

TABLE 5. Number of reported foodborne disease outbreaks and outbreak-associated illnesses, by etiology (confirmed and suspected) and place where food was prepared\* ---United States, 2009-2010

Etiology	Outbreaks and Illnesses Attributed to a Single Location of preparation																				
	Banquet Facility (food prepared and served on-site)		Camp		Caterer (food prepared off-site from where server)		Child day care center		Church, temple, religious location		Fair, festival, other temp or mobile services		Total Outbreaks and Illnesses attributed to single location of preparation		Total Outbreaks and Illnesses attributed to multiple locations of preparation		Total Outbreaks and Illnesses attributed to a preparation location not known or reported		Total outbreaks and illnesses		
	Outbreaks	Illnesses	Outbreaks	Illnesses	Outbreaks	Illnesses	Outbreaks	Illnesses	Outbreaks	Illnesses	Outbreaks	Illnesses	Outbreaks	Illnesses	Outbreaks	Illnesses	Outbreaks	Illnesses	Outbreaks	Illnesses	
<b>Bacterial</b>																					
<i>Salmonella</i> §	0	0	4	271	5	70	0	0	2	11	4	20	148	3527	27	2430	68	1132	243	7089	
<i>Clostridium perfringens</i>	1	50	1	54	10	346	0	0	0	0	0	0	47	1853	3	109	7	1263	57	3225	
<i>Escherichia coli</i> , Shiga toxin-producing¶	0	0	1	2	0	0	1	3	0	0	1	6	43	463	3	50	14	138	60	651	
<i>Campylobacter</i> **	1	68	0	0	2	28	0	0	0	0	0	0	33	416	1	3	6	181	40	600	
<i>Bacillus</i> §§	1	20	0	0	2	115	0	0	0	0	0	0	20	335	4	82	1	10	25	427	
<i>Staphylococcus enterotoxinH</i>	0	0	0	0	2	76	0	0	0	0	0	0	16	183	2	30	1	39	19	252	
<i>Shigella</i> §§§	0	0	0	0	0	0	0	0	0	0	0	0	7	468	1	40	0	0	8	508	
<i>Clostridium botulinum</i>	0	0	0	0	0	0	0	0	0	0	0	0	2	4	0	0	1	2	3	6	
Other bacterial	0	0	0	0	0	0	0	0	0	0	0	0	1	167	0	0	1	7	2	174	
<i>Listeria</i> ††	0	0	0	0	0	0	0	0	0	0	0	0	8	39	0	0	1	10	9	49	
<i>Vibrio parahaemolyticus</i>	0	0	0	0	0	0	0	0	0	0	0	0	5	15	1	15	1	3	7	33	
<i>Vibrio</i> other	0	0	0	0	0	0	0	0	0	0	0	0	1	4	0	0	0	0	1	4	
<i>Enterococcus faecalis</i>	0	0	0	0	0	0	0	0	0	0	0	0	1	13	0	0	0	0	1	13	
<i>Escherichia coli</i> , Enteropathogenic	0	0	0	0	0	0	0	0	0	0	0	0	1	7	0	0	0	0	1	7	
<i>Escherichia coli</i> , Enterotoxigenic	1	19	0	0	0	0	0	0	0	0	0	0	2	77	0	0	1	8	3	85	
<i>Brucella</i> sp	0	0	0	0	0	0	0	0	0	0	0	0	1	4	0	0	0	0	1	4	
<b>Bacterial Total</b>	<b>4</b>	<b>157</b>	<b>6</b>	<b>327</b>	<b>21</b>	<b>635</b>	<b>1</b>	<b>3</b>	<b>2</b>	<b>11</b>	<b>5</b>	<b>26</b>	<b>336</b>	<b>7575</b>	<b>42</b>	<b>2759</b>	<b>102</b>	<b>2793</b>	<b>480</b>	<b>13127</b>	
<b>Chemical and toxin</b>																					
Scombroid toxin / Histamine	0	0	0	0	1	5	0	0	0	0	0	0	12	53	0	0	6	23	18	76	
Ciguatoxin	0	0	0	0	0	0	0	0	0	0	0	0	12	49	0	0	3	12	15	61	
Other chemical	0	0	0	0	0	0	0	0	0	0	1	6	3	11	0	0	0	0	3	11	
Mycotoxins	0	0	0	0	0	0	0	0	0	0	0	0	1	6	0	0	1	2	2	8	
Paralytic shellfish poison	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3	1	3	
Pesticides	0	0	0	0	0	0	0	0	0	0	0	0	2	42	0	0	0	0	2	42	
Plant/Herbal toxins	0	0	0	0	0	0	0	0	0	0	0	0	1	6	0	0	0	0	1	6	
Other natural toxins	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	0	0	0	1	2	
<b>Chemical and toxin Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>5</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>6</b>	<b>32</b>	<b>169</b>	<b>0</b>	<b>0</b>	<b>11</b>	<b>40</b>	<b>43</b>	<b>209</b>	
<b>Parasitic</b>																					
<i>Cyclospora</i>	0	0	0	0	0	0	0	0	0	0	0	0	1	8	0	0	0	0	1	8	
<i>Giardia lamblia</i>	0	0	0	0	0	0	0	0	0	0	0	0	1	5	0	0	0	0	1	5	
<b>Parasitic Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>13</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>13</b>	
<b>Viral</b>																					
Norovirus	35	1188	5	223	28	834	0	0	1	16	0	0	384	7696	31	964	76	1077	491	9737	
Hepatitis A	0	0	0	0	0	0	0	0	0	0	0	0	4	47	0	0	0	0	4	47	
Rotavirus	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	28	0	0	1	28	
Other viral	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	13	1	13	
<b>Viral Total</b>	<b>35</b>	<b>1188</b>	<b>5</b>	<b>223</b>	<b>28</b>	<b>834</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>16</b>	<b>0</b>	<b>0</b>	<b>388</b>	<b>7743</b>	<b>32</b>	<b>992</b>	<b>77</b>	<b>1090</b>	<b>497</b>	<b>9825</b>	
<b>Known Etiology***</b>	<b>39</b>	<b>1345</b>	<b>11</b>	<b>550</b>	<b>50</b>	<b>1474</b>	<b>1</b>	<b>3</b>	<b>3</b>	<b>27</b>	<b>6</b>	<b>32</b>	<b>758</b>	<b>15500</b>	<b>74</b>	<b>3751</b>	<b>190</b>	<b>3923</b>	<b>1022</b>	<b>23174</b>	
<b>Unknown Etiology**</b>	<b>17</b>	<b>449</b>	<b>1</b>	<b>24</b>	<b>32</b>	<b>722</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>30</b>	<b>2</b>	<b>13</b>	<b>315</b>	<b>3300</b>	<b>19</b>	<b>628</b>	<b>141</b>	<b>1526</b>	<b>475</b>	<b>5454</b>	
<b>Multiple Etiologies</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>74</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>21</b>	<b>622</b>	<b>5</b>	<b>139</b>	<b>4</b>	<b>55</b>	<b>30</b>	<b>816</b>	
<b>Total</b>	<b>56</b>	<b>1794</b>	<b>12</b>	<b>574</b>	<b>85</b>	<b>2270</b>	<b>1</b>	<b>3</b>	<b>4</b>	<b>57</b>	<b>8</b>	<b>45</b>	<b>1094</b>	<b>19422</b>	<b>98</b>	<b>4518</b>	<b>335</b>	<b>5504</b>	<b>1527</b>	<b>29444</b>	

\* 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 causing more than five outbreaks are Enteritidis (76 outbreaks), Newport (29), Typhimurium (27), Heidelberg (15), Montevideo (9), Javiana (8), Oranienburg (7), Saintpaul (6) and Infantis (6).

¶ STEC O111 (1 confirmed outbreak), STEC O121:H19 (1 confirmed outbreak), O145 (1 confirmed outbreak), STEC O157:H7 (53 confirmed outbreaks), O26 (1 confirmed outbreak), O26:H11 (1 confirmed outbreak)

\*\* *Campylobacter jejuni* (31 confirmed outbreaks, 4 suspected outbreaks), *Campylobacter* unknown (3 confirmed outbreaks, 2 suspected outbreaks)

§§ *Bacillus cereus* (12 confirmed outbreaks, 12 suspected outbreaks), *Bacillus* unknown (1 suspected outbreak)

†† *Staphylococcus aureus* (9 confirmed outbreaks, 10 suspected outbreaks)

§§§ *Shigella sonnei* (8 confirmed outbreaks)

¶¶ *Listeria monocytogenes* (9 confirmed 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.

§§§§ Due to rounding, numbers may not add up to the etiology category total or the known etiology total.



TABLE 5. Number of reported foodborne disease outbreaks and outbreak-associated illnesses, by etiology (confirmed and suspected) and place where food was prepared\* ---United States, 2009-2010

Etiology	Outbreaks and Illnesses Attributed to a Single Location of preparation																						
	Private Home		Restaurant - "Fast-food" (drive up service or pay a		Restaurant - other or unknown type		Restaurant - Sit-down dining		School		Workplace cafeteria		Workplace, not cafeteria		Total Outbreaks and Illnesses attributed to single location of preparation		Total Outbreaks and Illnesses attributed to multiple locations of preparation		Total Outbreaks and Illnesses attributed to a preparation location not known or reported		Total outbreaks and illnesses		
	Outbreaks	Illnesses	Outbreaks	Illnesses	Outbreaks	Illnesses	Outbreaks	Illnesses	Outbreaks	Illnesses	Outbreaks	Illnesses	Outbreaks	Illnesses	Outbreaks	Illnesses	Outbreaks	Illnesses	Outbreaks	Illnesses	Outbreaks	Illnesses	
<b>Bacterial</b>																							
<i>Salmonella</i> §	36	605	8	335	6	127	55	780	1	14	0	0	0	0	148	3527	27	2430	68	1132	243	7089	
<i>Clostridium perfringens</i>	9	602	0	0	2	42	18	294	0	0	1	13	0	0	47	1853	3	109	7	1263	57	3225	
<i>Escherichia coli</i> , <i>Shiga toxin-producing</i> ¶	14	155	3	41	0	0	11	58	0	0	1	60	0	0	43	463	3	50	14	138	60	651	
<i>Campylobacter</i> **	7	46	0	0	2	16	7	31	0	0	0	0	0	0	33	416	1	3	6	181	40	600	
<i>Bacillus</i> §§	0	0	1	4	0	0	13	81	0	0	0	0	0	0	20	335	4	82	1	10	25	427	
<i>Staphylococcus enterotoxin</i> ††	1	20	1	4	0	0	8	37	0	0	0	0	0	0	16	183	2	30	1	39	19	252	
<i>Shigella</i> §§§	0	0	2	316	0	0	4	139	0	0	0	0	0	0	7	468	1	40	0	0	8	508	
<i>Clostridium botulinum</i>	2	4	0	0	0	0	0	0	0	0	0	0	0	0	2	4	0	0	1	2	3	6	
Other bacterial	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	167	0	0	1	7	2	174	
<i>Listeria</i> ¶¶	5	31	0	0	0	0	0	0	0	0	0	0	0	0	8	39	0	0	1	10	9	49	
<i>Vibrio parahaemolyticus</i>	0	0	0	0	0	0	5	15	0	0	0	0	0	0	5	15	1	15	1	3	7	33	
<i>Vibrio</i> other	1	4	0	0	0	0	0	0	0	0	0	0	0	0	1	4	0	0	0	0	1	4	
<i>Enterococcus faecalis</i>	0	0	1	13	0	0	0	0	0	0	0	0	0	0	1	13	0	0	0	0	1	13	
<i>Escherichia coli</i> , <i>Enteropathogenic</i>	0	0	0	0	0	0	1	7	0	0	0	0	0	0	1	7	0	0	0	0	1	7	
<i>Escherichia coli</i> , <i>Enterotoxigenic</i>	0	0	0	0	0	0	1	58	0	0	0	0	0	0	2	77	0	0	1	8	3	85	
<i>Brucella</i> sp	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	4	0	0	0	0	1	4	
<b>Bacterial Total</b>	<b>75</b>	<b>1467</b>	<b>16</b>	<b>713</b>	<b>10</b>	<b>185</b>	<b>123</b>	<b>1500</b>	<b>1</b>	<b>14</b>	<b>2</b>	<b>73</b>	<b>0</b>	<b>0</b>	<b>336</b>	<b>7575</b>	<b>42</b>	<b>2759</b>	<b>102</b>	<b>2793</b>	<b>480</b>	<b>13127</b>	
<b>Chemical and toxin</b>																							
Scombroid toxin / Histamine	3	9	2	4	0	0	3	13	0	0	1	3	0	0	12	53	0	0	6	23	18	76	
Ciguatoxin	8	37	0	0	0	0	3	10	0	0	0	0	0	0	12	49	0	0	3	12	15	61	
Other chemical	1	2	0	0	0	0	1	3	0	0	0	0	0	0	3	11	0	0	0	0	3	11	
Mycotoxins	1	6	0	0	0	0	0	0	0	0	0	0	0	0	1	6	0	0	1	2	2	8	
Paralytic shellfish poison	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3	1	3	
Pesticides	0	0	0	0	0	0	2	42	0	0	0	0	0	0	2	42	0	0	0	0	2	42	
Plant/Herbal toxins	1	6	0	0	0	0	0	0	0	0	0	0	0	0	1	6	0	0	0	0	1	6	
Other natural toxins	1	2	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	0	0	0	1	2	
<b>Chemical and toxin Total</b>	<b>15</b>	<b>62</b>	<b>2</b>	<b>4</b>	<b>0</b>	<b>0</b>	<b>9</b>	<b>68</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>32</b>	<b>169</b>	<b>0</b>	<b>0</b>	<b>11</b>	<b>40</b>	<b>43</b>	<b>209</b>	
<b>Parasitic</b>																							
<i>Cyclospora</i>	1	8	0	0	0	0	0	0	0	0	0	0	0	0	1	8	0	0	0	0	1	8	
<i>Giardia lamblia</i>	0	0	0	0	0	0	1	5	0	0	0	0	0	0	1	5	0	0	0	0	1	5	
<b>Parasitic Total</b>	<b>1</b>	<b>8</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>5</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>13</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>13</b>	
<b>Viral</b>																							
Norovirus	19	386	34	392	33	653	192	2568	9	376	3	88	1	11	384	7696	31	964	76	1077	491	9737	
Hepatitis A	1	5	3	42	0	0	0	0	0	0	0	0	0	0	4	47	0	0	0	0	4	47	
Rotavirus	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	28	0	0	1	28	
Other viral	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	13	1	13	
<b>Viral Total</b>	<b>20</b>	<b>391</b>	<b>37</b>	<b>434</b>	<b>33</b>	<b>653</b>	<b>192</b>	<b>2568</b>	<b>9</b>	<b>376</b>	<b>3</b>	<b>88</b>	<b>1</b>	<b>11</b>	<b>388</b>	<b>7743</b>	<b>32</b>	<b>992</b>	<b>77</b>	<b>1090</b>	<b>497</b>	<b>9825</b>	
<b>Known Etiology***</b>	111	1928	55	1151	43	838	325	4141	10	390	6	164	1	11	758	15500	74	3751	190	3923	1022	23174	
<b>Unknown Etiology**</b>	17	288	32	150	32	241	159	996	2	22	0	0	0	0	315	3300	19	628	141	1526	475	5454	
<b>Multiple Etiologies</b>	4	97	1	155	2	29	3	34	1	29	0	0	0	0	21	622	5	139	4	55	30	816	
<b>Total</b>	<b>132</b>	<b>2313</b>	<b>88</b>	<b>1456</b>	<b>77</b>	<b>1108</b>	<b>487</b>	<b>5171</b>	<b>13</b>	<b>441</b>	<b>6</b>	<b>164</b>	<b>1</b>	<b>11</b>	<b>1094</b>	<b>19422</b>	<b>98</b>	<b>4518</b>	<b>335</b>	<b>5504</b>	<b>1527</b>	<b>29444</b>	

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