

Table 2. Number of reported foodborne disease outbreaks and outbreak-associated illnesses, by etiology\* and food commodity — United States, 2008

Etiology	Outbreaks (Illnesses)																Outbreaks (Illnesses) Attributed to a Single Commodity	Outbreaks (Illnesses) Attributed to Food Vehicle Containing > 1 Commodity	Outbreaks (Illnesses) Attributed to Unknown Commodity	Total Outbreaks (Illnesses)						
	Aquatic Animals						Land Animals																			
	Shellfish						Meat-Poultry																			
	Finfish		Crustacean		Mollusk		Dairy		Eggs		Beef		Game		Pork						Poultry					
<b>Bacterial</b>																										
<i>Salmonella</i> §	1	(4)	--	--	--	--	1	(70)	7	(85)	3	(106)	--	--	4	(133)	11	(228)	40	(3690)	24	(734)	53	(536)	117	(4960)
<i>Clostridium perfringens</i>	--	--	--	--	--	--	1	(24)	--	--	6	(330)	--	--	5	(358)	6	(150)	20	(897)	12	(226)	8	(286)	40	(1409)
<i>Escherichia coli</i> , Shiga toxin-producing¶	--	--	--	--	--	--	3	(24)	--	--	12	(283)	1	(12)	--	--	--	--	21	(427)	5	(98)	10	(395)	36	(920)
<i>Campylobacter</i> **	--	--	--	--	1	(268)	10	(118)	--	--	0	(0)	--	--	1	(27)	3	(16)	17	(538)	2	(6)	6	(71)	25	(615)
<i>Bacillus cereus</i>	--	--	--	--	--	--	--	--	--	--	0	(0)	--	--	1	(45)	1	(2)	7	(70)	7	(50)	1	(2)	15	(122)
<i>Staphylococcus enterotoxin</i> ††	0	(0)	--	--	--	--	--	--	--	--	0	(0)	--	--	3	(27)	--	--	3	(27)	8	(124)	3	(160)	14	(311)
<i>Shigella</i> §§	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0	(0)	0	(0)	6	(170)	6	(170)
<i>Clostridium botulinum</i>	1	(2)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1	(2)	2	(6)	1	(2)	4	(10)
Other bacterial	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1	(64)	1	(64)	2	(24)	0	(0)	3	(88)
<i>Listeria</i> ¶¶	--	--	--	--	--	--	1	(8)	--	--	--	--	--	--	--	--	--	--	2	(28)	1	(5)	0	(0)	3	(33)
<i>Vibrio parahaemolyticus</i>	--	--	--	--	1	(2)	--	--	--	--	--	--	--	--	--	--	--	--	1	(2)	0	(0)	0	(0)	1	(2)
<i>Vibrio</i> other	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0	(0)	0	(0)	1	(3)	1	(3)
<b>Bacterial total</b>	<b>2</b>	<b>(6)</b>	<b>0</b>	<b>(0)</b>	<b>2</b>	<b>(270)</b>	<b>16</b>	<b>(244)</b>	<b>7</b>	<b>(85)</b>	<b>21</b>	<b>(719)</b>	<b>1</b>	<b>(12)</b>	<b>14</b>	<b>(590)</b>	<b>22</b>	<b>(460)</b>	<b>113</b>	<b>(5745)</b>	<b>63</b>	<b>(1273)</b>	<b>89</b>	<b>(1625)</b>	<b>265</b>	<b>(8643)</b>
<b>Viral</b>																										
Norovirus	--	--	1	(4)	1	(2)	--	--	1	(15)	2	(29)	--	--	--	--	--	--	35	(618)	94	(2484)	227	(6073)	356	(9175)
Hepatitis A	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1	(22)	0	(0)	0	(0)	1	(22)
Rotavirus	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0	(0)	1	(27)	0	(0)	1	(27)
Other viral	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0	(0)	0	(0)	1	(9)	1	(9)
<b>Viral total</b>	<b>0</b>	<b>(0)</b>	<b>1</b>	<b>(4)</b>	<b>1</b>	<b>(2)</b>	<b>0</b>	<b>(0)</b>	<b>1</b>	<b>(15)</b>	<b>2</b>	<b>(29)</b>	<b>0</b>	<b>(0)</b>	<b>0</b>	<b>(0)</b>	<b>0</b>	<b>(0)</b>	<b>36</b>	<b>(640)</b>	<b>95</b>	<b>(2511)</b>	<b>228</b>	<b>(6082)</b>	<b>359</b>	<b>(9233)</b>
<b>Chemical and toxin total</b>	<b>25</b>	<b>(134)</b>	<b>0</b>	<b>(0)</b>	<b>1</b>	<b>(3)</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>28</b>	<b>(146)</b>	<b>3</b>	<b>(7)</b>	<b>5</b>	<b>(105)</b>	<b>36</b>	<b>(258)</b>
<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>0</b>	<b>(0)</b>	<b>0</b>	<b>(0)</b>	<b>0</b>	<b>(0)</b>	<b>3</b>	<b>(66)</b>	<b>0</b>	<b>(0)</b>	<b>3</b>	<b>(40)</b>	<b>6</b>	<b>(106)</b>
<b>Known Etiology***</b>	<b>27</b>	<b>(140)</b>	<b>1</b>	<b>(4)</b>	<b>4</b>	<b>(275)</b>	<b>16</b>	<b>(244)</b>	<b>8</b>	<b>(100)</b>	<b>23</b>	<b>(748)</b>	<b>1</b>	<b>(12)</b>	<b>14</b>	<b>(590)</b>	<b>22</b>	<b>(460)</b>	<b>180</b>	<b>(6575)</b>	<b>161</b>	<b>(3791)</b>	<b>325</b>	<b>(7852)</b>	<b>666</b>	<b>(18240)</b>
<b>Unknown Etiology†††</b>	<b>1</b>	<b>(3)</b>	<b>1</b>	<b>(3)</b>	<b>1</b>	<b>(5)</b>	<b>1</b>	<b>(16)</b>	<b>1</b>	<b>(5)</b>	<b>6</b>	<b>(88)</b>	<b>--</b>	<b>--</b>	<b>5</b>	<b>(32)</b>	<b>9</b>	<b>(194)</b>	<b>33</b>	<b>(409)</b>	<b>67</b>	<b>(577)</b>	<b>250</b>	<b>(3276)</b>	<b>350</b>	<b>(4262)</b>
<b>Multiple Etiologies*</b>	<b>2</b>	<b>(68)</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>2</b>	<b>(116)</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>1</b>	<b>(9)</b>	<b>5</b>	<b>(193)</b>	<b>9</b>	<b>(202)</b>	<b>4</b>	<b>(255)</b>	<b>18</b>	<b>(650)</b>
<b>Total</b>	<b>30</b>	<b>(211)</b>	<b>2</b>	<b>(7)</b>	<b>5</b>	<b>(280)</b>	<b>17</b>	<b>(260)</b>	<b>9</b>	<b>(105)</b>	<b>31</b>	<b>(952)</b>	<b>1</b>	<b>(12)</b>	<b>19</b>	<b>(622)</b>	<b>32</b>	<b>(663)</b>	<b>218</b>	<b>(7177)</b>	<b>237</b>	<b>(4570)</b>	<b>579</b>	<b>(11383)</b>	<b>1034</b>	<b>(23152)</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 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.

Table 2. Number of reported foodborne disease outbreaks and outbreak-associated illnesses, by etiology\* and food commodity — United States, 2008

Etiology	Outbreaks (Illnesses)														Outbreaks (Illnesses) Attributed to a Single Commodity	Outbreaks (Illnesses) Attributed to Food Vehicle Containing > 1 Commodity	Outbreaks (Illnesses) Attributed to Unknown Commodity	Total Outbreaks (Illnesses)						
	Plants																							
	Produce																							
	Vegetables																							
	Grains-Beans		Oil-Sugar		Fruits-Nuts		Fungus		Leafy		Root		Sprout		Vine-Stalk									
<b>Bacterial</b>																								
<i>Salmonella</i> §	1	(35)	--	--	8	(1401)	--	--	--	--	--	--	1	(24)	3	(1604)	40	(3690)	24	(734)	53	(536)	117	(4960)
<i>Clostridium perfringens</i>	2	(35)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	20	(897)	12	(226)	8	(286)	40	(1409)
<i>Escherichia coli</i> , Shiga toxin-producing¶	--	--	--	--	1	(5)	--	--	4	(103)	--	--	--	--	--	--	21	(427)	5	(98)	10	(395)	36	(920)
<i>Campylobacter</i> **	1	(104)	--	--	--	--	--	--	1	(5)	--	--	--	--	--	--	17	(538)	2	(6)	6	(71)	25	(615)
<i>Bacillus cereus</i>	5	(23)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	7	(70)	7	(50)	1	(2)	15	(122)
<i>Staphylococcus enterotoxin</i> ††	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	3	(27)	8	(124)	3	(160)	14	(311)
<i>Shigella</i> §§	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0	(0)	0	(0)	6	(170)	6	(170)
<i>Clostridium botulinum</i>	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1	(2)	2	(6)	1	(2)	4	(10)
Other bacterial	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1	(64)	2	(24)	0	(0)	3	(88)
<i>Listeria</i> ¶¶	--	--	--	--	--	--	--	--	--	--	--	--	1	(20)	--	--	2	(28)	1	(5)	0	(0)	3	(33)
<i>Vibrio parahaemolyticus</i>	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1	(2)	0	(0)	0	(0)	1	(2)
<i>Vibrio</i> other	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0	(0)	0	(0)	1	(3)	1	(3)
<b>Bacterial total</b>	<b>9</b>	<b>(197)</b>	<b>0</b>	<b>(0)</b>	<b>9</b>	<b>(1406)</b>	<b>0</b>	<b>(0)</b>	<b>5</b>	<b>(108)</b>	<b>0</b>	<b>(0)</b>	<b>2</b>	<b>(44)</b>	<b>3</b>	<b>(1604)</b>	<b>113</b>	<b>(5745)</b>	<b>63</b>	<b>(1273)</b>	<b>89</b>	<b>(1625)</b>	<b>265</b>	<b>(8643)</b>
<b>Viral</b>																								
Norovirus	--	--	1	(13)	9	(273)	1	(16)	18	(261)	1	(5)	--	--	--	--	35	(618)	94	(2484)	227	(6073)	356	(9175)
Hepatitis A	--	--	--	--	--	--	--	--	1	(22)	--	--	--	--	--	--	1	(22)	0	(0)	0	(0)	1	(22)
Rotavirus	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0	(0)	1	(27)	0	(0)	1	(27)
Other viral	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0	(0)	0	(0)	1	(9)	1	(9)
<b>Viral total</b>	<b>0</b>	<b>(0)</b>	<b>1</b>	<b>(13)</b>	<b>9</b>	<b>(273)</b>	<b>1</b>	<b>(16)</b>	<b>19</b>	<b>(283)</b>	<b>1</b>	<b>(5)</b>	<b>0</b>	<b>(0)</b>	<b>0</b>	<b>(0)</b>	<b>36</b>	<b>(640)</b>	<b>95</b>	<b>(2511)</b>	<b>228</b>	<b>(6082)</b>	<b>359</b>	<b>(9233)</b>
<b>Chemical and toxin total</b>	<b>0</b>	<b>(0)</b>	<b>0</b>	<b>(0)</b>	<b>0</b>	<b>(0)</b>	<b>1</b>	<b>(3)</b>	<b>1</b>	<b>(6)</b>	<b>0</b>	<b>(0)</b>	<b>0</b>	<b>(0)</b>	<b>0</b>	<b>(0)</b>	<b>28</b>	<b>(146)</b>	<b>3</b>	<b>(7)</b>	<b>5</b>	<b>(105)</b>	<b>36</b>	<b>(258)</b>
<b>Parasitic total</b>	<b>1</b>	<b>(4)</b>	<b>0</b>	<b>(0)</b>	<b>2</b>	<b>(62)</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>3</b>	<b>(66)</b>	<b>0</b>	<b>(0)</b>	<b>3</b>	<b>(40)</b>	<b>6</b>	<b>(106)</b>
<b>Known Etiology***</b>	<b>10</b>	<b>(201)</b>	<b>1</b>	<b>(13)</b>	<b>20</b>	<b>(1741)</b>	<b>2</b>	<b>(19)</b>	<b>25</b>	<b>(397)</b>	<b>1</b>	<b>(5)</b>	<b>2</b>	<b>(44)</b>	<b>3</b>	<b>(1604)</b>	<b>180</b>	<b>(6575)</b>	<b>161</b>	<b>(3791)</b>	<b>325</b>	<b>(7852)</b>	<b>666</b>	<b>(18240)</b>
<b>Unknown Etiology†††</b>	<b>1</b>	<b>(3)</b>	<b>--</b>	<b>--</b>	<b>3</b>	<b>(14)</b>	<b>--</b>	<b>--</b>	<b>2</b>	<b>(28)</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>2</b>	<b>(18)</b>	<b>33</b>	<b>(409)</b>	<b>67</b>	<b>(577)</b>	<b>250</b>	<b>(3276)</b>	<b>350</b>	<b>(4262)</b>
<b>Multiple Etiologies*</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>5</b>	<b>(193)</b>	<b>9</b>	<b>(202)</b>	<b>4</b>	<b>(255)</b>	<b>18</b>	<b>(650)</b>
<b>Total</b>	<b>11</b>	<b>(204)</b>	<b>1</b>	<b>(13)</b>	<b>23</b>	<b>(1755)</b>	<b>2</b>	<b>(19)</b>	<b>27</b>	<b>(425)</b>	<b>1</b>	<b>(5)</b>	<b>2</b>	<b>(44)</b>	<b>5</b>	<b>(1622)</b>	<b>218</b>	<b>(7177)</b>	<b>237</b>	<b>(4570)</b>	<b>579</b>	<b>(11383)</b>	<b>1034</b>	<b>(23152)</b>

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	Aquatic Animals						Land Animals																					
	Shellfish						Meat-Poultry																					
	Finfish		Crustacean		Mollusk		Dairy		Eggs		Beef		Game		Pork						Poultry							
<b>Chemical and toxin</b>																												
Scombroid toxin/histamine	11	(53)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	11	(53)	1	(2)	0	(0)	12	(55)		
Ciguatoxin	14	(81)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	14	(81)	0	(0)	0	(0)	14	(81)		
Cleaning agents	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0	(0)	1	(3)	2	(11)	3	(14)		
Heavy metals	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0	(0)	1	(2)	1	(52)	2	(54)		
Other chemical	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0	(0)	0	(0)	2	(42)	2	(42)		
Mycotoxins	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1	(3)	0	(0)	0	(0)	1	(3)		
Paralytic shellfish poison	--	--	--	--	1	(3)	--	--	--	--	--	--	--	--	--	--	--	--	1	(3)	0	(0)	0	(0)	1	(3)		
Plant/herbal toxins	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1	(6)	0	(0)	0	(0)	1	(6)		
<b>Chemical and toxin total</b>	<b>25</b>	<b>(134)</b>	<b>0</b>	<b>(0)</b>	<b>1</b>	<b>(3)</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>28</b>	<b>(146)</b>	<b>3</b>	<b>(7)</b>	<b>5</b>	<b>(105)</b>	<b>36</b>	<b>(258)</b>		
<b>Parasitic</b>																												
<i>Cyclospora</i>	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	3	(66)	0	(0)	0	(0)	3	(66)		
<i>Cryptosporidium</i>	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0	(0)	0	(0)	2	(32)	2	(32)		
<i>Giardia</i>	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0	(0)	0	(0)	1	(8)	1	(8)		
<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>0</b>	<b>(0)</b>	<b>0</b>	<b>(0)</b>	<b>0</b>	<b>(0)</b>	<b>3</b>	<b>(66)</b>	<b>0</b>	<b>(0)</b>	<b>3</b>	<b>(40)</b>	<b>6</b>	<b>(106)</b>		
<b>Bacterial total</b>	<b>2</b>	<b>(6)</b>	<b>0</b>	<b>(0)</b>	<b>2</b>	<b>(270)</b>	<b>16</b>	<b>(244)</b>	<b>7</b>	<b>(85)</b>	<b>21</b>	<b>(719)</b>	<b>1</b>	<b>(12)</b>	<b>14</b>	<b>(590)</b>	<b>22</b>	<b>(460)</b>	<b>113</b>	<b>(5745)</b>	<b>63</b>	<b>(1273)</b>	<b>89</b>	<b>(1625)</b>	<b>265</b>	<b>(8643)</b>		
<b>Viral total</b>	<b>0</b>	<b>(0)</b>	<b>1</b>	<b>(4)</b>	<b>1</b>	<b>(2)</b>	<b>0</b>	<b>(0)</b>	<b>1</b>	<b>(15)</b>	<b>2</b>	<b>(29)</b>	<b>0</b>	<b>(0)</b>	<b>0</b>	<b>(0)</b>	<b>0</b>	<b>(0)</b>	<b>36</b>	<b>(640)</b>	<b>95</b>	<b>(2511)</b>	<b>228</b>	<b>(6082)</b>	<b>359</b>	<b>(9233)</b>		
<b>Known Etiology***</b>	<b>27</b>	<b>(140)</b>	<b>1</b>	<b>(4)</b>	<b>4</b>	<b>(275)</b>	<b>16</b>	<b>(244)</b>	<b>8</b>	<b>(100)</b>	<b>23</b>	<b>(748)</b>	<b>1</b>	<b>(12)</b>	<b>14</b>	<b>(590)</b>	<b>22</b>	<b>(460)</b>	<b>180</b>	<b>(6575)</b>	<b>161</b>	<b>(3791)</b>	<b>325</b>	<b>(7852)</b>	<b>666</b>	<b>(18240)</b>		
<b>Unknown Etiology†††</b>	<b>1</b>	<b>(3)</b>	<b>1</b>	<b>(3)</b>	<b>1</b>	<b>(5)</b>	<b>1</b>	<b>(16)</b>	<b>1</b>	<b>(5)</b>	<b>6</b>	<b>(88)</b>	--	--	<b>5</b>	<b>(32)</b>	<b>9</b>	<b>(194)</b>	<b>33</b>	<b>(409)</b>	<b>67</b>	<b>(577)</b>	<b>250</b>	<b>(3276)</b>	<b>350</b>	<b>(4262)</b>		
<b>Multiple Etiologies*</b>	<b>2</b>	<b>(68)</b>	--	--	--	--	--	--	--	--	<b>2</b>	<b>(116)</b>	--	--	--	--	<b>1</b>	<b>(9)</b>	<b>5</b>	<b>(193)</b>	<b>9</b>	<b>(202)</b>	<b>4</b>	<b>(255)</b>	<b>18</b>	<b>(650)</b>		
<b>Total</b>	<b>30</b>	<b>(211)</b>	<b>2</b>	<b>(7)</b>	<b>5</b>	<b>(280)</b>	<b>17</b>	<b>(260)</b>	<b>9</b>	<b>(105)</b>	<b>31</b>	<b>(952)</b>	<b>1</b>	<b>(12)</b>	<b>19</b>	<b>(622)</b>	<b>32</b>	<b>(663)</b>	<b>218</b>	<b>(7177)</b>	<b>237</b>	<b>(4570)</b>	<b>579</b>	<b>(11383)</b>	<b>1034</b>	<b>(23152)</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 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.

Table 2. Number of reported foodborne disease outbreaks and outbreak-associated illnesses, by etiology\* and food commodity — United States, 2008

Etiology	Outbreaks (Illnesses)															Outbreaks (Illnesses) Attributed to a Single Commodity	Outbreaks (Illnesses) Attributed to Food Vehicle Containing > 1 Commodity	Outbreaks (Illnesses) Attributed to Unknown Commodity	Total Outbreaks (Illnesses)	
	Plants																			
	Produce																			
	Vegetables																			
	Grains-Beans		Oil-Sugar		Fruits-Nuts		Fungus		Leafy		Root		Sprout		Vine-Stalk					
<b>Chemical and toxin</b>	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	11 (53)	1 (2)	0 (0)	12 (55)
Scombroid toxin/histamine	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	14 (81)	0 (0)	0 (0)	14 (81)
Ciguatoxin	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0 (0)	1 (3)	2 (11)	3 (14)
Cleaning agents	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0 (0)	1 (2)	1 (52)	2 (54)
Heavy metals	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0 (0)	0 (0)	2 (42)	2 (42)
Other chemical	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1 (3)	0 (0)	0 (0)	1 (3)
Mycotoxins	--	--	--	--	--	1 (3)	--	--	--	--	--	--	--	--	--	--	1 (6)	0 (0)	0 (0)	1 (6)
Paralytic shellfish poison	--	--	--	--	--	--	--	--	1 (6)	--	--	--	--	--	--	--	1 (6)	0 (0)	0 (0)	1 (6)
Plant/herbal toxins	<b>0 (0)</b>	<b>0 (0)</b>	<b>0 (0)</b>	<b>0 (0)</b>	<b>0 (0)</b>	<b>1 (3)</b>	<b>1 (6)</b>	<b>0 (0)</b>	<b>1 (6)</b>	<b>0 (0)</b>	<b>0 (0)</b>	<b>0 (0)</b>	<b>0 (0)</b>	<b>0 (0)</b>	<b>0 (0)</b>	<b>28 (146)</b>	<b>3 (7)</b>	<b>5 (105)</b>	<b>36 (258)</b>	
<b>Chemical and toxin total</b>																				
<b>Parasitic</b>	1 (4)	--	--	2 (62)	--	--	--	--	--	--	--	--	--	--	--	3 (66)	0 (0)	0 (0)	3 (66)	
<i>Cyclospora</i>	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0 (0)	0 (0)	2 (32)	2 (32)	
<i>Cryptosporidium</i>	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0 (0)	0 (0)	1 (8)	1 (8)	
<i>Giardia</i>	<b>1 (4)</b>	<b>0 (0)</b>	<b>0 (0)</b>	<b>2 (62)</b>	<b>0 (0)</b>	<b>0 (0)</b>	<b>0 (0)</b>	<b>0 (0)</b>	<b>0 (0)</b>	<b>0 (0)</b>	<b>0 (0)</b>	<b>0 (0)</b>	<b>0 (0)</b>	<b>0 (0)</b>	<b>0 (0)</b>	<b>3 (66)</b>	<b>0 (0)</b>	<b>3 (40)</b>	<b>6 (106)</b>	
<b>Parasitic total</b>																				
<b>Bacterial total</b>	9 (197)	0 (0)	9 (1406)	0 (0)	5 (108)	0 (0)	2 (44)	3 (1604)	113 (5745)	63 (1273)	89 (1625)	265 (8643)								
<b>Viral total</b>	0 (0)	1 (13)	9 (273)	1 (16)	19 (283)	1 (5)	0 (0)	0 (0)	36 (640)	95 (2511)	228 (6082)	359 (9233)								
<b>Known Etiology***</b>	10 (201)	1 (13)	20 (1741)	2 (19)	25 (397)	1 (5)	2 (44)	3 (1604)	180 (6575)	161 (3791)	325 (7852)	666 (18240)								
<b>Unknown Etiology†††</b>	1 (3)	--	3 (14)	--	2 (28)	--	--	2 (18)	33 (409)	67 (577)	250 (3276)	350 (4262)								
<b>Multiple Etiologies*</b>	--	--	--	--	--	--	--	--	5 (193)	9 (202)	4 (255)	18 (650)								
<b>Total</b>	11 (204)	1 (13)	23 (1755)	2 (19)	27 (425)	1 (5)	2 (44)	5 (1622)	218 (7177)	237 (4570)	579 (11383)	1034 (23152)								

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