Surveillance for Foodborne Disease Outbreaks — United States, 2008

Foodborne agents cause an estimated 48 million illnesses annually in the United States, including 9.4 million illnesses from known pathogens (*1,2*). CDC collects data on foodborne disease outbreaks submitted from all states and territories through the Foodborne Disease Outbreak Surveillance System. During 2008, the most recent year for which data are finalized, 1,034 foodborne disease outbreaks were reported, which resulted in 23,152 cases of illness, 1,276 hospitalizations, and 22 deaths. Among the 479 outbreaks with a laboratory-confirmed single etiologic agent reported, norovirus was the most common, accounting for 49% of outbreaks and 46% of illnesses. *Salmonella* was the second most common, accounting for 23% of outbreaks and 31% of illnesses. Among the 218 outbreaks attributed to a food vehicle with ingredients from only one of 17 defined food commodities (*3*), the top commodities to which outbreaks were attributed were poultry (15%), beef (14%), and finfish (14%), whereas the top commodities to which outbreak-related illnesses were attributed were fruits and nuts (24%), vine-stalk vegetables (23%), and beef (13%). Outbreak surveillance provides insights into the agents that cause foodborne illness, types of implicated foods, and settings where transmission occurs. Public health, regulatory, and food industry professionals can use this information to target prevention efforts against pathogens and foods that cause the most foodborne disease outbreaks.

Since 1992, CDC has defined a foodborne disease outbreak as the occurrence of two or more similar illnesses resulting from ingestion of a common food. State, local, and territorial health department officials use a standard, Internet-based form to voluntarily submit reports of foodborne outbreaks to CDC. An online toolkit of clinical and laboratory information is available to support investigation and reporting of outbreaks.*

This report includes outbreaks in which the first illness occurred in 2008 and were reported to CDC by June 28, 2011. Data requested for each outbreak include the number of illnesses, hospitalizations, and deaths; the etiologic agent (confirmed or suspected†); the implicated food or foods; and the setting of food preparation and consumption. CDC classifies foods as one of 17 commodities if a single contaminated ingredient is identified or if all ingredients belong to that commodity (*3*). Outbreaks that could not be assigned to one of the 17 commodities, or for which the report contained insufficient information for commodity assignment, were not attributed to any commodity. Population-based rates of reported outbreaks were calculated for each state, using U.S. Census estimates of the 2008 state populations.§

Public health officials from 47 states, the District of Columbia, and Puerto Rico reported 1,034 outbreaks; multistate outbreaks involving three additional states (Indiana, Mississippi, and Montana) were reported by CDC (Figure). The number (1,034) of outbreaks was 10% lower than the annual average reported (1,151) for 2003–2007, and the number of outbreak-related illnesses was 5% lower (23,152 versus 24,400) (Table 1). An average of 24 (range: 2–128) outbreaks were reported from each state or territory (Figure). The average rate was 0.53 (range: 0.06–2.20) outbreaks per 100,000 population.

Of the total number of outbreak-related foodborne illnesses, 1,276 (6%) resulted in hospitalization. *Salmonella* was the most common cause of outbreak-related hospitalizations, causing 62% of hospitalizations reported, followed by Shiga toxin–producing *Escherichia coli* (STEC) (17%) and norovirus (7%). Outbreaks caused by *Clostridium botulinum* resulted in the highest proportion of persons hospitalized (90%), followed by *Listeria* outbreaks (76%). Among the 22 deaths associated with foodborne disease outbreaks in 2008, 20 were attributed to bacterial etiologies (13 *Salmonella*, three *Listeria monocytogenes,* three STEC [two O157, one O111], one *Staphylococcus*), one to norovirus, and one to a mycotoxin.

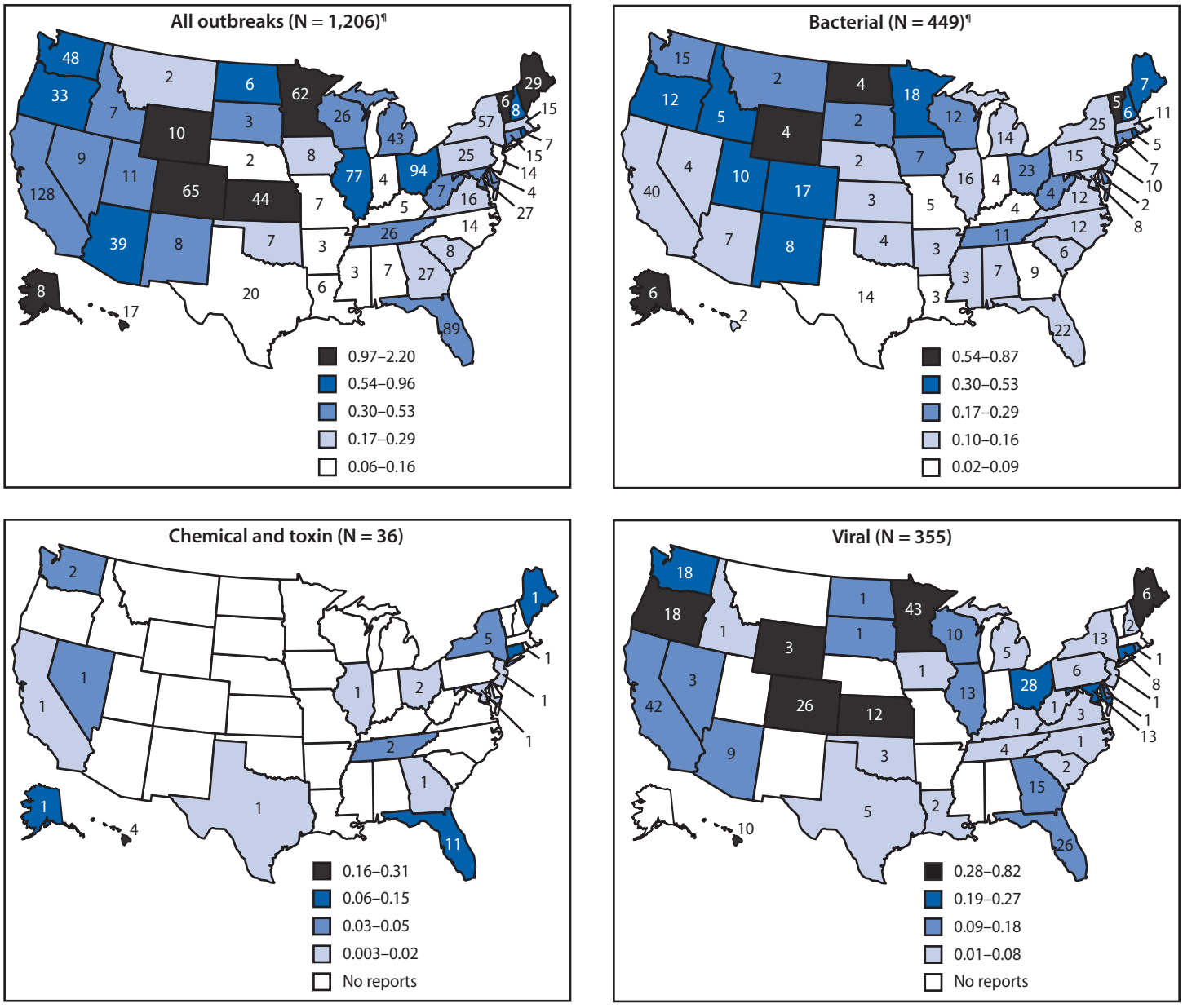
A single confirmed or suspected etiologic agent was identified in 666 (64%) outbreaks (479 confirmed, 187 suspected) (Table 1). Among the 479 outbreaks with a single confirmed etiologic agent, viruses caused 234 (49%) outbreaks, bacteria caused 212 (44%) outbreaks, chemicals and toxins caused 27 (6%) outbreaks, and parasites caused six (1%) outbreaks. Norovirus was the most common cause of outbreaks and illnesses, accounting for 233 (49%) of the confirmed, single-etiology outbreaks and 7,235 (46%) illnesses. *Salmonella* was the second most common etiologic agent, causing 110 (23%) confirmed, single-etiology outbreaks and 52% of those caused by bacteria. Among the 108 *Salmonella* outbreaks with a serotype reported, Enteritidis was the most common serotype, causing 29 (27%) confirmed, single-etiology outbreaks. STEC caused 36 (8%) confirmed, single-etiology outbreaks, of which 35 were caused by serogroup O157.

* The reporting form is available at http://www.cdc.gov/outbreaknet/nors; the toolkit is available at http://www.cdc.gov/outbreaknet/references_resources.

† Definitions are available at http://www.cdc.gov/outbreaknet/references_resources/guide_confirming_diagnosis.html.

§ Available at http://www.census.gov/popest/datasets.html.

FIGURE. Rate of reported foodborne disease outbreaks per 100,000 population* and number of outbreaks,† by affected states and major etiology group§ — Foodborne Disease Outbreak Surveillance System, United States, 2008



* Cutpoints for outbreak rate categories determined using Jenks Natural Breaks Optimization in ArcGIS. Legend differs for each etiology.
† Number of reported outbreaks in each state.
§ Analysis restricted to outbreaks caused by a single confirmed or suspected etiology.
¶ Includes 17 multistate outbreaks that are assigned as an outbreak to each state involved.

A food vehicle was reported for 481 (47%) outbreaks, among which the food vehicle could be assigned to one of the 17 commodities in 218 (45%) of the outbreaks (Table 2). The commodities most commonly implicated were poultry (32 outbreaks), beef (31), and finfish (30). The commodities associated with the most outbreak-related illnesses were fruits-nuts (1,755 illnesses), vine-stalk vegetables (1,622), and beef (952). The pathogen-commodity pairs responsible for the most outbreaks were norovirus in leafy vegetables (18 outbreaks), ciguatoxin in finfish (14), STEC O157 in beef (12), and *Salmonella* in poultry (11). The pathogen-commodity pairs responsible for the most outbreak-related illnesses were *Salmonella* in vine-stalk vegetables (1,604 illnesses) and *Salmonella* in fruits-nuts (1,401).

Seventeen multistate outbreaks (i.e., outbreaks in which the exposure occurred in more than one state) were reported.

TABLE 1. Number and percentage of reported foodborne outbreaks and outbreak-associated illnesses, by etiology* — Foodborne Disease Outbreak Surveillance System, United States, 2008, and 2003–2007 mean annual totals

	Outbreaks						Illnesses						Hospitalizations					
	2008				2003–2007		2008				2003–2007		2008				2003–2007	
			Total		Mean annual total†				Total		Mean annual total†				Total		Mean annual total†	
Etiology	CE	SE	No	(%)	No.	(%)	CE	SE	No.	(%)	No.	(%)	CE	SE	No.	(%)	No.	(%)
Bacterial																		
Salmonella§	110	7	117	(18)	129	(17)	4,883	77	4,960	(27)	3,290	(17)	791	6	797	(66)	369	(49)
Clostridium perfringens	21	19	40	(6)	44	(6)	965	444	1,409	(8)	1,815	(9)	3	1	4	(<1)	12	(2)
Escherichia coli, Shiga toxin–producing (STEC)¶	36	—	36	(5)	27	(4)	920	—	920	(5)	402	(2)	214	—	214	(18)	115	(15)
*Campylobacter***	21	4	25	(4)	22	(3)	604	11	615	(3)	623	(3)	20	5	25	(2)	13	(2)
Bacillus cereus	3	12	15	(2)	18	(2)	73	49	122	(1)	138	(1)	—	1	1	(<1)	—	(0)
Staphylococcus enterotoxin††	6	8	14	(2)	35	(5)	257	54	311	(2)	472	(2)	12	—	12	(1)	20	(3)
Shigella§§	6	—	6	(1)	11	(1)	170	—	170	(1)	500	(3)	4	—	4	(<1)	12	(2)
Clostridium botulinum	4	—	4	(1)	3	(<1)	10	—	10	(<1)	10	(<1)	9	—	9	(1)	8	(1)
Other bacterial	1	2	3	(<1)	15	(2)	64	24	88	(<1)	117	(1)	—	—	—	(0)	1	(<1)
Listeria¶¶	3	—	3	(<1)	2	(<1)	33	—	33	(<1)	13	(<1)	25	—	25	(2)	11	(1)
Vibrio parahaemolyticus	1	—	1	(<1)	5	(1)	2	—	2	(<1)	109	(1)	—	—	—	(0)	1	(<1)
Vibrio other	—	1	1	(<1)	1	(<1)	—	3	3	(<1)	2	(<1)	—	—	—	(0)	—	(0)
Escherichia coli, enterotoxigenic	—	—	—	(0)	2	(<1)	—	—	—	(0)	125	(1)	—	—	—	(0)	1	(<1)
Brucella sp.	—	—	—	(0)	1	(<1)	—	—	—	(0)	2	(<1)	—	—	—	(0)	1	(<1)
Yersinia enterocolitica	—	—	—	(0)	1	(<1)	—	—	—	(0)	3	(<1)	—	—	—	(0)	1	(<1)
Total	**212**	**53**	**265**	**(40)**	**316**	**(41)**	**7,981**	**662**	**8,643**	**(47)**	**7,623**	**(40)**	**1,078**	**13**	**1,091**	**(91)**	**566**	**(75)**
Chemical and toxin																		
Scombroid toxin/histamine	10	2	12	(2)	31	(4)	51	4	55	(<1)	125	(1)	1	—	1	(<1)	4	(1)
Ciguatoxin	11	3	14	(2)	12	(2)	60	21	81	(<1)	51	(<1)	—	—	—	(0)	8	(1)
Cleaning agents	—	3	3	(<1)	—	(0)	—	14	14	(<1)	1	(<1)	—	—	—	(0)	—	(0)
Heavy metals	2	—	2	(<1)	1	(<1)	54	—	54	(<1)	4	(<1)	—	—	—	(0)	—	(0)
Other chemical	1	1	2	(<1)	12	(2)	39	3	42	(<1)	147	(1)	—	2	2	(<1)	7	(1)
Mycotoxins	1	—	1	(<1)	2	(<1)	3	—	3	(<1)	18	(<1)	3	—	3	(<1)	8	(1)
Paralytic shellfish poison	1	—	1	(<1)	1	(<1)	3	—	3	(<1)	2	(<1)	3	—	3	(<1)	2	(<1)
Plant/herbal toxins	1	—	1	(<1)	—	(0)	6	—	6	(<1)	3	(<1)	6	—	6	(<1)	—	(0)
Neurotoxic shellfish poison	—	—	—	(0)	1	(<1)	—	—	—	(0)	4	(<1)	—	—	—	(0)	2	(<1)
Puffer fish tetrodotoxin	—	—	—	(0)	—	(0)	—	—	—	(0)	1	(<1)	—	—	—	(0)	1	(<1)
Other natural toxins	—	—	—	(0)	1	(<1)	—	—	—	(0)	4	(<1)	—	—	—	(0)	1	(<1)
Total	**27**	**9**	**36**	**(5)**	**63**	**(8)**	**216**	**42**	**258**	**(1)**	**361**	**(2)**	**13**	**2**	**15**	**(1)**	**33**	**(4)**
Parasitic																		
Cyclospora	3	—	3	(<1)	2	(<1)	66	—	66	(<1)	185	(1)	2	—	2	(<1)	—	(0)
Cryptosporidium	2	—	2	(<1)	2	(<1)	32	—	32	(<1)	39	(<1)	—	—	—	(0)	1	(<1)
Giardia	1	—	1	(<1)	2	(<1)	8	—	8	(<1)	44	(<1)	—	—	—	(0)	—	(0)
Trichinella	—	—	—	(0)	1	(<1)	—	—	—	(0)	1	(<1)	—	—	—	(0)	—	(0)
Other parasitic	—	—	—	(0)	—	(0)	—	—	—	(0)	4	(<1)	—	—	—	(0)	—	(0)
Total	**6**	**—**	**6**	**(1)**	**7**	**(1)**	**106**	**—**	**106**	**(1)**	**273**	**(1)**	**2**	**—**	**2**	**(<1)**	**3**	**(<1)**
Viral																		
Norovirus	233	123	356	(54)	376	(49)	7,235	1,940	9,175	(50)	10,534	(55)	70	20	90	(7)	117	(15)
Hepatitis A	1	—	1	(<1)	5	(1)	22	—	22	(<1)	234	(1)	4	—	4	(<1)	37	(5)
Rotavirus	—	1	1	(<1)	1	(<1)	—	27	27	(<1)	17	(<1)	—	—	—	(0)	—	(0)
Other viral	—	1	1	(<1)	3	(<1)	—	9	9	(<1)	126	(1)	—	—	—	(0)	3	(<1)
Total	**234**	**125**	**359**	**(54)**	**385**	**(50)**	**7,257**	**1,976**	**9,233**	**(51)**	**10,911**	**(57)**	**74**	**20**	**94**	**(8)**	**158**	**(21)**
Known etiology***	479	187	666	(64)	771	(67)	15,560	2,680	18,240	(79)	19,167	(79)	1,167	35	1,202	(94)	759	(88)
Unknown etiology††††	—	—	350	(34)	344	(30)	—	—	4,262	(18)	4,379	(18)	—	—	40	(3)	50	(6)
Multiple etiologies	11	7	18	(2)	36	(3)	540	110	650	(3)	854	(3)	33	1	34	(3)	52	(6)
Total	**490**	**194**	**1,034**	**(100)**	**1,151**	**(100)**	**16,100**	**2,790**	**23,152**	**(100)**	**24,400**	**(100)**	**1,200**	**36**	**1,276**	**(100)**	**861**	**(100)**

Abbreviations: CE = confirmed etiology, SE = suspected etiology.

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

† Because of rounding, numbers might not add up to the etiology category total or the known etiology total.

§ *Salmonella* serotypes accounting for more than five reported outbreaks include: Enteriditis (30 outbreaks), Typhimurium (18), Heidelberg (eight), and Braenderup (six).

¶ STEC O111 (one confirmed outbreak), STEC O157:H7 (32 confirmed outbreaks), and STEC O157:NM(H-) (three confirmed outbreaks).

** *Campylobacter coli* (one confirmed outbreak, no suspected outbreaks), *Campylobacter jejuni* (15 confirmed outbreaks, four suspected outbreaks).

†† *Staphylococcus aureus* (six confirmed outbreaks, five suspected outbreaks) and *Staphylococcus* unknown (three suspected outbreaks).

§§ *Shigella sonnei* (six confirmed outbreaks, no suspected outbreaks).

¶¶ *Listeria monocytogenes* (three confirmed outbreaks, no suspected outbreaks).

*** The denominator for the 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 — Foodborne Disease Outbreak Surveillance System, United States, 2008

Etiology	Outbreaks (illnesses)							
	Attributed to a single commodity		Attributed to food vehicle containing >1 commodity		Attributed to unknown commodity		Total	
Bacterial								
Salmonella†	40	(3,690)	24	(734)	53	(536)	**117**	**(4,960)**
Clostridium perfringens	20	(897)	12	(226)	8	(286)	**40**	**(1,409)**
Escherichia coli, Shiga toxin–producing (STEC)§	21	(427)	5	(98)	10	(395)	**36**	**(920)**
Campylobacter¶	17	(538)	2	(6)	6	(71)	**25**	**(615)**
Bacillus cereus	7	(70)	7	(50)	1	(2)	**15**	**(122)**
*Staphylococcus enterotoxin***	3	(27)	8	(124)	3	(160)	**14**	**(311)**
Shigella††	0	(0)	0	(0)	6	(170)	**6**	**(170)**
Clostridium botulinum	1	(2)	2	(6)	1	(2)	**4**	**(10)**
Other bacterial	1	(64)	2	(24)	0	(0)	**3**	**(88)**
Listeria§§	2	(28)	1	(5)	0	(0)	**3**	**(33)**
Vibrio parahaemolyticus	1	(2)	0	(0)	0	(0)	**1**	**(2)**
Vibrio other	0	(0)	0	(0)	1	(3)	**1**	**(3)**
Total	**113**	**(5,745)**	**63**	**(1,273)**	**89**	**(1,625)**	**265**	**(8,643)**
Chemical and toxin								
Scombroid toxin/histamine	11	(53)	1	(2)	0	(0)	**12**	**(55)**
Ciguatoxin	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)	0	(0)	0	(0)	**1**	**(3)**
Plant/herbal toxins	1	(6)	0	(0)	0	(0)	**1**	**(6)**
Total	**28**	**(146)**	**3**	**(7)**	**5**	**(105)**	**36**	**(258)**
Parasitic								
Cyclospora	3	(66)	0	(0)	0	(0)	**3**	**(66)**
Cryptosporidium	0	(0)	0	(0)	2	(32)	**2**	**(32)**
Giardia	0	(0)	0	(0)	1	(8)	**1**	**(8)**
Total	**3**	**(66)**	**0**	**(0)**	**3**	**(40)**	**6**	**(106)**
Viral								
Norovirus	35	(618)	94	(2,484)	227	(6,073)	**356**	**(9,175)**
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)**
Total	**36**	**(640)**	**95**	**(2,511)**	**228**	**(6,082)**	**359**	**(9,233)**
Known etiology¶¶	180	(6,575)	161	(3,791)	325	(7,852)	**666**	**(18,240)**
Unknown etiology***	33	(409)	67	(577)	250	(3,276)	**350**	**(4,262)**
Multiple etiologies	5	(193)	9	(202)	4	(255)	**18**	**(650)**
Total	**218**	**(7,177)**	**237**	**(4,570)**	**579**	**(11,383)**	**1,034**	**(23,152)**

* If at least one etiology was laboratory-confirmed, the outbreak was considered to have a confirmed etiology. If no etiology was laboratory-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 included: Enteriditis (30 outbreaks), Typhimurium (18), Heidelberg (eight), and Braenderup (six).
§ STEC O111 (one confirmed outbreak), STEC O157:H7 (32 confirmed outbreaks), and STEC O157:NM(H-) (three confirmed outbreaks).
¶ *Campylobacter coli* (one confirmed outbreak, no suspected outbreaks), *Campylobacter jejuni* (15 confirmed outbreaks, four suspected outbreaks).
** *Staphylococcus aureus* (six confirmed outbreaks, five suspected outbreaks) and *Staphylococcus* unknown (three suspected outbreaks).
†† *Shigella sonnei* (six confirmed outbreaks, no suspected outbreaks).
§§ *Listeria monocytogenes* (three confirmed outbreaks, no suspected outbreaks).
¶¶ The denominator for the 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.

Multistate outbreaks involved a median of seven (range: 2–46) states. Nine were caused by *Salmonella*. The etiologic agent was isolated from an implicated food in six of these outbreaks. The foods in these six outbreaks were cantaloupe, cereal, ground turkey, ground white pepper, jalapeño and serrano peppers (*4*), and peanut butter and peanut paste (*5*). Six multistate outbreaks were caused by STEC O157; STEC was isolated from ground beef in two outbreaks. Two multistate outbreaks were caused by *Listeria.* One outbreak was caused by *Listeria* in Mexican-style cheese made from pasteurized milk, the other by *Listeria* in sprouts.

Among the 868 outbreaks with a known single setting where food was consumed, 52% resulted from food consumed in a restaurant or deli, 15% in a private home, and the remainder in other locations.¶ Among the 481 outbreaks for which a food vehicle was identified, 19 (4%) resulted in product recalls.** The recalled foods were beef (five outbreaks), dietary supplements (two), cantaloupe (two), alfalfa sprouts (two), and cereal, cheese, fish, jalapeño and serrano peppers, melon, pancakes, spices, and peanut butter and peanut paste (one each). One beef establishment had two product recalls (*6*).

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Editorial Note

As for the previous 10 years, beef, poultry, and finfish were the commodities associated with the largest number of foodborne outbreaks. As a result of several large multistate outbreaks, vine-stalk vegetables, fruits-nuts, and beef were the commodities with the most outbreak-associated illnesses. The number of STEC O157 and *Salmonella* Enteritidis outbreaks in 2008 continued to exceed the *Healthy People 2010* food safety objective to reduce outbreaks of infections caused by key foodborne bacteria (objective 10-2) (*7*). The 35 outbreaks caused by STEC O157 was more than triple the *Healthy People 2010* target of 11, and the 29 outbreaks attributed to *Salmonella* serotype Enteritidis exceeded the target of 22 by nearly a third.

Salmonella was the leading cause of hospitalizations and deaths and the cause of more than half of the multistate outbreaks. Two of the most common foods implicated in outbreaks of *Salmonella* infections have been poultry and eggs or egg products; consequently, several U.S. food safety initiatives have been implemented since the 1960s to limit contamination of these commodities. Recent Food and Drug Administration safety initiatives include additional regulations to improve the safety of shell eggs that went into effect in 2010. In addition, new U.S. Department of Agriculture Food Safety and Inspection Service performance standards lowered the allowable limit for *Salmonella* contamination of young chicken and turkey carcasses at processing plants, effective July 2011.††

What is already known about this topic?

Surveillance for foodborne disease outbreaks can identify opportunities to prevent and control foodborne diseases, which cause millions of illnesses in the United States each year.

What is added by this report?

Among the 1,034 foodborne disease outbreaks reported in 2008, most of the single, laboratory-confirmed agents of outbreak-associated illnesses were norovirus and *Salmonella*. The largest numbers of foodborne disease outbreaks were associated with beef, poultry, and fish, and the largest numbers of outbreak-associated illnesses were associated with vine-stalk vegetables, fruits-nuts, and beef.

What are the implications for public health practice?

Public health, regulatory, and food industry professionals can use surveillance data to target prevention efforts against pathogens and foods that cause the most foodborne disease outbreaks.

Norovirus remained the leading cause of outbreaks and illnesses in 2008. Most norovirus outbreaks with an implicated food vehicle were attributed to foods containing more than one commodity; a specific food vehicle was reported in a lower proportion of norovirus outbreaks than in outbreaks attributed to other causes. In norovirus outbreaks caused by a single food commodity, produce commodities that typically are not cooked, (i.e., leafy vegetables), continued to be the leading commodities implicated. Many outbreaks result from contamination of food during preparation and service via unwashed or improperly washed hands of food workers who are shedding norovirus in their stools. This often results in contamination of more than one food item. Contaminated environmental surfaces and infected consumers also lead to transmission of norovirus in food service settings. Additionally, norovirus contamination can occur during food production and processing, resulting in widespread exposure.

The findings in this report are subject to at least four limitations. First, only a small proportion of foodborne illnesses reported each year are identified as associated with outbreaks. The extent to which the distributions of food vehicles and preparation and consumption settings implicated in foodborne disease outbreaks reflect the same sources of infection and settings of sporadic illnesses is difficult to determine (*8*).

¶ Additional data on foodborne disease outbreaks and illnesses for the 17 commodity categories and by settings where food was consumed is available at http://www.cdc.gov/outbreaknet/surveillance_data.html.

** Additional information on product recalls is available at http://www.fda.gov/safety/recalls/default.htm and http://www.fsis.usda.gov/fsis_recalls/index.asp.

†† Egg safety final rule, available at http://www.fda.gov/food/foodsafety/product-specificinformation/eggsafety/eggsafetyactionplan/ucm170615.htm; and Food Safety and Inspection Service new performance standards for *Salmonella* and *Campylobacter* in young chicken and turkey slaughter establishments; new compliance guides, available at http://www.fsis.usda.gov/oppde/rdad/frpubs/2010-0029.pdf.

Second, CDC's outbreak surveillance database is dynamic; agencies can submit new reports and can change or delete previous reports as new information becomes available. Therefore, the results of this analysis might differ from those published earlier or subsequently. Third, many reported outbreaks had an unknown etiology, an unknown food vehicle, or both, and conclusions drawn from outbreaks with a confirmed or suspected etiology or food vehicle might not apply to outbreaks of unknown etiology or food source. Finally, because of variations in outbreak detection, investigation, and reporting, comparisons with previous years should be made with caution.

Ensuring adequate epidemiologic and regulatory investigative capacity at the state and federal levels is essential to identify outbreak sources and implement timely control measures (*9*). Public health, regulatory, and food industry professionals use foodborne outbreak surveillance data to target prevention efforts against pathogens and foods that cause the most foodborne disease outbreaks. Additional information on outbreaks, including the Foodborne Outbreak Online Database (FOOD), is available at http://www.cdc.gov/foodborneoutbreaks.

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