37 (1711)	14 (395)	356 (9175)						
Hepatitis A	--	--	--	--	--	--	--	--	--	--	--	1 (22)	--	1 (22)						
Rotavirus	--	--	--	--	--	--	--	--	--	--	1 (27)	--	--	1 (27)						
Other viral	--	--	--	--	--	--	--	--	--	--	--	1 (9)	--	1 (9)						
Viral total	37 (1119)	4 (103)	4 (88)	1 (9)	0 (0)	0 (0)	2 (90)	6 (150)	19 (418)	0 (0)	306 (7096)	39 (1742)	14 (395)	359 (9233)						
Known Etiology***	46 (1528)	5 (162)	12 (444)	5 (636)	8 (299)	1 (2)	3 (95)	10 (192)	23 (446)	5 (99)	556 (12146)	67 (3057)	43 (3037)	666 (18240)						
Unknown Etiology†††	11 (288)	2 (42)	3 (141)	--	2 (57)	--	1 (17)	2 (29)	10 (90)	3 (39)	312 (3160)	18 (377)	20 (725)	350 (4262)						
Multiple Etiologies*	2 (151)	--	1 (50)	--	--	--	--	1 (62)	--	--	17 (573)	0 (0)	1 (77)	18 (650)						
Total	59 (1967)	7 (204)	16 (635)	5 (636)	10 (356)	1 (2)	4 (112)	13 (283)	33 (536)	8 (138)	885 (15879)	85 (3434)	64 (3839)	1034 (23152)						

* If at least one etiology was laboratory-confirmed, the outbreak was considered to have a "confirmed etiology". If no etiology was lab-confirmed, but an etiology was reported based on clinical or epidemiologic features, the outbreak was considered to have a "suspected etiology".

§ *Salmonella* serotypes accounting for more than five reported outbreaks include: Enteritidis (30 outbreaks), Typhimurium (18), Heidelberg (8), and Braenderup (6).

¶ STEC O111 (1 confirmed outbreak), STEC O157:H7 (32 confirmed outbreaks), and STEC O157:NM(H-) (3 confirmed outbreaks)

** *Campylobacter coli* (1 confirmed outbreak, 0 suspected outbreaks), *Campylobacter jejuni* (15 confirmed outbreaks, 4 suspected outbreaks)†† *Staphylococcus aureus* (6 confirmed outbreaks, 5 suspected outbreaks) and *Staphylococcus* unknown (3 suspected outbreaks)§§ *Shigella sonnei* (6 confirmed outbreaks, 0 suspected outbreaks)¶¶ *Listeria monocytogenes* (3 confirmed outbreaks, 0 suspected outbreaks)

*** The denominator for the total etiology percentages is the Known Etiology total. The denominator for the Known Etiology, Unknown Etiology, and Multiple Etiologies percentages is the Total.

††† An etiologic agent was not confirmed or suspected based on clinical, laboratory or epidemiologic information.

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Etiology	Outbreaks (Illnesses) Attributed to a Single Consumption Location														Outbreaks (Illnesses) Attributed to a Single Consumption Location	Outbreaks (Illnesses) Attributed to Multiple Consumption Locations	Outbreaks (Illnesses) Attributed to Unknown Consumption Location	Total Outbreaks (Illnesses)	
	Prison, jail	Private home	Restaurant or deli	School	Wedding reception	Workplace cafeteria	Workplace, not cafeteria	Other setting	Unknown or undetermined										
Bacterial																			
<i>Salmonella</i> §	1 (22)	23 (230)	36 (499)	1 (10)	1 (3)	--	2 (15)	6 (137)	8 (74)	90 (2082)	14 (490)	13 (2388)	117 (4960)						
<i>Clostridium perfringens</i>	4 (402)	5 (87)	9 (57)	1 (50)	--	--	4 (148)	3 (125)	--	37 (1366)	1 (10)	2 (33)	40 (1409)						
<i>Escherichia coli</i> , Shiga toxin-producing¶	1 (6)	7 (116)	7 (100)	--	--	--	1 (27)	1 (3)	--	24 (369)	6 (391)	6 (160)	36 (920)						
<i>Campylobacter</i> **	--	12 (256)	2 (4)	--	--	--	--	3 (13)	1 (21)	19 (305)	4 (302)	2 (8)	25 (615)						
<i>Bacillus cereus</i>	--	3 (26)	11 (51)	--	1 (45)	--	--	--	--	15 (122)	--	--	15 (122)						
<i>Staphylococcus enterotoxin</i> ††	--	4 (52)	8 (186)	--	--	--	--	--	--	13 (268)	1 (43)	--	14 (311)						
<i>Shigella</i> §§	--	1 (12)	1 (2)	1 (123)	1 (4)	--	--	--	--	6 (170)	--	--	6 (170)						
<i>Clostridium botulinum</i>	--	4 (10)	--	--	--	--	--	--	--	4 (10)	--	--	4 (10)						
Other bacterial	--	--	--	--	--	--	--	--	--	3 (88)	--	--	3 (88)						
<i>Listeria</i> ¶¶	--	1 (8)	--	--	--	--	--	--	--	2 (13)	1 (20)	--	3 (33)						
<i>Vibrio parahaemolyticus</i>	--	--	1 (2)	--	--	--	--	--	--	1 (2)	--	--	1 (2)						
<i>Vibrio</i> other	--	--	--	--	--	--	--	--	1 (3)	1 (3)	--	--	1 (3)						
Bacterial total	6 (430)	60 (797)	75 (901)	3 (183)	3 (52)	0 (0)	7 (190)	13 (278)	10 (98)	215 (4798)	27 (1256)	23 (2589)	265 (8643)						
Chemical and toxin																			
Scombroid toxin/histamine	--	3 (7)	6 (13)	--	--	--	--	--	--	11 (52)	--	1 (3)	12 (55)						
Ciguatera	--	9 (48)	2 (10)	--	--	--	--	--	--	12 (66)	--	2 (15)	14 (81)						
Cleaning agents	--	--	1 (3)	--	--	--	--	1 (7)	--	3 (14)	--	--	3 (14)						
Heavy metals	--	1 (52)	--	--	--	--	--	--	--	2 (54)	--	--	2 (54)						
Other chemical	--	1 (39)	--	1 (3)	--	--	--	--	--	2 (42)	--	--	2 (42)						
Mycotoxins	--	1 (3)	--	--	--	--	--	--	--	1 (3)	--	--	1 (3)						
Paralytic shellfish poison	--	--	--	--	--	--	--	--	--	--	--	1 (3)	1 (3)						
Plant/herbal toxins	--	1 (6)	--	--	--	--	--	--	--	1 (6)	--	--	1 (6)						
Chemical and toxin total	0 (0)	16 (155)	9 (26)	1 (3)	0 (0)	0 (0)	0 (0)	1 (7)	0 (0)	32 (237)	0 (0)	4 (21)	36 (258)						
Parasitic																			
<i>Cyclospora</i>	--	1 (4)	--	--	--	--	--	--	--	2 (7)	1 (59)	--	3 (66)						
<i>Cryptosporidium</i>	--	--	--	--	--	--	--	--	--	--	--	2 (32)	2 (32)						
<i>Giardia</i>	--	--	--	--	--	--	--	--	--	1 (8)	--	--	1 (8)						
Parasitic total	0 (0)	1 (4)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	3 (15)	1 (59)	2 (32)	6 (106)						
Viral																			
Norovirus	4 (822)	24 (262)	164 (2598)	14 (610)	5 (138)	1 (117)	8 (124)	11 (394)	1 (27)	305 (7069)	37 (1711)	14 (395)	356 (9175)						
Hepatitis A	--	--	--	--	--	--	--	--	--	--	1 (22)	--	1 (22)						
Rotavirus	--	--	--	1 (27)	--	--	--	--	--	1 (27)	--	--	1 (27)						
Other viral	--	--	--	--	--	--	--	--	--	--	1 (9)	--	1 (9)						
Viral total	4 (822)	24 (262)	164 (2598)	15 (637)	5 (138)	1 (117)	8 (124)	11 (394)	1 (27)	306 (7096)	39 (1742)	14 (395)	359 (9233)						
Known Etiology***	10 (1252)	101 (1218)	248 (3525)	19 (823)	8 (190)	1 (117)	15 (314)	25 (679)	11 (125)	556 (12146)	67 (3057)	43 (3037)	666 (18240)						
Unknown Etiology†††	2 (326)	29 (198)	200 (1148)	8 (216)	5 (69)	3 (36)	11 (225)	14 (192)	6 (47)	312 (3160)	18 (377)	20 (725)	350 (4262)						
Multiple Etiologies*	--	2 (9)	4 (94)	2 (81)	1 (45)	--	--	4 (81)	--	17 (573)	0 (0)	1 (77)	18 (650)						
Total	12 (1578)	132 (1425)	452 (4767)	29 (1120)	14 (304)	4 (153)	26 (539)	43 (952)	17 (172)	885 (15879)	85 (3434)	64 (3839)	1034 (23152)						

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