

Outbreak Alert!



**Closing the Gaps in
Our Federal Food-Safety Net
Center for Science in the Public Interest
Updated and Revised—October, 2001**

\$15

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Center for Science in the Public Interest (CSPI) is a non-profit organization based in Washington, D.C. Since 1971, CSPI has been working to improve the public's health, largely through its work on nutrition and food-safety issues. CSPI is supported primarily by the 800,000 subscribers to its *Nutrition Action Healthletter* and by foundation grants.

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EXECUTIVE SUMMARY

In the United States, foodborne illness is estimated to cause 5,000 deaths and 76 million illnesses per year. Responsibility for food safety is divided among at least ten federal agencies involved in monitoring, surveillance, inspection, enforcement, outbreak management, research, and food-safety education. Despite recent improvements, significant gaps in the federal food-safety structure remain that put consumers at risk. To document these gaps, the Center for Science in the Public Interest (CSPI) maintains a database of foodborne-illness outbreaks and is offering its own recipe for safe food.

- **Foods regulated by the Food and Drug Administration (FDA) were the vehicles in four times as many outbreaks whose causes were identified as foods regulated by the U.S. Department of Agriculture (USDA). The top five food categories linked to food-poisoning outbreaks, not including multi-ingredient foods, were seafood, eggs, produce, beef, and poultry.**
- **Contaminated seafood caused the highest number of outbreaks. It was the vehicle in 340 outbreaks with 5,133 cases of food poisoning between 1990 and 2001.**
- **Contaminated eggs and egg-dishes caused 271 outbreaks with 10,827 cases.**
- **Contaminated produce, including sprouts, lettuce, berries, and cantaloupe, caused 148 outbreaks with 10,504 cases of food poisoning.**
- **Contaminated beef was the meat product most likely to cause an outbreak. There were 134 outbreaks with 6,089 cases of food poisoning linked to this food.**
- **Contaminated poultry caused 79 outbreaks, representing 4,279 cases.**
- **Contaminated multi-ingredient foods, such as salads, pizza, and sandwiches, caused a total of 337 outbreaks and 23,142 cases of food poisoning.**

Recommendations

- **The Centers for Disease Control (CDC) Should Continue Its Efforts to Improve Outbreak Reporting.** The number and magnitude of outbreaks reported in this list are a symptom of the ailing food-safety system in the United States.
- **The Recipe for Safe Food: A Single, Independent Food-Safety Agency.** The problems with food-safety legislation, monitoring, and funding will not be fixed until the underlying government structure is fixed as well. It is time for Congress to make a single food-safety agency, enforcing a modernized and unified food-safety statute, a reality.

INTRODUCTION

In the last thirty years, U.S. consumers have seen many changes in the way food is produced that impact its safety. Food production has evolved from a local industry to one in which production and processing are centralized in different parts of the country. Improved transportation has given consumers greater access to foods imported from around the world, but that presents new challenges. And at the same time that foodborne pathogens have become more virulent, our population is aging, which makes us increasingly vulnerable to foodborne illness.¹

Unsafe foods are estimated to cause 76 million illnesses and 5,000 deaths each year in the United States.² Although people from all walks of life can develop foodborne illness, those who are most at risk include the elderly, young children, pregnant women, and the millions of Americans who have impaired immune systems due to illnesses or medical treatments. While most foodborne illnesses occur as single or (“sporadic”) cases, “outbreaks” of food poisoning are clusters of illness that result from ingestion of a common contaminated food. A single outbreak can affect hundreds, or even thousands, of people.

All-too-common food-poisoning outbreaks are a symptom of the flawed food-safety system in the United States. At least ten federal agencies have food-safety responsibilities. But rather than offering comprehensive protection, that approach has resulted in many gaps and inconsistencies in government oversight. The Center for Science in the Public Interest’s (CSPI) database of foodborne-illness outbreaks reflects the failures of the existing food-safety system.

The CDC’s Program For Surveillance of Foodborne Illness Is Flawed

Effective surveillance systems allow public-health officials to detect and respond to ongoing outbreaks and identify weaknesses in the food-safety system. Surveillance also helps policymakers assess comparative risks and establish program goals and priorities. Timely and comprehensive information is critical to each of those efforts.³

Nationwide surveillance of foodborne disease is performed by the CDC, whose mission is “to promote health and quality of life by preventing and controlling disease, injury, and disability.”⁴ In addition, the CDC assists state and local public-health officials, who often have primary responsibility for foodborne-illness investigations. But food-safety activities are just part of what the CDC does.⁵ The overall CDC budget for Fiscal Year 2001 was over \$4 billion, but less than one percent (\$34 million) was devoted to food safety.⁶ By contrast, the annual costs

of foodborne illness are estimated at \$6.9 billion,⁷ or nearly twice the size of the total CDC budget. Limited resources have led to significant gaps in national foodborne-disease surveillance.

In conjunction with the Council of State and Territorial Epidemiologists, the CDC has established reporting on 52 diseases, only five of which are foodborne. However, even that reporting is voluntary, unless mandated by state or local governments. Some states voluntarily give the CDC additional information on foodborne-illness outbreaks, but the CDC does not actively monitor states that do not. As a result, even the CDC's listing of food-poisoning outbreaks is incomplete. In fact, CSPI's database of outbreaks contains almost 500 more outbreaks over the past decade than the most comparable CDC outbreak listing.⁸

The CDC's Outbreak Reporting Is Not Timely

The 1998 National Academy of Sciences (NAS) report, *Ensuring Safe Food from Production to Consumption*, criticized current disease-tracking efforts:

A significant impediment to moving toward a science-based food safety system is the lack of adequate emphasis on and integration of surveillance activities that provide timely information on current and potential foodborne disease and related hazards. This timely information is critical if the food safety system is to move from a mode of reaction to prevention.⁹

The CDC does not report foodborne-illness outbreaks until months, or even years, after the outbreaks have occurred. For example, the CDC's website contains a general list of reported foodborne-illness outbreaks, but the most recent entries are at least four years old.¹⁰ The website also includes smaller, specialized lists of outbreaks from *Salmonella* and *E. coli* O157:H7, but even those entries are at least one year old.¹¹

Although the CDC has published some newer reports of individual outbreak investigations in its *Morbidity and Mortality Weekly Report* and in peer-reviewed journals, the agency still does not publish those reports until months after the outbreaks are over. Without more timely information, public-health officials and consumers can do little to control the spread of outbreaks.

The CDC's Outbreak Reporting Needs To Be Enhanced

Improved outbreak reporting is necessary to guide food-safety activities among the numerous federal agencies with food-safety responsibilities.¹² Although the CDC periodically publishes reports classifying outbreaks by specific pathogen,¹³ those are of limited use in guiding the highly fragmented federal food-safety system that structures regulatory policy around food products, not pathogens. Linking food hazards to specific foods, as CSPI does in this listing, gives policymakers better information to prioritize their food-safety activities and also assists the food industry in designing more comprehensive plans to control hazards.

The FDA and USDA Fail To Protect Consumers From Foodborne Illness

While timely and comprehensive surveillance is an important part of an effective food-safety system, so too are strong regulations and thorough inspections of food processors. Unfortunately our fragmented food-safety system is flawed in these areas as well.

The primary food regulatory and inspection agencies are the USDA, which oversees meat, poultry, and processed-egg products, and the FDA, which is responsible for all other foods. Although the FDA is responsible for the safety of 80 percent of our food supply, its budget is just 26 percent of the total U.S. budget for food-safety inspections.¹⁴ Because of limited funding, FDA inspects less than one percent of the four million shipments of imported food each year.¹⁵ And while low-risk meat-processing plants are inspected by USDA daily (a frequency that many observers believe is excessive and wasteful), plants that make cheese pizza, lasagna, or other multi-ingredient dishes are inspected by FDA on average just once every five years.¹⁶

Other gaps and inconsistencies in our federal food-safety system jeopardize public health. For example, no agency controls the use of animal manure on food crops, even though USDA, FDA, and the Environmental Protection Agency (EPA) all have oversight responsibility for various farm practices. Similarly, the FDA is responsible for oysters, clams, and other shellfish, but it lets an industry-dominated coalition of state regulators set food-safety standards.¹⁷

Clearly, our food-safety system is outmoded and in need of a major overhaul. With so many chefs in the kitchen, it's no wonder that foodborne-illness outbreaks occur regularly. The existing agencies should be merged to create a single, independent food-safety agency, and the underlying statutes that define how food-safety agencies function should be unified and modernized. Only with such changes would Americans receive the protection they deserve.

CSPI's DATABASE OF FOODBORNE-ILLNESS OUTBREAKS

To help identify gaps in food-safety protection, CSPI maintains a database of outbreaks. CSPI's lists include reported foodborne-illness outbreaks occurring between 1990 and 2001, organized by the implicated food. Each food group appears under the agency that regulates it – the FDA, USDA, or both (Appendix A). CSPI's methodology is described in Appendix B, and the bacterial abbreviations used in the database are listed in Appendix C.

For several reasons, the outbreaks included in this report represent only a small percentage of actual foodborne illnesses that occurred over the reporting period.

- CSPI's database includes only the outbreaks for which we could obtain complete information from a reliable source.
- Our list only includes illnesses where a hazard could be linked to a food. (The CDC listing for 1990-1997 contained over 3,000 outbreaks that had no identifiable etiology or vehicle.)
- The list omits sporadic cases of foodborne illness. That excludes most cases of several well-known food hazards, such as *Vibrio vulnificus* in shellfish and *Campylobacter* in poultry, which generally cause isolated cases rather than outbreaks.
- Foodborne illness is vastly underreported because of the number of steps involved: People who become ill may not seek medical care; doctors may not order diagnostic tests or sampling; the tests may not be sensitive enough to detect low numbers of organisms; or diagnosed illnesses may not be reported to public-health agencies. Failures at any point in the process means that information about those outbreaks never makes its way into the public record and is, therefore, not included in CSPI's database.

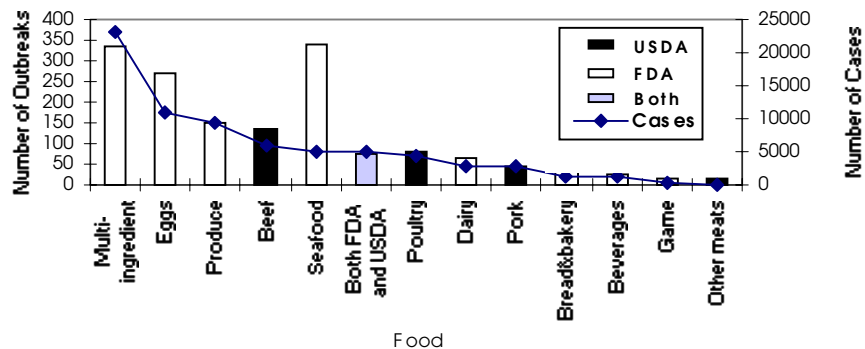
Finally, although CSPI's database includes the most current data available, outbreaks are still not reported on a "real-time" basis. Even the newest outbreaks listed are several months old. Real-time outbreak reporting would help state and local public-health officials curb ongoing outbreaks and prevent contaminated foods from reaching the public. However, only a federal agency such as the CDC is capable of tracking and reporting on its Internet site outbreaks as they occur.

Findings

The following is a summary of findings from CSPI's database of outbreaks.

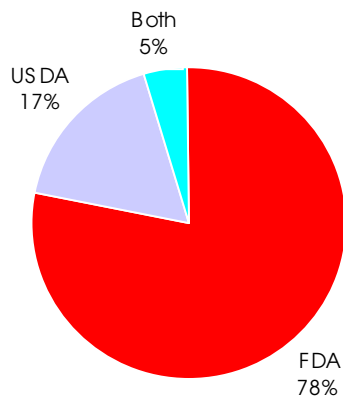
- **A total of 1,589 outbreaks, involving 73,425 cases, were recorded between 1990-2001 (see Appendix A). Those outbreaks include all of the outbreaks on the CDC listings of outbreaks where both the hazard and the food were identified. In addition, the database includes outbreaks separately identified by CSPI (for more information, see Appendix B).**
- **FDA-regulated foods were linked to 1,242 outbreaks with 55,045 cases; USDA-regulated foods were linked to 273 outbreaks with 13,410 cases; and 74 outbreaks with 4,970 cases were linked to foods regulated by both FDA and USDA.**

Cases Linked to Outbreaks, 1990-2001

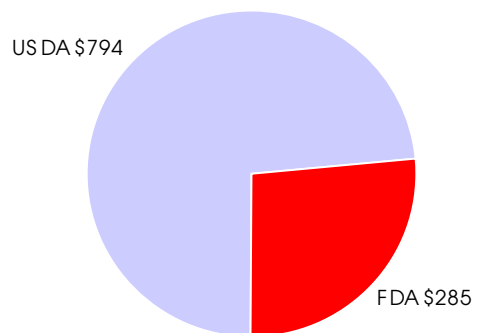


- **FDA foods were linked to four times more outbreaks than USDA-regulated foods.** FDA-regulated foods clearly pose a significant risk of causing a food-poisoning outbreak. However, FDA's food budget is just 26 percent of the total U.S. food inspection budget; the remainder goes to USDA.

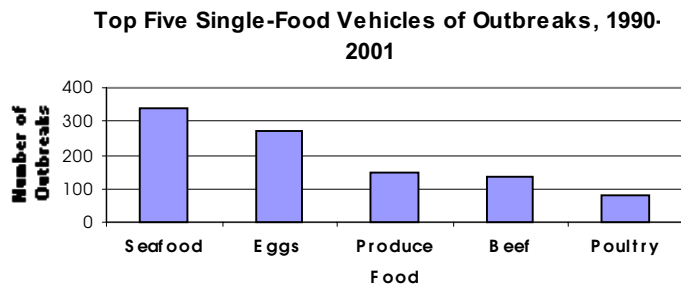
Percent of Outbreaks Linked to FDA- and USDA-Regulated Foods



Food Safety Funding (FDA and USDA) FY 2001, \$Millions

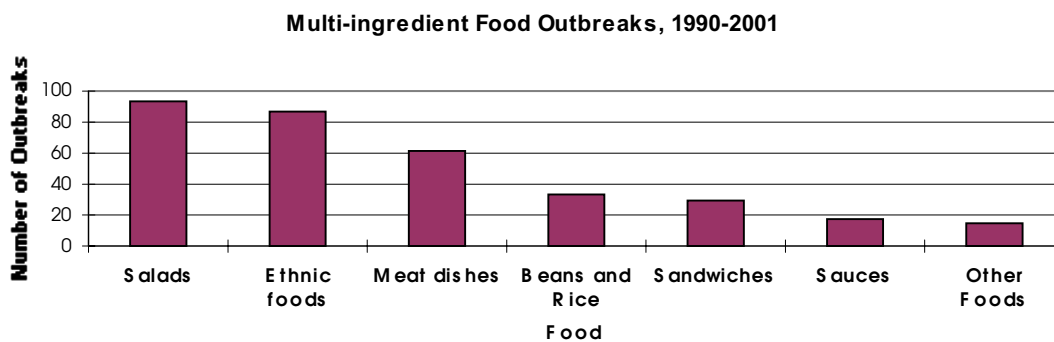


- **The top five food categories, not including multi-ingredient foods, linked to food-poisoning outbreaks were seafood, eggs, produce, beef, and poultry.** Seafood, with 340 outbreaks, made up 21 percent of the total outbreaks. Eggs, with 271 outbreaks, comprised 17 percent; produce, with 148 outbreaks, made up nine percent; beef, with 134 outbreaks made up eight percent, and poultry, with 79 outbreaks, comprised five percent.

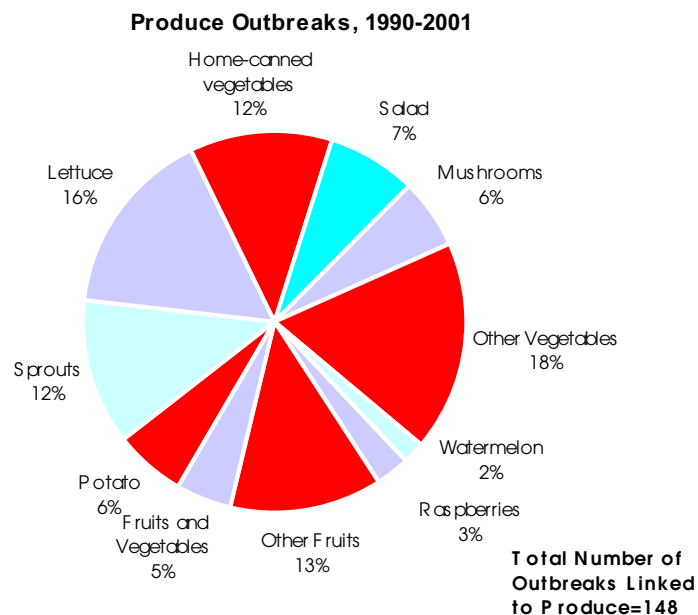


FDA-Regulated Foods

- **340 outbreaks with 5,133 cases were linked to seafood, including fin-fish, molluscan shellfish, and other shellfish.** 265 outbreaks with 1,680 cases were linked to fin-fish, and 66 outbreaks with 3,299 cases were linked to molluscan shellfish, including oysters, clams, and mussels. Nine outbreaks with 154 illnesses were linked to other shellfish such as crab and shrimp. The seafood category had an average of 15 cases per outbreak.
- **337 outbreaks with 23,142 cases were linked to multi-ingredient foods.** Of those foods, 93 outbreaks with 12,036 cases were linked to salads, such as tuna, egg, and potato. Contaminated multi-ingredient ethnic foods, such as Italian, Mexican, and Chinese, caused 88 outbreaks with 4,817 cases. Meat dishes such as casseroles, gravies, and stews were linked to 61 outbreaks with 1,978 cases. Thirty-three outbreaks with 1,621 cases were linked to rice, bean, stuffing, and pasta dishes, and 30 outbreaks with 1,760 cases were linked to sandwiches. Contaminated sauces, dressings, and oils caused 17 outbreaks with 674 cases, and 15 outbreaks with 256 cases were linked to such other foods as soups, puddings, and dips. The multi-ingredient-food category had an average of 69 cases per outbreak.

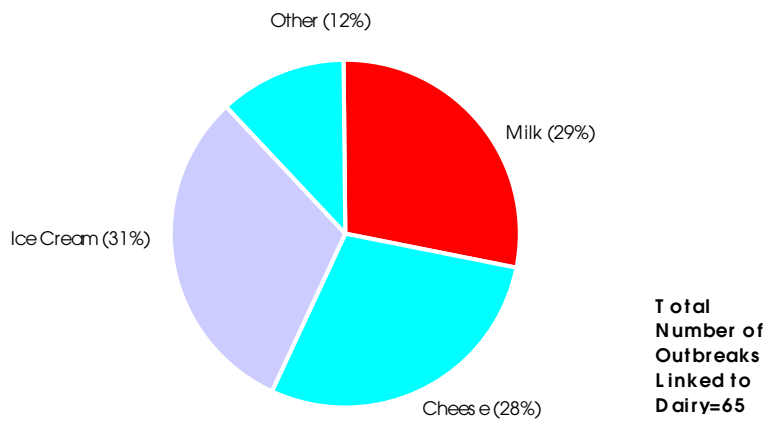


- **271 outbreaks with 10,827 cases were linked to eggs and egg dishes.** Egg-based dishes such as French toast, omelets, and egg salad were linked to 220 outbreaks with 8,599 cases, and eggs were linked to 51 outbreaks with 2,228 cases. In 93 percent of the egg and egg-dish outbreaks, *Salmonella enteritidis* was the etiological agent. The egg-food group had an average of 40 cases per outbreak.
- **148 outbreaks with 10,504 cases were linked to produce.** Vegetables were linked to 115 outbreaks (78 percent) with 6,155 cases, while fruits were the vehicle in 26 outbreaks (17 percent) with 4,018 cases. There were also seven outbreaks (5 percent) with 331 cases linked to both fruits and vegetables. The produce category had an average of 71 cases per outbreak.



- 65 outbreaks with 2,866 cases were linked to dairy products, including cheese, pasteurized and raw milk, and ice cream.** Milk was the vehicle in 19 outbreaks (29 percent) with 333 cases, cheese in 18 outbreaks (28 percent) with 1,014 cases, and ice cream in 20 outbreaks (31 percent) with 1,334 cases. The remaining eight outbreaks (12 percent) with 185 cases were linked to other dairy products. The dairy-products category had an average of 44 cases per outbreak.

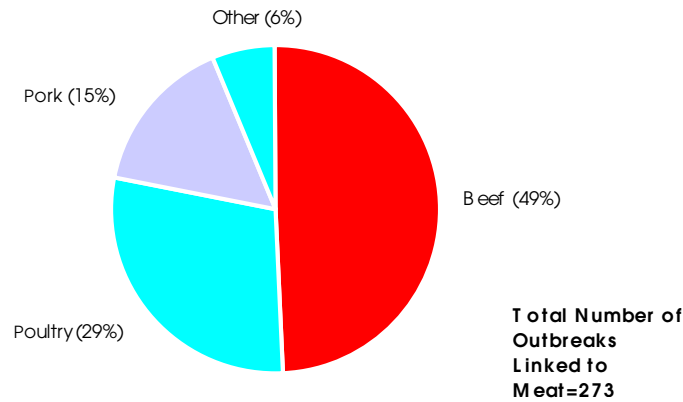
Dairy Outbreaks, 1990-2001



- 41 outbreaks with 1,303 cases were linked to breads and other bakery items.** 11 outbreaks with 600 cases were linked to breads, while 30 outbreaks with 703 cases were linked to other bakery items such as cake, pie, fruit desserts, and cheesecake. The bread and bakery category had an average of 32 cases per outbreak.
- 25 outbreaks with 1,172 cases were linked to beverages.** 14 outbreaks with 951 cases were linked to juice, and 11 outbreaks with 221 cases were linked to other beverages such as soda, punch, coffee, tea, and beer. The beverage category had an average of 47 cases per outbreak.
- 15 outbreaks with 98 cases were linked to game.** This category includes walrus, bear, moose, venison, and cougar meats. The etiological agent in many of the game-related outbreaks was *Trichinella*, a parasite found in raw meat. The game category had an average of seven cases per outbreak.

USDA-Regulated Foods

Meat and Poultry Outbreaks, 1990-2001



- **134 outbreaks with 6,089 cases were linked to beef.** 64 outbreaks with 2,633 cases were linked to ground beef, and 70 outbreaks with 3,456 cases were linked to other types of beef such as roast beef, veal, and beef jerky. The beef category had an average of 45 cases per outbreak.
- **79 outbreaks with 4,279 cases were linked to poultry.** Turkey was the vehicle in 31 of these outbreaks with 2,703 cases, while chicken was linked to 45 outbreaks with 1,483 cases. Three outbreaks with 93 cases were linked to other kinds of poultry such as duck, game hen, and goose. The poultry category had an average of 54 cases per outbreak.
- **44 outbreaks with 2,680 cases were linked to pork.** Ham was the vehicle in seven outbreaks with 1,163 cases. Other types of pork were linked to the 37 remaining outbreaks, which accounted for 1,517 cases. The pork category had an average of 61 cases per outbreak.
- **16 outbreaks with 362 cases were linked to other meats.** Of these, ten outbreaks with 278 cases were attributed to ready-to-eat luncheon meats such as bologna, salami, and hot dogs, while six outbreaks with 84 cases were linked to other meats, such as lamb, goat, and sausage. The other-meats group had an average of 23 cases per outbreak.

Both FDA- and USDA-Regulated Foods

- **74 outbreaks with 4,970 cases were linked to meals containing both FDA- and USDA-regulated foods.** These foods included such meals as chicken served with salad, turkey with dressing, pork with coleslaw, and ground beef with potatoes. This category had an average of 67 cases per outbreak.

RECOMMENDATIONS

As this edition of *Outbreak Alert!* shows, foodborne illness continues to be a serious problem in the U.S. Consumers have the right to expect legislators to push for changes that will prevent foodborne illnesses and protect their health. CSPI offers the following recommendations for changes in government systems that will serve to close the gaps in our federal food-safety net and, ultimately, decrease the number of illnesses and deaths caused by contaminated food.

The CDC Should Continue Its Efforts To Improve Outbreak Reporting

Outbreak information serves several important functions. It can alert consumers to existing food-safety hazards and help policymakers and public-health officials to (1) identify emerging problems, (2) evaluate existing programs, and (3) set goals and priorities for food safety. Having a timely and comprehensive inventory of food-poisoning outbreaks would allow policymakers and the food industry to monitor trends, issue public-health alerts, and change production practices. In previous editions of *Outbreak Alert!*, CSPI made a number of recommendations to improve the CDC's foodborne-illness surveillance and monitoring system:

- Congress should give the CDC new funding to develop a system of computerized reporting for use by the states, including providing state-health departments hardware, software, and training to facilitate reporting.
- States should be required to report all foodborne-illness outbreaks to the CDC.
- The CDC should maintain a comprehensive inventory of foodborne-illness outbreaks and periodically issue timely reports on those outbreaks.
- The CDC should develop a standardized-reporting system for deaths from foodborne illnesses.

Those actions are still needed, though the CDC has made a number of notable improvements. The agency has dramatically increased its use of the Internet to report foodborne-illness outbreaks. Also, it now has a website that allows easy access to a listing of outbreaks that was previously only available through a Freedom of Information Act (FOIA) request. The CDC's website offers state public-health officials an outbreak investigation tool kit and on-line reporting forms.

The CDC told CSPI that foodborne-illness reporting by states has significantly increased in recent years. In fact, the CDC's latest listing of 1990-1997 outbreaks included over 500 outbreaks

that were not included on last year's version of the CDC's 1990-1997 listing. Those newly reported outbreaks are included in this edition of *Outbreak Alert!*. Clearly, the states have increased their outbreak reporting to the CDC, and this trend will likely continue in the future.

While those improvements are significant, other *Outbreak Alert!* recommendations have not been adopted yet: increased Congressional funding for the CDC, mandatory reporting by states, standardized-reporting forms, and timely reporting of outbreaks by the CDC. With continuing threats of accidental contamination of the food supply and new concerns about bioterrorism, it is more important than ever that the CDC and the states improve the surveillance and reporting system for foodborne-illness outbreaks.

The Recipe for Safe Food: A Single, Independent Food-Safety Agency

While better monitoring and reporting of food-poisoning outbreaks is important, more comprehensive changes are needed to ensure that an effective, science-based food-safety system is in place. A single, independent food-safety agency could better address the problems with food-safety inspections and regulation, including gaps in consumer protections, inadequate coordination, conflicting public-health standards, regulatory redundancies, and slow approvals of new technologies. The improved food-safety net should help decrease the numbers of outbreaks.

The 1998 NAS report on food safety called for the consolidation of food-safety responsibility under a single statute, with a single budget and single leader. The NAS report concluded that the "current fragmented regulatory structure is not well equipped to meet the current challenges."¹⁸

The challenges are even more immediate given the heightened threat of bioterrorism to the food supply. On that issue an October 2001 General Accounting Office report determined:

A single, food safety agency responsible for administering a uniform set of laws is needed to resolve the long-standing problems with the current system; deal with emerging food safety issues, such as the safety of genetically modified foods or deliberate acts of contamination; and ensure a safe food supply.¹⁹

President Bush also has recognized the need for fundamental reorganization. When he was campaigning for the presidency, he stated:

The federal government is also responsible for the safety of the nation's food supply. The way things work now, there's one agency that inspects cheese pizza. There's another that inspects pepperoni pizza. There is one agency that inspects food grown outside the United

States. Another that inspects food grown here inside the United States. Apparently, the revolutionary idea that maybe these functions could be combined hasn't dawned on anyone yet.²⁰

Making the transition to a new federal agency requires both organizational and statutory changes, as outlined below.

Organizational Changes

The Bush Administration and Congress should unify all of the federal food-safety activities within a single, independent agency -- the Food Safety Administration (FSA) -- which would be responsible for setting food-safety and labeling standards, approving new food technologies, conducting food-safety inspections, and enforcing the relevant laws. A presidentially appointed, congressionally confirmed Administrator would lead the new agency. The FSA would integrate units from numerous federal departments, including:

- USDA's Food Safety and Inspection Service and the egg-inspection program of USDA's Agricultural Marketing Service;
- The Food and Drug Administration's food regulatory components (including the Center for Food Safety and Applied Nutrition, the human-food-safety components of the Center for Veterinary Medicine, and the food-related laboratory and field resources of FDA's Office of Regulatory Affairs);
- The Environmental Protection Agency's pesticide tolerance-setting program; and
- The Department of Commerce's seafood inspection program.

The non-regulatory, foodborne-illness-surveillance program of the CDC should remain separate to provide ongoing information on the nature and magnitude of food-safety hazards. Similarly, food-safety-related research activities conducted by the National Institutes of Health, the Agricultural Research Service, and other research agencies would continue to provide information, but those agencies would not be incorporated into the FSA.

Statutory Changes

The food-safety and inspection provisions of the Federal Food, Drug and Cosmetic Act, the Federal Meat Inspection Act, the Poultry Products Inspection Act, and the Egg Products Inspection Act need to be replaced by a unified and modernized food-safety statute. The new statute would build on the strengths of the existing laws, while modernizing the mandates and authorities of the new FSA. Key elements of the unified food-safety statute would include:

- *Clear definition and empowerment of the roles of government, consumers, and the food industry*, including: (1) the food industry's responsibility to produce safe food products by using up-to-date preventive process control; (2) the government's authority to establish and oversee compliance with food-safety standards, such as limits on pesticide residues and performance standards for reducing microbial pathogens; (3) the government's responsibility to use its regulatory tools in ways that systematically reduce the risk of foodborne illness; and (4) consumers' right to sue companies responsible for foodborne illnesses and deaths and the right to transparent government decision-making and accountability.
- *A modernized mandate for food inspection to*: (1) require that inspection resources are allocated across the food supply based on risk; (2) set a minimum frequency of inspection for food-production establishments, taking into account the food-safety risks and companies' performance; (3) establish a statutory mechanism to ensure that inspection resources be increased as needed to allow for risk-based reallocation and that future funding levels are adequate to meet the modernized inspection mandate; and (4) coordinate inspections and resource allocation with state and local food-safety agencies.
- *Enhancement of enforcement authorities and other tools of accountability*, including: (1) registration of food processors and importers; (2) authority to mandate recalls of contaminated food; (3) adequate civil and other penalties for repeat violators of food-safety standards; and (4) citizen-suit provisions to enforce food-safety statutes.
- *Strengthened oversight of imported foods to ensure they are at least as safe as U.S.-produced foods*, including: (1) authority similar to what USDA has today to assure that all imported foods meet U.S. safety standards; (2) increased inspection of foreign food-production establishments, especially in countries whose food-safety regulatory systems have not been demonstrated to be equivalent to the U.S. system; and (3) increased border inspection of imported food.
- *Refinement of the procedures for evaluating and approving new food technologies to*: (1) maintain high scientific standards; (2) increase opportunities for public participation; (3) ensure timely action; and (4) expedite the availability of technologies that can improve food safety.

The unification of the food-safety system should be accomplished over a five-year period, with full participation by many stakeholders, including the food and agriculture industries, scientists, and public-health experts.

While creating a single food-safety agency must be done thoughtfully, it also must be done soon. Consumers cannot afford to wait years or even decades for the agencies to resolve their competing agendas. The current system is highly inefficient and underpowered. As evidenced by the number of large foodborne-illness outbreaks occurring in the U.S., that system is putting public

health at risk. It is time for Congress to respond with concrete actions and not just words; it is time for Congress to make a single food-safety agency a reality.

APPENDIX A: Outbreak Database

Total Outbreaks and Cases 1990-2001*

FDA

Category	Food	Outbreaks	Cases
Seafood	Fin-fish	265	1,680
	Molluscan Shellfish	66	3,299
	Other Shellfish	9	154
	Total	340	5,133

Multi-ingredient	Salads	93	12,036
	Meat Dishes	61	1,978
	Sauces	17	674
	Sandwiches	30	1,760
	Ethnic Foods	88	4,817
	Rice and Beans	33	1,621
	Other Foods	15	256
Total	337	23,142	

Eggs	Eggs	51	2,228
	Egg-Dishes	220	8,599
	Total	271	10,827

Category	Food	Outbreaks	Cases
Produce	Fruits	26	4,018
	Vegetables	115	6,155
	Both	7	331
	Total	148	10,504

Dairy	Milk	19	333
	Cheese	18	1,014
	Ice Cream	20	1,334
	Other Dairy	8	185
	Total	65	2,866

Breads and Bakery	Breads	11	600
	Bakery	30	703
	Total	41	1,303

Beverages	Juices	14	951
	Other	11	221
	Total	25	1,172

Game	Total	15	98
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Total Outbreaks

1,242

Total Cases

55,045

USDA

Category	Food	Outbreaks	Cases
Beef	Ground Beef	64	2,633
	Other	70	3,456
	Total	134	6,089

Poultry	Chicken	45	1,483
	Turkey	31	2,703
	Other	3	93
	Total	79	4,279

Category	Food	Outbreaks	Cases
Pork	Ham	7	1,163
	Other	37	1,517
	Total	44	2,680

Other Meats	Luncheon	10	278
	Other	6	84
	Total	16	362

Total Outbreaks

273

Total Cases

13,410

Both FDA and USDA

Total Outbreaks

74

Total Cases

4,970

Grand Total

Total Outbreaks

1,589

Total Cases

73,425

*Full names and abbreviations of bacteria are listed in Appendix C.

Outbreaks Traced to FDA-Regulated Foods, 1990-2001

SEAFOOD

Fin-fish					
No.	Date	Vehicle	Etiology	Cases	States
1	Jan-90	Fish	Ciguatoxin	5	1:HI
2	Mar-90	Fish	Ciguatoxin	4	1:CA
3	Mar-90	Fish	Scombrotoxin	2	1:IL
4	Apr-90	Fish (mahi-mahi)	Scombrotoxin	148	1:HI
5	May-90	Raw reef fish; water	<i>V. cholerae</i> O1	26	1:GU
6	May-90	Fish	Scombrotoxin	12	1:GA
7	Jun-90	Fish	Ciguatoxin	5	1:PR
8	Jun-90	Fish	Scombrotoxin	6	1:NJ
9	Jun-90	Fish	Scombrotoxin	2	1:NY
10	Jun-90	Fish (smoked salmon)	<i>S. sonnei</i>	144	1:CA
11	Jul-90	Fish	Scombrotoxin	2	1:NY
12	Jul-90	Fish (surgeon)	<i>C. botulinum</i>	3	1:HI
13	Aug-90	Fish	Ciguatoxin	11	1:HI
14	Sep-90	Fermented fish eggs	<i>C. botulinum</i>	4	1:AK
15	Sep-90	Fish	Ciguatoxin	3	1:HI
16	Sep-90	Fish	Ciguatoxin	2	1:HI
17	Sep-90	Fish	Scombrotoxin	2	1:NJ
18	Sep-90	Stuffed flounder	<i>S. heidelberg</i>	8	1:NY
19	Oct-90	Fish	<i>C. botulinum</i>	3	1:AK
20	Oct-90	Fish	Scombrotoxin	6	1:OR
21	Nov-90	Fish	Ciguatoxin	2	1:HI
22	Nov-90	Fish	Ciguatoxin	5	1:HI
23	Nov-90	Fish	Scombrotoxin	2	1:HI
24	Nov-90	Fish	Scombrotoxin	11	1:HI
25	Dec-90	Fish	Ciguatoxin	5	1:HI
26	Jan-91	Fish (mahi mahi)	Scombrotoxin	6	1:FL
27	Apr-91	Fish	Ciguatoxin	10	1:HI
28	May-91	Catfish	<i>S. hadar</i>	10	1:NJ
29	Jun-91	Fish	<i>C. botulinum</i>	2	1:AK
30	Jun-91	Fish	Ciguatoxin	3	1:HI
31	Jun-91	Fish (tuna)	Scombrotoxin	2	1:NJ
32	Jul-91	Fish	Ciguatoxin	3	1:HI
33	Jul-91	Fish	<i>C. botulinum</i>	5	1:AK
34	Jul-91	Fish (tuna)	Scombrotoxin	2	1:NJ
35	Jul-91	Fish (tuna steak)	Scombrotoxin	2	1:NY
36	Jul-91	Fish (grilled tuna)	Scombrotoxin	2	1:NY
37	Aug-91	Fish (marlin)	Ciguatoxin	5	1:HI
38	Aug-91	Fish (amberjack)	Ciguatoxin	20	2:FL, AL
39	Sep-91	Fish (marlin)	Scombrotoxin	2	1:WA
40	Sep-91	Fish (marlin)	Histamine	2	1:WA
41	Sep-91	Fish	Ciguatoxin	5	1:HI
42	Sep-91	Fish	<i>C. botulinum</i>	3	1:AK
43	Sep-91	Fish	Ciguatoxin	4	1:HI

Fin-fish					
No.	Date	Vehicle	Etiology	Cases	States
44	Sep-91	Flounder; crab cakes; clam bake; scallops	<i>S. enteritidis</i>	29	1:DC
45	Sep-91	Fish (yellow fin tuna)	Scombrotoxin	3	1:HI
46	Sep-91	Fish (yellow fin tuna)	Scombrotoxin	2	1:HI
47	Sep-91	Fish (mahi mahi)	Scombrotoxin	2	1:HI
48	Sep-91	Fish (baked marlin)	Scombrotoxin	10	1:NY
49	Feb-92	Fish	Scombrotoxin	10	1:NY
50	Feb-92	Fish	Scombrotoxin	4	1:FL
51	Mar-92	Fish (tuna)	Scombrotoxin	3	1:HI
52	Mar-92	Fish (grouper)	Ciguatoxin	7	1:CA
53	Mar-92	Fish	Scombrotoxin	5	1:OH
54	Apr-92	Fish (tuna)	Scombrotoxin	74	NA
55	May-92	Fish	Scombrotoxin	10	1:NJ
56	May-92	Fish (mahi mahi)	Scombrotoxin	2	1:HI
57	May-92	Fish (salted whitefish)	<i>C. botulinum</i>	5	1:NJ
58	Jun-92	Fish	Scombrotoxin	2	1:NY
59	Jun-92	Fish	Ciguatoxin	8	1:FL
60	Jul-92	Fish (opelu)	Scombrotoxin	2	1:HI
61	Aug-92	Fish	Scombrotoxin	2	1:NY
62	Aug-92	Fish	<i>C. botulinum</i>	4	1:AK
63	Sep-92	Fish	Scombrotoxin	11	1:NY
64	Sep-92	Fish	Scombrotoxin	2	1:NY
65	Oct-92	Fish	Scombrotoxin	2	1:NY
66	Oct-92	Fish	Scombrotoxin	3	1:NY
67	Dec-92	Fish	Unspecified chemical	58	1:FL
68	Feb-93	Fish	Ciguatoxin	6	1:FL
69	Feb-93	Fish	Scombrotoxin	4	1:WI
70	Feb-93	Fish	Scombrotoxin	5	1:WI
71	Apr-93	Fish	Ciguatoxin	3	1:HI
72	May-93	Fish	Ciguatoxin	2	1:HI
73	May-93	Fish	Ciguatoxin	3	1:FL
74	May-93	Fish	Ciguatoxin	2	1:HI
75	Jun-93	Fish	Ciguatoxin	4	1:HI
76	Jul-93	Fish	Ciguatoxin	2	1:HI
77	Jul-93	Fish	Scombrotoxin	3	1:NY
78	Jul-93	Fish	Scombrotoxin	3	1:VA
79	Aug-93	Fish	Ciguatoxin	2	1:HI
80	Aug-93	Fish	Ciguatoxin	2	1:HI
81	Aug-93	Fish	Ciguatoxin	4	1:HI
82	Sep-93	Fish	Ciguatoxin	4	1:HI
83	Sep-93	Fish	Ciguatoxin	5	1:HI
84	Sep-93	Fish	Scombrotoxin	6	1:CA
85	Sep-93	Home-canned tuna; home-canned olives	<i>C. botulinum</i>	2	1:CA
86	Nov-93	Fish	<i>C. botulinum</i>	2	1:AK

Outbreaks Traced to FDA-Regulated Foods

No.	Date	Vehicle	Etiology	Cases	States
87	Nov-93	Fish	Ciguatoxin	5	1:CA
88	Jan-94	Fish	Scombrotoxin	2	1:CA
89	Jan-94	Fish	Scombrotoxin	3	1:HI
90	Feb-94	Fish	Scombrotoxin	3	1:NY
91	Feb-94	Fish	Scombrotoxin	2	1:HI
92	Mar-94	Fish	Scombrotoxin	2	1:HI
93	Apr-94	Fish	Ciguatoxin	4	1:HI
94	Apr-94	Fish	Scombrotoxin	2	1:HI
95	May-94	Fish	Ciguatoxin	2	1:FL
96	May-94	Fish	Scombrotoxin	7	1:HI
97	May-94	Fish	Scombrotoxin	3	1:HI
98	May-94	Fish (jack)	Ciguatoxin	2	1:HI
99	May-94	Fish (seabass soup)	Ciguatoxin	4	1:HI
100	May-94	Fish (ulua)	Ciguatoxin	17	1:HI
101	Jun-94	Fish (fermented whitefish)	<i>C. botulinum</i>	2	1:AK
102	Jun-94	Fish (jack)	Ciguatoxin	3	1:HI
103	Jun-94	Fish (kumu fish)	Ciguatoxin	2	1:HI
104	Jun-94	Fish (seabass)	Ciguatoxin	2	1:HI
105	Jul-94	Fish	<i>C. botulinum</i>	2	1:AK
106	Aug-94	Fish	Ciguatoxin	6	1:OH
107	Aug-94	Fish (barracuda)	Ciguatoxin	2	1:DC
108	Aug-94	Fish	Scombrotoxin	2	1:CA
109	Aug-94	Fish	Scombrotoxin	2	1:HI
110	Aug-94	Fish	Scombrotoxin	7	1:HI
111	Aug-94	Flounder with crab stuffing	<i>S. enteritidis</i>	20	1:MD
112	Sep-94	Fish	Scombrotoxin	7	1:OH
113	Sep-94	Fish	Scombrotoxin	2	1:HI
114	Sep-94	Fish	Scombrotoxin	2	1:HI
115	Oct-94	Fish	Ciguatoxin	10	1:FL
116	Oct-94	Fish	Scombrotoxin	13	1:CA
117	Oct-94	Fish	Scombrotoxin	5	1:FL
118	Oct-94	Fish	Scombrotoxin	2	1:HI
119	Oct-94	Fish	Scombrotoxin	6	1:NC
120	Nov-94	Fish	Scombrotoxin	5	1:MN
121	Nov-94	Fish	Scombrotoxin	4	1:HI
122	Nov-94	Salmon dishes; vegetables	<i>S. weltevreden</i>	26	1:CA
123	Dec-94	Fish	Scombrotoxin	2	1:HI
124	Jan-95	Fish	Ciguatoxin	5	1:HI
125	Jan-95	Fish	Scombrotoxin	10	1:HI
126	Feb-95	Fish	Scombrotoxin	4	1:HI
127	Mar-95	Fish	Scombrotoxin	3	1:HI
128	Mar-95	Fish	Ciguatoxin	2	1:HI
129	Mar-95	Fish	Ciguatoxin	2	1:HI
130	Apr-95	Fish	Scombrotoxin	2	1:IL
131	Apr-95	Fish	<i>E. coli</i> O157:H7	3	1:WA
132	May-95	Fish	Scombrotoxin	21	1:FL
133	May-95	Fish	Scombrotoxin	2	1:OH
134	Jun-95	Fish	Ciguatoxin	5	1:HI
135	Jul-95	Raw fish (Sashimi)	<i>S. Saint Paul</i>	3	1:WA

No.	Date	Vehicle	Etiology	Cases	States
136	Jul-95	Fish	Scombrotoxin	4	1:FL
137	Jul-95	Fish	Ciguatoxin	2	1:HI
138	Aug-95	Fish	Ciguatoxin	3	1:HI
139	Aug-95	Fish	Ciguatoxin	2	1:HI
140	Aug-95	Fish	Scombrotoxin	3	1:NY
141	Sep-95	Fish (ulua)	Ciguatoxin	2	1:HI
142	Sep-95	Fish	Ciguatoxin	2	1:HI
143	Sep-95	Fish	Scombrotoxin	20	1:CA
144	Oct-95	Fish	Scombrotoxin	3	1:NY
145	Oct-95	Fish	Scombrotoxin	2	1:CA
146	Nov-95	Fish	Scombrotoxin	2	1:IL
147	Nov-95	Fish	Scombrotoxin	3	1:HI
148	Nov-95	Fish	Scombrotoxin	6	1:AZ
149	Nov-95	Fish	Scombrotoxin	3	1:CA
150	Dec-95	Fish	Ciguatoxin	2	1:HI
151	Jan-96	Other fish	<i>S. flexneri</i>	4	1:WA
152	Jan-96	Fish	Scombrotoxin	2	1:HI
153	Feb-96	Fish (tuna)	Scombrotoxin	3	1:NY
154	Feb-96	Fish	Scombrotoxin	2	1:HI
155	Feb-96	Fish	Ciguatoxin	4	1:FL
156	Feb-96	Fish	Ciguatoxin	2	1:FL
157	Feb-96	Fish	Ciguatoxin	5	1:HI
158	Apr-96	Fish	Ciguatoxin	5	1:HI
159	Apr-96	Fish	Scombrotoxin	2	1:WA
160	Apr-96	Fish (puffer fish)	Tetrodotoxin	3	1:CA
161	May-96	Fish	Ciguatoxin	4	1:HI
162	Jun-96	Fish (tuna)	Scombrotoxin	2	1:NY
163	Jun-96	Fish (tuna)	Scombrotoxin	3	1:NY
164	Jul-96	Fish	Ciguatoxin	4	1:HI
165	Jul-96	Fish	Scombrotoxin	2	1:FL
166	Jul-96	Fish (blue fish)	Scombrotoxin	2	1:NY
167	Aug-96	Other fish	Scombrotoxin	3	1:VA
168	Aug-96	Other fish	Scombrotoxin	2	1:NY
169	Aug-96	Fish	Scombrotoxin	2	1:WA
170	Aug-96	Fish	Scombrotoxin	9	1:HI
171	Aug-96	Fish	Scombrotoxin	2	1:CA
172	Aug-96	Fish	Ciguatoxin	4	1:FL
173	Aug-96	Tuna	Histamine	2	1:WA
174	Sep-96	Fish	Scombrotoxin	2	1:HI
175	Sep-96	Fish	Ciguatoxin	2	1:FL
176	Oct-96	Fish	Scombrotoxin	4	1:OH
177	Oct-96	Fish	Scombrotoxin	3	1:CA
178	Oct-96	Fish	Ciguatoxin	2	1:FL
179	Dec-96	Other fish	<i>C. perfringens</i>	25	1:MN
180	Dec-96	Fish	Scombrotoxin	5	1:CA
181	Jan-97	Fish	Scombrotoxin	2	1:NY
182	Jan-97	Fish (rock cod)	Ciguatoxin	3	1:HI
183	Jan-97	Fish (amberjack)	Ciguatoxin	3	1:FL
184	Feb-97	Fish (barracuda)	Ciguatoxin	3	1:FL

Outbreaks Traced to FDA-Regulated Foods

No.	Date	Vehicle	Etiology	Cases	States	No.	Date	Vehicle	Etiology	Cases	States
185	Mar-97	Fish (bluefish)	Scambrotoxin	3	1:NY	224	Nov-97	Fish	Ciguatoxin	4	1:HI
186	Mar-97	Fish (buffalo)	Haff disease	4	1:CA	225	Dec-97	Fish	Scambrotoxin	7	1:VA
187	Mar-97	Fish (tuna)	Scambrotoxin	3	1:FL	226	Dec-97	Fish	Scambrotoxin	4	1:HI
188	Mar-97	Fish (tuna)	Scambrotoxin	5	1:MI	227	Jan-98	Fish (ahi)	Histamine (suspected)	2	1:HI
189	Apr-97	Pancit fish	<i>S. typhimurium</i>	14	1:CA	228	Jan-98	Fish (grouper)	Ciguatoxin	3	1:HI
190	Apr-97	Fish	Norwalk/ Norwalk-like virus	37	1:FL	229	Jan-98	Fish (mahi mahi)	Histamine	2	1:HI
191	Apr-97	Fish (tuna)	Scambrotoxin	2	1:NY	230	Jan-98	Fish (roi)	Ciguatoxin (suspected)	3	1:HI
192	Apr-97	Fish (yellow fin tuna)	Scambrotoxin	8	1:NY	231	Jan-98	Fish (mahi mahi)	Scambrotoxin	2	1:HI
193	May-97	Pancit malabon	<i>S. typhimurium</i>	18	1:CA	232	Jan-98	Fish (ahi)	Scambrotoxin	2	1:HI
194	May-97	Fish (blue marlin)	Scambrotoxin	28	1:DC	233	Feb-98	Fish (weke)	Ciguatoxin (suspected)	3	1:HI
195	May-97	Fish (grouper)	Ciguatoxin	6	1:FL	234	Mar-98	Fish (ahi)	Scambrotoxin	6	1:CA
196	May-97	Fish (hogfish)	Ciguatoxin	2	1:FL	235	Mar-98	Fish (ahi)	Histamine	2	1:HI
197	May-97	Fish (hogfish)	Ciguatoxin	4	1:MN	236	Mar-98	Fish (omilu)	Ciguatoxin (suspected)	2	1:HI
198	May-97	Fish (marlin)	Scambrotoxin	2	1:HI	237	Mar-98	Tuna	Histamine	2	1:WA
199	May-97	Fish (tuna)	Scambrotoxin	5	1:MA	238	Apr-98	Fish (papiro)	Ciguatoxin (suspected)	5	1:HI
200	May-97	Fish (yellow fin tuna)	Scambrotoxin	19	1:OH	239	May-98	Fish (ahi)	Histamine (suspected)	2	1:HI
201	Jun-97	Fish	Scambrotoxin	3	1:FL	240	May-98	Fish (palani)	Ciguatoxin (suspected)	2	1:HI
202	Jun-97	Fish (buffalo)	Haff disease	2	1:MO	241	May-98	Fish (weke)	Hallucinogenic fish toxin (suspected)	2	1:HI
203	Jun-97	Fish (hogfish)	Ciguatoxin	2	1:FL	242	Jun-98	Fish (akule)	Histamine (suspected)	2	1:HI
204	Jun-97	Fish (mahi mahi)	Scambrotoxin	2	1:FL	243	Jun-98	Fish (opakapaka)	Ciguatoxin (suspected)	2	1:HI
205	Jun-97	Fish (marlin)	Scambrotoxin	2	1:FL	244	Jun-98	Fish (papiro)	Ciguatoxin (suspected)	2	1:HI
206	Jun-97	Fish (tuna)	Scambrotoxin	3	1:FL	245	Jun-98	Fish (uhu)	Ciguatoxin (suspected)	3	1:HI
207	Jul-97	Fish (triggerfish)	Ciguatoxin	2	1:HI	246	Jul-98	Fish	Ciguatoxin (suspected)	3	1:HI
208	Jul-97	Fish (tuna)	Scambrotoxin	5	1:MN	247	Jul-98	Fish (ahi)	Histamine	2	1:HI
209	Aug-97	Fish	<i>C. botulinum</i>	3	1:AK	248	Jul-98	Fish (mahi mahi)	Histamine (suspected)	2	1:HI
210	Aug-97	Fish	Scambrotoxin	2	1:NY	249	Aug-98	Fish (swordfish)	Histamine	4	1:HI
211	Aug-97	Fish (goatfish)	Ciguatoxin	2	1:HI	250	Aug-98	Fish (ulua)	Ciguatoxin (suspected)	5	1:HI
212	Aug-97	Fish (marlin)	<i>S. aureus</i>	2	1:HI	251	Sep-98	Fish (baracuda)	Ciguatoxin (suspected)	2	1:HI
213	Aug-97	Fish (tuna)	Scambrotoxin	2	1:HI	252	Sep-98	Fish (palani)	Ciguatoxin (suspected)	2	1:HI
214	Sep-97	Fish (grey snapper)	Ciguatoxin	3	1:HI	253	Oct-98	Fish (kole)	Ciguatoxin (suspected)	2	1:HI
215	Sep-97	Fish (surgeon fish)	Ciguatoxin	2	1:HI	254	Oct-98	Fish (kumu)	Ciguatoxin (suspected)	2	1:HI
216	Sep-97	Fish (surgeon fish)	Ciguatoxin	2	1:HI	255	Oct-98	Fish (mahi mahi)	Histamine (suspected)	2	1:HI
217	Sep-97	Fish (tiger grouper)	Ciguatoxin	3	1:FL	256	Oct-98	Fish (roi)	Ciguatoxin (suspected)	6	1:HI
218	Sep-97	Fish (tuna)	Scambrotoxin	2	1:HI	257	Oct-98	Home-canned tuna	<i>C. botulinum</i>	3	1:CA
219	Sep-97	Fish	Scambrotoxin	8	1:VA	258	Nov-98	Fish (baracuda)	Ciguatoxin (suspected)	4	1:HI
220	Sep-97	Fish (surgeon)	Ciguatoxin	12	1:HI	259	Nov-98	Fish (wahanui)	Ciguatoxin (suspected)	3	1:HI
221	Oct-97	Fish (barracuda)	Ciguatoxin	17	1:TX	260	Nov-98	Smoked fish	<i>S. typhimurium</i>	29	1:WA
222	Oct-97	Fish (blue fin tuna)	Scambrotoxin	2	1:HI	261	Dec-98	Fish (ahi)	Histamine (suspected)	2	1:HI
223	Oct-97	Fish (tuna)	Scambrotoxin	2	1:CA	262	Dec-98	Fish (wahanui)	Ciguatoxin (suspected)	2	1:HI

Outbreaks Traced to FDA-Regulated Foods

No.	Date	Vehicle	Etiology	Cases	States
263	Dec-98	Fish (yellow weke)	Hallucinogenic fish toxin (suspected)	2	1:HI
264	Sep-99	Fish (ahi tuna)	Histamine	2	1:WA

No.	Date	Vehicle	Etiology	Cases	States
265	Nov-99	Fish (amberjack and mahi mahi)	Ciguatoxin	17	1:FL

Fin-Fish Cases 1,680

Molluscan Shellfish

No.	Date	Vehicle	Etiology	Cases	States
1	Mar-90	Shellfish	<i>S. typhi</i>	4	1:MA
2	Apr-90	Raw oysters	<i>V. vulnificus</i>	2	1:GA
3	Jun-90	Blue mussels	Paralytic shellfish poisoning	6	1:MA
4	Jun-90	Butter clams; mussels	Paralytic shellfish poisoning	13	1:AK
5	Jul-90	Shellfish	<i>V. parahaemolyticus</i>	5	1:WA
6	Jul-90	Shellfish	<i>V. parahaemolyticus</i>	9	1:WA
7	Aug-90	Shellfish	<i>V. parahaemolyticus</i>	2	1:WA
8	Aug-90	Shellfish	<i>V. parahaemolyticus</i>	5	1:ID
9	Sep-90	Shellfish	<i>S. sonnei</i>	52	1:OH
10	Oct-90	Shellfish	<i>S. java</i>	25	1:LA
11	May-91	Scallops	<i>Shigella</i> spp.	9	1:PA
12	Jun-91	Butter clams	Paralytic shellfish poisoning	6	1:AK
13	Jul-91	Shellfish	<i>S. typhimurium</i>	5	1:MD
14	Nov-91	Razor clams	Paralytic shellfish poisoning	29	1:WA
15	Jun-05	Oysters	Norwalk virus	250	NA
16	Aug-92	Barbecued oysters	<i>V. parahaemolyticus</i>	3	1:WA
17	Sep-92	Steamed clams	<i>V. alginolyticus</i>	4	1:WA
18	Jan-93	Shellfish (primarily oysters)	<i>S. sonnei</i>	95	1:TX
19	May-93	Shellfish (suspected)	<i>V. parahaemolyticus</i>	4	1:WA
20	Jul-93	Raw oysters	<i>V. parahaemolyticus</i>	2	1:WA
21	Aug-93	Raw oysters	<i>V. parahaemolyticus</i>	2	1:WA
22	Nov-93	Oysters	Norwalk-like virus	200	6
23	Nov-93	Oysters	Norwalk-like virus	45	1:FL
24	Dec-93	Oysters; clams; prawns	Unspecified virus	100	1:CA
25	Jun-05	Mussels	Paralytic shellfish poisoning	2	1:AK
26	Feb-94	Limpets	Norwalk virus	31	2:MA, RI
27	Feb-94	Limpets	Norwalk/ Norwalk-like virus	34	1:MA
28	Feb-94	Lapas; limpets	Norwalk/ Norwalk-like virus	46	Multistate
29	Mar-94	Shellfish	Paralytic shellfish poisoning	7	1:AK
30	May-94	Mussels	Paralytic shellfish poisoning	2	1:AK
31	Jun-94	Mussels	Paralytic shellfish poisoning	6	1:AK
32	Jul-94	Raw oysters	<i>V. parahaemolyticus</i>	2	1:WA
33	Dec-94	Steamed/ roasted oysters	Norwalk/ Norwalk-like virus	34	2: FL, GA

Molluscan Shellfish

No.	Date	Vehicle	Etiology	Cases	States
34	Dec-94	Oysters	Norwalk-like virus	140	1:FL
35	Mar-95	Shellfish	<i>C. perfringens</i>	57	1:CT
36	Apr-95	Clams	Paralytic shellfish poisoning	7	1:AK
37	Feb-96	Oysters	Norwalk virus	4	1:FL
38	May-96	Raw oysters	<i>S. flexneri</i>	8	1:MD
39	Jun-96	Seafood	<i>S. typhimurium</i>	2	1:WA
40	Aug-96	Small clams; welks	Neurotoxic shellfish poison	3	1:FL
41	Dec-96	Shellfish	Norwalk virus	493	5
42	Jan-97	Shellfish	Norwalk/ Norwalk-like virus	491	Multi-state
43	Jan-97	Shellfish	Small round structured virus	3	1:FL
44	Jan-97	Shellfish	Unspecified virus	4	1:FL
45	May-97	Raw oysters	<i>V. parahaemolyticus</i>	209	7
46	Jun-97	Mussels	Paralytic shellfish poisoning	2	1:AK
47	Jun-97	Shellfish	Scombrototoxin	2	1:FL
48	Jun-97	Shellfish	Scombrototoxin	2	1:FL
49	Jun-97	Shellfish	Ciguatoxin	2	1:FL
50	Jun-97	Shellfish	Paralytic shellfish poisoning	2	1:AK
51	Jul-97	Raw oysters	<i>V. parahaemolyticus</i>	2	1:WA
52	Aug-97	Oysters	<i>V. parahaemolyticus</i>	2	1:WA
53	Aug-97	Raw oysters	<i>V. parahaemolyticus</i>	3	1:WA
54	Aug-97	Clams	<i>V. parahaemolyticus</i>	2	1:WA
55	Sep-97	Shellfish	Ciguatoxin	3	1:FL
56	Nov-97	Clams	Paralytic shellfish poisoning	2	1:AK
57	Nov-97	Shellfish (suspected)	<i>Campylobacter</i> spp.	4	1:FL
58	Apr-98	Oysters	<i>Giardia</i>	3	1:WA
59	Jun-98	Oysters	<i>V. parahaemolyticus</i>	416	13
60	Jul-98	Oysters	Norwalk virus	300	1:CA
61	Jul-98	Oysters	<i>V. parahaemolyticus</i>	40	4/1:BC
62	Jul-98	Oysters and clams	<i>V. parahaemolyticus</i>	23	3:NY, NJ, CT
63	Aug-98	Raw oysters	<i>V. parahaemolyticus</i>	2	1:WA
64	Oct-98	Mussels	Paralytic shellfish poisoning	5	1:WA
65	Nov-98	Raw oysters	<i>C. jejuni</i>	2	1:WA
66	Jan-00	Oysters	Norwalk virus	18	1:FL

Molluscan Shellfish Cases 3,299

Outbreaks Traced to FDA-Regulated Foods

Other Shellfish					
No.	Date	Vehicle	Etiology	Cases	States
1	Apr-91	Crab meat	<i>V. cholerae</i>	4	1:NY
2	Apr-91	Crab meat	<i>V. cholerae</i>	8	1:NJ
3	Apr-91	Crab	<i>V. cholerae</i> O1	2	1:NY
4	Apr-92	Crab (suspected)	<i>S. aureus</i>	2	1:NY
5	May-93	Crab	<i>V. parahaemolyticus</i>	7	1:WA

Other Shellfish					
No.	Date	Vehicle	Etiology	Cases	States
6	Nov-93	Shrimp; water	<i>Campylobacter</i> spp.	32	1:MN
7	Dec-93	Shrimp	<i>S. enteritidis</i>	45	1:NY
8	May-94	Shrimp; rolls; chicken salad	Norwalk/ Norwalk-like virus	46	1:MD
9	Dec-00	Crab legs	Hepatitis A	8	1:AK

Other Seafood Cases 154

Totals			
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Seafood Total Outbreaks 340

Seafood Total Cases 5,133

MULTI-INGREDIENT FOODS

Salads					
No.	Date	Vehicle	Etiology	Cases	States
1	Feb-90	Chicken salad	<i>S. heidelberg</i>	8	1:NY
2	Feb-90	Salad	<i>S. montevideo</i>	320	1:IL
3	Apr-90	Chicken salad	<i>S. sonnei</i>	9	1:MD
4	Apr-90	Mexican chicken salad	<i>C. perfringens</i>	3	1:WA
5	Apr-90	Chicken salad; cucumber salad	<i>S. typhimurium</i>	179	1:VA
6	May-90	Caesar salad	<i>S. enteritidis</i>	31	1:NJ
7	Jun-90	Chicken salad	<i>S. typhimurium</i>	118	1:WI
8	Jul-90	Potato salad	<i>S. typhi</i>	17	1:WA
9	Aug-90	Chicken salad; egg salad	<i>S. enteritidis</i>	113	1:MD
10	Aug-90	Potato salad	<i>S. typhi</i>	24	1:MD
11	Aug-90	Salad bar	<i>G. intestinalis</i>	75	1:IL
12	Apr-91	Macaroni salad	<i>S. montevideo</i>	17	1:HI
13	Apr-91	Potato salad	<i>S. aureus</i>	6	1:WI
14	May-91	Potato salad; Swiss cheese; black olives	<i>S. typhimurium</i>	15	1:IL
15	May-91	Salad bar items	Hepatitis A	55	1:NY
16	May-91	Carrot salad; lasagna	<i>S. enteritidis</i>	12	1:NY
17	Jun-91	Chicken salad	<i>S. hadar</i>	89	1:NY
18	Jun-91	Tuna salad	<i>S. aureus</i>	127	1:WI
19	Jul-91	Macaroni; potato salad	<i>B. cereus</i>	87	1:CA
20	Jul-91	Cole slaw	<i>S. typhimurium</i>	31	1:NY
21	Aug-91	Potato salad	<i>S. enteritidis</i>	74	1:DE
22	Aug-91	Turkey salad (suspected)	<i>S. enteritidis</i>	45	1:FL
23	Sep-91	Potato salad (suspected)	<i>S. enteritidis</i>	10	1:NJ
24	Oct-91	Potato salad; greens	<i>S. muenchen</i>	13	1:MO
25	Oct-91	Salad	Norwalk/ Norwalk-like virus	51	1:FL
26	Feb-92	Homemade potato salad	<i>C. botulinum</i>	2	1:CO

Salads					
No.	Date	Vehicle	Etiology	Cases	States
27	Mar-92	Tuna salad (suspected)	<i>C. perfringens</i>	52	1:MI
28	Jun-92	Tuna / chicken / potato salad; cheese	<i>S. enteritidis</i>	21	1:NJ
29	Aug-92	Tuna / chicken / egg salad	<i>S. enteritidis</i>	130	1:NH
30	Sep-92	Chicken salad; elk (suspected)	<i>S. enteritidis</i>	194	1:DE
31	Sep-92	Potato / macaroni salad; beef kabobs	<i>S. enteritidis</i>	41	1:NJ
32	Jan-93	Pasta salad	<i>S. aureus</i>	26	1:IN
33	Mar-93	Salad bar; mayonnaise	<i>E. coli</i> O157:H7	47	1:OR
34	Mar-93	Salad	<i>E. coli</i> (ETEC)	168	2: NH, RI
35	Mar-93	Chicken salad	<i>S. enteritidis</i>	67	1:MD
36	Apr-93	Chicken salad	<i>Salmonella</i> spp.	17	1:NY
37	Jun-93	Potato salad	<i>S. aureus</i>	24	1:OR
38	Aug-93	Salad bar	<i>E. coli</i> O157:H7	53	1:WA
39	Aug-93	Seafood salad	<i>B. cereus</i>	166	1:NY
40	Sep-93	Chicken/ ham salad; cake	<i>S. heidelberg</i>	33	1:LA
41	May-94	Taco salad with beef	<i>S. aureus</i>	9	1:HI
42	May-94	Cole slaw	Norwalk-like virus	32	1:IL
43	Jun-94	Tuna/crab salad (suspected)	Hepatitis A	15	1:FL
44	Jun-94	Multiple salads	<i>S. aureus</i>	80	1:NY
45	Jun-94	Salad	<i>C. jejuni</i>	10	1:WA
46	Jun-94	Wild rice salad	<i>S. flexneri</i>	17	1:IL
47	Jul-94	Salad	<i>S. flexneri</i>	3	1:WA
48	Jul-94	Salad	<i>C. jejuni</i>	5	1:WA
49	Sep-94	Cole slaw; chicken soup	<i>E. coli</i> O157:H7	11	1:MN
50	Sep-94	Potato salad	<i>E. coli</i> O157:H7	37	1:NY
51	Sep-94	Salad bar	<i>E. coli</i> O157:H7	26	1:TX
52	Sep-94	Macaroni salad; chicken salad	Hepatitis A	23	1:OK

Outbreaks Traced to FDA-Regulated Foods

No.	Date	Vehicle	Etiology	Cases	States
53	Dec-94	Salad bar	Norwalk/ Norwalk-like virus	182	1:MA
54	Jun-95	Egg salad; blintzes	<i>E. coli</i>	16	1:NY
55	Jul-95	Chicken salad; chicken chili	<i>S. thompson</i>	28	1:CA
56	Jul-95	Shrimp salad (suspected)	<i>S. enteritidis</i>	4	1:MD
57	Jul-95	Spaghetti salad	<i>S. sonnei</i>	163	1:NE
58	Jul-95	Tuna salad	<i>C. jejuni</i>	82	1:WI
59	Jul-95	Macaroni salad	<i>Salmonella</i> spp.	23	1:NY
60	Aug-95	Potato salad	Norwalk-like virus	68	1:AK
61	Sep-95	Chicken salad	<i>C. parvum</i>	15	1:MN
62	Sep-95	Potato salad	<i>S. infantis</i>	11	1:IL
63	Sep-95	Caesar salad	<i>E. coli</i> O157:H7	20	1:ID
64	Oct-95	Salad	<i>S. enteritidis</i>	39	1:MA
65	Jun-96	Salad (suspected)	<i>C. jejuni</i>	70	1:NY
66	Jul-96	Turkey salad	<i>C. perfringens</i>	54	1:VA
67	Jul-96	Oriental chicken salad	<i>Salmonella</i> spp.	12	1:N Y
68	Dec-96	Chicken salad	<i>S. enteritidis</i>	14	1:CA
69	Feb-97	Chopped-liver salad	<i>S. heidelberg</i> ; <i>C. jejuni</i>	119	1:NY
70	Mar-97	Salad bar items	Norwalk/ Norwalk-like virus	127	1:FL
71	Mar-97	Salads; dips; dressings	<i>E. coli</i> (ETEC)	47	1:RI
72	May-97	Salad; Italian dressing	<i>S. enteritidis</i>	11	1:NY
73	Jun-97	Chicken salad; potato salad	<i>S. enteritidis</i>	48	1:OH

No.	Date	Vehicle	Etiology	Cases	States
74	Jun-97	Ranch dressing; salad	Unspecified virus	150	1:IN
75	Jun-97	Tomato and mozzarella salad	<i>E. coli</i> O25:NM	33	1:MA
76	Jul-97	Potato salad	<i>S. heidelberg</i>	12	1:PA
77	Jul-97	Potato salad	<i>S. sonnei</i>	205	1:KS
78	Aug-97	Cole slaw	Hepatitis A	44	1:MI
79	Aug-97	Cole slaw	<i>Salmonella</i> spp.	18	1:NC
80	Sep-97	Salad	<i>S. enteritidis</i>	11	1:CA
81	Sep-97	Salads	<i>S. hadar</i>	53	1:IL
82	Feb-98	Macaroni salad	<i>S. aureus</i>	101	1:IN
83	Jun-98	Potato salad	<i>E. coli</i> O6:H16	6,500	1:IL
84	Jul-98	Cole slaw	<i>E. coli</i> O157:H7	142	1:NC
85	Aug-98	Macaroni salad	<i>E. coli</i> O157:H7	11	1:NY
86	Dec-98	Tuna-spinach salad	Scombrototoxin	4	1:PA
87	Jun-99	Cole slaw	<i>E. coli</i> O157:H7	16	1:OH
88	Jun-99	Salad	<i>E. coli</i> O111:H8	58	1:TX
89	Jul-99	Home-made potato salad	<i>C. botulinum</i>	1	1:CA
90	Jul-99	Salad bar items	<i>S. enteritidis</i>	82	1:CA
91	Nov-99	Potato salad	Norwalk virus	191	1:AK
92	Feb-00	Salads	Norwalk virus	333	17
93	Nov-00	Pasta salad (suspected); crab salad (suspected)	<i>S. enteritidis</i>	80	1:MI

Salads Cases 12,036

Meat Dishes					
No.	Date	Vehicle	Etiology	Cases	States
1	Jan-90	Beef and noodle casserole	<i>S. aureus</i>	13	1:IL
2	May-90	Crab cakes	<i>S. enteritidis</i>	4	1:PA
3	May-90	Crab cakes	<i>S. enteritidis</i>	13	1:NJ
4	Jun-90	Chili	<i>C. perfringens</i>	22	1:PA
5	Jun-90	Meatloaf; greenbeans; potato	<i>S. enteritidis</i>	6	1:VA
6	Aug-90	Tuna dishes	<i>S. weltevreden</i>	12	1:IL
7	Sep-90	Gravy	<i>Salmonella</i> spp.	9	1:NY
8	Jan-91	Meatballs	<i>S. enteritidis</i>	4	1:MD
9	Apr-91	Crab cakes	<i>S. enteritidis</i>	7	1:VA
10	Apr-91	Gravy	<i>C. perfringens</i>	9	1:WI
11	May-91	Sausage gravy	<i>C. perfringens</i>	42	1:WA
12	Jun-91	Chicken francais	<i>S. enteritidis</i>	40	1:NY
13	Jun-91	Chili	<i>S. aureus</i>	38	1:AK
14	Jul-91	Shrimp creole	<i>S. enteritidis</i>	5	1:VA

Meat Dishes					
No.	Date	Vehicle	Etiology	Cases	States
15	Jul-91	Tuna and macaroni casserole	<i>S. aureus</i>	22	1:IA
16	Aug-91	Moose soup	<i>S. sonnei</i>	31	1:AK
17	Sep-91	Crab cakes	<i>S. enteritidis</i>	22	1:DC
18	Nov-91	Chicken noodle soup	<i>S. aureus</i>	2	1:NY
19	Dec-91	Turkey and rice casserole	<i>C. perfringens</i>	8	1:WI
20	Mar-92	Gravy	<i>C. perfringens</i>	120	1:WI
21	Apr-92	Baked stuffed sole	<i>S. enteritidis</i>	105	1:VT
22	Apr-92	Meat loaf	<i>C. perfringens</i>	166	1:LA
23	Dec-92	Gravy	<i>B. cereus</i>	3	1:CA
24	Jan-93	Chili; roll	Norwalk/ Norwalk-like virus	171	1:WY
25	Feb-93	Turkey and gravy	<i>S. enteritidis</i>	21	1:MD
26	Mar-93	Chicken ala king with sauce	Heavy metals	6	1:MO
27	Mar-93	Shrimp creole	<i>C. perfringens</i>	45	1:MD
28	Apr-93	Turkey with gravy	<i>C. perfringens</i>	4	1:NY

Outbreaks Traced to FDA-Regulated Foods

No.	Date	Vehicle	Etiology	Cases	States
29	Jun-93	Meat omelets	<i>C. jejuni</i>	4	1:WA
30	Apr-94	Shrimp creole	<i>C. perfringens</i>	5	1:WI
31	Jun-94	Clam chowder stock	<i>C. botulinum</i>	2	1:CA
32	Jul-94	Chicken croquettes	<i>S. enteritidis</i>	2	1:NY
33	Jul-94	Noodles with shrimp	<i>E. coli</i> O157:H7	3	1:WA
34	Oct-94	Beef stroganoff	<i>C. perfringens</i>	4	1:PA
35	Oct-94	Salmon patties with hollandaise sauce	<i>S. enteritidis</i>	21	1:KY
36	Dec-94	Beef with gravy; mashed potatoes	<i>C. perfringens</i>	105	1:IN
37	Jan-95	Chicken curry	<i>S. sonnei</i>	31	1:NY
38	Apr-95	Meat loaf sandwich; potato salad	Norwalk/ Norwalk-like virus	125	1:OR
39	May-95	Beef gravy	<i>C. perfringens</i>	56	1:NY
40	May-95	Sausage gravy	<i>C. perfringens</i>	70	1:IN
41	May-95	Turkey with gravy	<i>B. licheniformis</i>	165	1:OH
42	Aug-95	Crab cakes (suspected)	<i>S. enteritidis</i>	32	1:MD
43	Aug-95	Beef stew	<i>C. botulinum</i>	3	1:WA
44	Sep-95	Chili roll; onion	<i>S. enteritidis</i>	29	1:PA
45	Nov-95	Turkey with gravy	<i>C. perfringens</i>	100	1:CA

No.	Date	Vehicle	Etiology	Cases	States
46	Dec-95	Turkey stew	<i>S. heidelberg</i>	3	1:WA
47	Jun-96	Seafood lasagna	<i>S. heidelberg</i>	7	1:ME
48	Oct-96	Cheese and ham casserole	Norwalk/ Norwalk-like virus	90	1:KS
49	Nov-96	Meatballs; tomato sauce	<i>S. montevideo</i>	29	1:FL
50	Dec-96	Gravy	<i>C. perfringens</i>	26	1:WI
51	Feb-97	Deli tray; potato salad	Norwalk/ Norwalk-like virus	9	1:OH
52	Mar-97	Crab cakes (suspected)	<i>S. enteritidis</i>	2	1:PA
53	Apr-97	Crab fluff	<i>S. enteritidis</i>	6	1:MD
54	Jun-97	Crab cakes; crab stuffing	<i>S. enteritidis</i>	14	1:PA
55	Jul-97	Cray imperial; mayonnaise; house dressing (suspected)	<i>S. enteritidis</i>	4	1:PA
56	Dec-97	Seafood corn chowder	<i>B. cereus</i>	2	1:OH
57	Apr-98	Fish sticks	<i>S. sonnei</i>	47	1:LA
58	Jun-98	Shrimp dip	<i>E. coli</i>	12	1:LA
59	Mar-99	Home-made chicken soup	<i>C. botulinum</i>	1	1:CA
60	Mar-99	Home-made liver pate	<i>C. botulinum</i>	1	1:CA
61	Mar-00	Beef casserole	<i>E. coli</i> O157:H7	18	1:MN

Meat Dishes Cases 1,978

Sauces/ Dressings/ Oils					
No.	Date	Vehicle	Etiology	Cases	States
1	Feb-90	Bearnaise sauce	<i>S. enteritidis</i>	23	1:CT
2	Sep-90	Bearnaise sauce	<i>S. enteritidis</i>	74	1:NC
3	Oct-90	Hollandaise sauce (suspected)	<i>S. enteritidis</i>	9	1:NY
4	Oct-91	Caesar salad dressing	<i>S. enteritidis</i>	44	1:MD
5	Sep-92	Cream sauce	<i>S. aureus</i>	9	1:AK
6	Aug-93	Hot sauce	<i>S. sonnei</i>	84	1:TX
7	Sep-93	Caesar dressing (suspected)	<i>S. enteritidis</i>	8	1:MA
8	Oct-93	Hollandaise sauce	<i>S. enteritidis</i>	19	1:IA
9	Nov-93	Caesar dressing (suspected)	<i>S. enteritidis</i>	8	1:MA

Sauces/ Dressings/ Oils					
No.	Date	Vehicle	Etiology	Cases	States
10	Jul-95	Tahini sauce	<i>S. brandenburg</i>	137	1:NY
11	Mar-96	Marinara sauce	<i>B. cereus</i>	22	1:FL
12	Apr-96	Red wine vinegar	Other chemical	2	1:NY
13	Jun-96	Pasta salad; cucumber; Italian dressing (suspected)	<i>E. coli</i> O157:H7	60	1:NY
14	Aug-96	Cream sauce	<i>C. perfringens</i>	25	1:WA
15	Apr-97	White sauce	<i>C. perfringens</i>	7	1:OH
16	Aug-97	Bearnaise sauce	<i>S. enteritidis</i>	50	1:PA
17	Nov-97	Hollandaise sauce	<i>S. enteritidis</i>	93	1:NV

Sauces and Dressings Cases 674

Sandwiches					
No.	Date	Vehicle	Etiology	Cases	States
1	Mar-90	Pre-wrapped sandwiches	Hepatitis A	129	1:IL
2	May-90	Sandwich; vegetable; salad; ice	Hepatitis A	39	1:WI

Sandwiches					
No.	Date	Vehicle	Etiology	Cases	States
3	Jun-90	Turkey dressing sandwich	<i>S. schwarzengrund</i>	39	1:WI
4	Jul-90	Shrimp salad sandwich (suspected)	<i>S. enteritidis</i>	5	1:NJ

Outbreaks Traced to FDA-Regulated Foods

No.	Date	Vehicle	Etiology	Cases	States
5	Nov-90	Hero sandwich (suspected)	<i>S. boydii</i>	51	1:NY
6	Jul-91	Turkey sandwich; cream cheese	<i>S. newport</i>	31	1:NJ
7	Aug-91	Monte Cristo sandwiches	<i>S. enteritidis</i>	14	1:MA
8	Aug-91	Turkey club sandwich	<i>S. enteritidis</i>	16	1:NJ
9	Jun-92	Sandwiches	Hepatitis A	12	1:AK
10	Sep-92	Sandwich	<i>S. enteritidis</i>	2	1:WA
11	Oct-92	Egg salad/ tuna/ chicken sandwiches	<i>S. enteritidis</i>	140	1:NY
12	Nov-92	Hamburger buns; cookies	Norwalk-like virus	250	1:MN
13	Jan-93	Turkey/ cuban sandwich; cheese	<i>Salmonella</i> spp.	153	1:PR
14	Oct-93	Chicken sandwich	<i>S. enteritidis</i>	33	1:NY
15	Jun-94	Hamburger and gravy; buns	<i>C. perfringens</i>	72	1:WI
16	Jun-94	Hamburgers; turkey club sandwiches	<i>S. enteritidis</i>	42	1:MD
17	Dec-94	Sandwich; condiments; hamburger	<i>S. typhimurium</i>	100	1:IN

No.	Date	Vehicle	Etiology	Cases	States
18	Jul-95	Barbequed beef sandwich	<i>Campylobacter</i> spp.	11	1:WI
19	Apr-96	Hamburgers (suspected)	<i>E. coli</i> O157:H7	2	1:IL
20	Jun-96	Chicken sandwich	<i>Salmonella javiana</i>	55	1:MA
21	Jul-96	Tuna burgers	Scombrototoxin	3	1:NY
22	Apr-97	Deli sandwiches	Norwalk/ Norwalk-like virus	15	1:OH
23	Aug-97	Submarine sandwiches	Norwalk/ Norwalk-like virus	60	1:OH
24	Sep-97	Submarine sandwiches	Norwalk/ Norwalk-like virus	17	1:OH
25	Oct-97	Submarine sandwiches	Norwalk/ Norwalk-like virus	40	1:OH
26	Sep-98	Turkey sandwiches	Norwalk-like virus	43	1:NC
27	Dec-98	Bento lunch	<i>S. aureus</i>	207	1:HI
28	Oct-99	Sandwich	Hepatitis A	35	1:WA
29	Feb-00	Submarine sandwiches	Norwalk-like virus	36	1:VA
30	Mar-00	Tuna or chicken salad sandwiches	Group A rotavirus	108	1:DC

Sandwiches Cases 1,760

Ethnic Foods					
No.	Date	Vehicle	Etiology	Cases	States
1	Mar-90	Pizza	Hepatitis A	15	1:WI
2	Apr-90	Mexican food	<i>C. perfringens</i>	26	1:FL
3	Apr-90	Beef and chicken tacos	<i>C. perfringens</i>	700	1:MO
4	May-90	Mexican food	<i>S. typhi</i>	21	1:AZ
5	Jul-90	Fried rice	<i>B. cereus</i>	2	1:NY
6	Jul-90	Mexican food	<i>S. aureus</i>	7	1:NM
7	Aug-90	Refried beans	<i>S. enteritidis</i>	74	1:NM
8	Aug-90	Dark rice; egg rolls	<i>S. aureus</i>	2	1:IL
9	Oct-90	Fried rice	<i>B. cereus</i>	4	1:OH
10	Nov-90	Pizza wheel sandwich (suspected)	<i>E. coli</i> O157:H7	10	1:MT
11	Mar-91	Fried rice; shrimp eggs	<i>S. aureus</i>	100	1:IL
12	Apr-91	Pork fried rice	<i>B. cereus</i>	5	1:WA
13	May-91	Mexican food	<i>C. perfringens</i>	160	1:NM
14	May-91	Lasagna	<i>S. enteritidis</i>	12	1:NY
15	Jul-91	Lasagna	<i>S. enteritidis</i>	8	1:NJ
16	Aug-91	Lasagna	<i>S. enteritidis</i>	48	1:NY
17	Aug-91	Lasagna; sausage and peppers; eggplant parmesan	<i>S. enteritidis</i>	55	1:NY
18	Sep-91	Chicken and beef fajitas	<i>S. heidelberg</i>	673	1:CT

Ethnic Foods					
No.	Date	Vehicle	Etiology	Cases	States
19	Oct-91	Spanish rice; drink	<i>C. perfringens</i>	242	1:WA
20	Apr-92	Mexican food	<i>S. typhimurium</i>	321	1:NY
21	Apr-92	Spaghetti with meat sauce	<i>S. aureus</i>	22	1:HI
22	May-92	Spaghetti sauce	Unspecified chemical	3	1:NY
23	Jul-92	Mexican food	<i>E. coli</i> O157:H7	8	1:WA
24	Jul-92	Tortellini	<i>S. aureus</i>	12	1:NJ
25	Aug-92	Tacos	<i>C. perfringens</i>	115	1:WA
26	Dec-92	Spaghetti with meat sauce	<i>S. aureus</i>	40	1:NY
27	Feb-93	Chicken enchilada; burrito	<i>C. perfringens</i>	5	1:GA
28	Apr-93	Refried beans	<i>B. cereus</i>	3	1:MN
29	Apr-93	Salsa (suspected)	<i>S. enteritidis</i>	26	1:NM
30	Jun-93	Pizza	<i>S. aureus</i>	6	1:AK
31	Jun-93	Stuffed shells	<i>S. enteritidis</i>	7	1:CT
32	Jun-93	Chinese food	<i>S. typhimurium</i>	5	1:WA
33	Jun-93	Beef/ chicken fajita	<i>C. perfringens</i>	63	1:TX
34	Jul-93	Fried rice	<i>B. cereus</i>	5	1:VA
35	Jul-93	Chicken fried rice	<i>B. cereus</i>	14	1:VA
36	Aug-93	Meat and cheese nachos	<i>C. perfringens</i>	6	1:NY

Outbreaks Traced to FDA-Regulated Foods

No.	Date	Vehicle	Etiology	Cases	States
37	Aug-93	Meat lasagna	<i>S. enteritidis</i>	11	1:VT
38	Oct-93	Lasagna	<i>S. enteritidis</i>	11	1:MA
39	Nov-93	Four-cheese tortellini	<i>S. aureus</i>	180	1:NY
40	May-94	Manicotti	<i>S. heidelberg</i>	3	1:IL
41	Jun-94	Spaghetti	<i>S. aureus</i>	54	1:FL
42	Jun-94	Taco	<i>C. perfringens</i>	6	1:WI
43	Aug-94	Taco	<i>S. aureus</i>	25	1:NM
44	Aug-94	Kim pop (sushi)	<i>S. enteritidis</i>	29	1:CA
45	Sep-94	Lasagna	<i>S. enteritidis</i>	28	1:MA
46	Sep-94	Pork-fried rice	<i>B. cereus</i>	12	1:MD
47	Jan-95	Mexican food	<i>C. perfringens</i>	3	1:IL
48	Jan-95	Chicken tetrazzini	<i>S. enteritidis</i>	20	1:MO
49	Feb-95	Pico de gallo	<i>S. sonnei</i>	6	1:MD
50	Apr-95	Salsa	<i>S. flexneri</i>	15	1:IL
51	Jul-95	Chicken carbonara	<i>S. aureus</i>	2	1:WA
52	Aug-95	Spaghetti with meat sauce; vegetables	<i>S. heidelberg</i>	30	1:CA
53	Aug-95	Chinese food	<i>B. cereus</i>	21	1:FL
54	Aug-95	Carnitas	<i>S. berta</i> ; <i>S. reading</i>	3	1:IL
55	Sep-95	Refried beans (suspected)	<i>C. perfringens</i> (suspected); <i>B. cereus</i> (suspected)	76	1:FL
56	Nov-95	Spaghetti sauce	<i>C. perfringens</i>	15	1:WA
57	Jan-96	Mexican food	Hepatitis A	11	1:IN
58	Jan-96	Sushi	<i>S. flexneri</i>	4	1:WA
59	Mar-96	Beef tacos	<i>S. heidelberg</i>	118	1:MA
60	May-96	Lasagna	<i>C. perfringens</i>	8	1:IL
61	Jul-96	Beef tacos	<i>S. typhimurium</i>	67	1:VA
62	Aug-96	Baked ziti	<i>S. enteritidis</i>	18	1:NY

No.	Date	Vehicle	Etiology	Cases	States
63	Oct-96	Spam musubi	<i>S. aureus</i>	8	1:HI
64	Jan-97	Beans; rice; chips; salsa	Norwalk/ Norwalk-like virus	200	1:MI
65	Jan-97	Mexican food	<i>S. manhattan</i> ; <i>S. heidelberg</i>	48	1:IL
66	Jan-97	Chili rellenos (suspected)	<i>S. enteritidis</i>	3	1:CA
67	Feb-97	Shredded beef tacos (suspected)	<i>S. enteritidis</i>	15	1:CA
68	Mar-97	Chicken enchilada	<i>C. perfringens</i>	12	1:IL
69	Apr-97	Beans; tacos; enchiladas	<i>E. coli</i> O27:H7	41	1:CA
70	May-97	Chicken fajitas	<i>S. aureus</i>	7	1:FL
71	Jun-97	Tiramisu (suspected)	<i>S. enteritidis</i>	13	1:CA
72	Jun-97	Chicken tempura (suspected)	<i>S. enteritidis</i>	14	1:WI
73	Jul-97	Fried rice	<i>B. cereus</i>	19	1:TX
74	Aug-97	Pizza	Norwalk/ Norwalk-like virus	38	1:LA
75	Sep-97	Chinese seafood	<i>V. parahaemolyticus</i>	16	1:CA
76	Sep-97	Fried rice	<i>B. cereus</i>	4	1:PA
77	Oct-97	Fried rice	<i>B. cereus</i>	4	1:PA
78	Oct-97	Spaghetti and meat sauce	<i>Streptococcus</i> spp.	122	1:HI
79	Oct-97	Spaghetti sauce with meat	<i>S. newport</i>	93	1:LA
80	Oct-97	Enchiladas; salad	Norwalk/ Norwalk-like virus	11	1:ID
81	Feb-98	Chicken enchilada	<i>S. enteritidis</i>	14	1:CA
82	Aug-98	Fried rice	<i>S. heidelberg</i>	3	1:WA
83	Sep-98	Salsa	<i>S. sonnei</i>	58	1:CA
84	Sep-98	Lasagna	<i>E. coli</i> O157:H7	4	1:WA
85	Nov-99	Beef tacos	<i>E. coli</i> O157:H7	14	3:NV, AZ, CA
86	Nov-99	Lasagna/ravioli	<i>S. enteritidis</i>	31	1:WI
87	Nov-99	Hard shell tacos	<i>E. coli</i> O157:H7	21	multi-state
88	Jan-00	Five-layer dip	<i>S. sonnei</i>	403	10

Ethnic Foods Cases 4,817

Rice/ Beans/ Stuffing/ Pasta Dishes					
No.	Date	Vehicle	Etiology	Cases	States
1	Mar-90	Rice	<i>B. cereus</i>	20	1:WI
2	Jul-90	Beans; rice; potato salad	<i>S. typhi</i>	17	1:WA
3	Aug-90	Pinto beans; grated cheese	<i>S. enteritidis</i>	83	1:NM
4	Oct-90	Banana pudding (suspected)	<i>S. enteritidis</i>	6	1:TN
5	Oct-90	Bean soup	<i>S. enteritidis</i>	11	1:OR
6	Mar-91	Rice; noodles; mayonnaise	<i>S. enteritidis</i>	7	1:NY
7	Apr-91	Macaroni and cheese	<i>S. enteritidis</i>	24	1:SC

Rice/ Beans/ Stuffing/ Pasta Dishes					
No.	Date	Vehicle	Etiology	Cases	States
8	Jul-91	Rice	<i>S. enteritidis</i>	7	1:VA
9	Dec-91	Macaroni and cheese	<i>B. cereus</i>	20	1:MI
10	Mar-92	Rice	<i>B. cereus</i>	9	1:IA
11	Sep-92	Pasta salad; au gratin potatoes	<i>C. jejuni</i>	34	1:IN
12	Jan-93	Pasta with sauce	<i>S. heidelberg</i>	160	1:OH
13	Jun-93	Baked stuffed potatoes (suspected)	<i>S. enteritidis</i>	5	1:NJ
14	Aug-93	Cornbread dressing	<i>S. montevideo</i>	21	1:LA

Outbreaks Traced to FDA-Regulated Foods

No.	Date	Vehicle	Etiology	Cases	States
15	Jul-94	Macaroni and cheese	<i>Salmonella</i> spp.	15	1: FL
16	Jul-94	Rice pudding	<i>S. enteritidis</i>	9	1: NY
17	Nov-94	Dressing	<i>S. enteritidis</i>	210	1: WA
18	Jul-95	Macaroni with cheese	<i>S. heidelberg</i>	10	1: AL
19	Aug-95	Rice	<i>B. cereus</i>	21	1: FL
20	Aug-95	Rice balls; spinach; cheese	<i>S. enteritidis</i>	16	1: NY
21	Oct-95	Corn casserole; macaroni; green beans	<i>C. perfringens</i>	16	1: AL
22	Oct-95	Pasta bar	<i>S. aureus</i>	32	1: IN
23	Mar-96	Minute rice	Heavy metals	2	1: NY
24	May-96	Stuffing (suspected)	<i>S. enteritidis</i>	7	1: PA

No.	Date	Vehicle	Etiology	Cases	States
25	Jul-96	Rice pudding	<i>S. enteritidis</i>	24	1: PA
26	Aug-96	Macaroni and cheese	<i>S. heidelberg</i>	83	1: FL
27	Apr-97	Stuffing; mashed potatoes	<i>C. perfringens</i>	56	1: NJ
28	Sep-97	Stuffed shrimp	<i>S. enteritidis</i>	2	1: NY
29	Nov-97	Pasta primavera	<i>S. aureus</i>	200	1: TX
30	Dec-97	Stuffing	<i>B. cereus</i>	400	1: CA
31	Jul-98	Baked potato with cheese	<i>S. enteritidis</i>	8	1: IL
32	Aug-98	Rice dressing	<i>S. infantis</i>	63	1: LA
33	Aug-99	Baked beans	<i>S. enteritidis</i>	23	1: OH

Rice and Beans Cases 1,621

Other Foods					
No.	Date	Vehicle	Etiology	Cases	States
1	Nov-90	Minestrone soup	<i>C. perfringens</i>	33	1: MI
2	Nov-90	Minestrone soup	<i>C. perfringens</i>	32	3: MI, OH, IN
3	Jun-91	Stuffed cabbage	<i>S. typhimurium</i>	21	1: PA
4	Jul-91	Instant pudding	<i>S. enteritidis</i>	29	1: CA
5	Jul-91	Banana pudding	<i>S. enteritidis</i>	29	1: CA
6	Oct-92	Popcorn (butter flavored)	Hepatitis A	10	1: CA
7	Mar-93	Pureed foods	<i>S. enteritidis</i>	13	1: IL
8	May-93	Stuffed mushroom (suspected)	<i>S. enteritidis</i>	2	1: NY

Other Foods					
No.	Date	Vehicle	Etiology	Cases	States
9	Jun-93	Home-made dip	<i>S. sonnei</i>	16	1: MO
10	Apr-94	Skordalia eggplant dip	<i>C. botulinum</i>	23	1: TX
11	Aug-94	Lemon ice	Heavy metals	2	1: NY
12	Oct-94	Peanut-flavored, savory snack	<i>S. agona</i>	10	multi-state
13	Nov-94	Vegetable dip	<i>Shigella</i> spp.	20	1: FL
14	Jul-95	Pureed diet	<i>S. enteritidis</i>	14	1: NY
15	Dec-98	Home-canned soup	<i>C. botulinum</i>	2	1: PA

Other Foods Cases 256

Totals					
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Multi-ingredient Foods Total Outbreaks 337

Multi-ingredient Foods Total Cases 23,142

EGGS

Eggs					
No.	Date	Vehicle	Etiology	Cases	States
1	1990	Eggs benedict	<i>S. enteritidis</i>	4	1: IL
2	1990	Scrambled eggs; French toast (shell eggs)	<i>S. enteritidis</i>	3	1: OH
3	Mar-90	Eggs	<i>S. enteritidis</i>	22	1: NY
4	Mar-90	Eggs (suspected)	<i>S. enteritidis</i>	16	1: NC
5	Jun-90	Eggs	<i>S. enteritidis</i>	170	1: CT
6	Jun-90	Eggs	<i>S. enteritidis</i>	79	1: PA
7	Jun-90	Eggs	<i>S. enteritidis</i>	31	1: TN

Eggs					
No.	Date	Vehicle	Etiology	Cases	States
8	Jun-90	Eggs (suspected)	<i>S. enteritidis</i>	29	1: MD
9	Aug-90	Eggs	<i>S. enteritidis</i>	79	1: NH
10	Sep-90	Scrambled eggs (suspected)	<i>S. enteritidis</i>	15	1: DE
11	Oct-90	Scrambled eggs (suspected)	<i>S. enteritidis</i>	25	1: NY
12	Dec-90	Eggs benedict	<i>S. enteritidis</i>	7	1: NY
13	Dec-90	Eggs (suspected)	<i>S. enteritidis</i>	4	1: NC
14	Feb-91	Scrambled eggs	<i>S. enteritidis</i>	25	1: IL

Outbreaks Traced to FDA-Regulated Foods

No.	Date	Vehicle	Etiology	Cases	States
15	May-91	Scrambled eggs	<i>S. enteritidis</i>	187	1:NY
16	Jul-91	Eggs	<i>S. enteritidis</i>	10	1:IL
17	Jul-91	Eggs	<i>S. enteritidis</i>	23	1:NY
18	Jul-91	Eggs	<i>S. enteritidis</i>	3	1:NY
19	Nov-91	Eggs (suspected)	<i>S. enteritidis</i>	9	1:NY
20	Jun-92	Eggs	<i>S. enteritidis</i>	46	1:NY
21	Jun-92	Eggs benedict with hollandaise sauce (suspected)	<i>S. enteritidis</i>	9	1:NY
22	Jul-94	Eggs; chicken croquettes	<i>S. enteritidis</i>	2	1:NY
23	Aug-94	Eggs	<i>C. botulinum</i>	2	1:AK
24	Dec-94	Eggs benedict with hollandaise sauce (shell eggs)	<i>S. enteritidis</i>	13	1:OR
25	Feb-95	Eggs (suspected)	<i>S. enteritidis</i>	9	1:SC
26	Jun-95	Soft scrambled eggs	<i>S. enteritidis</i>	75	1:IN
27	Jun-95	Baked eggs	<i>S. enteritidis</i>	70	1:IN
28	Jun-95	Eggs benedict	<i>S. enteritidis</i>	4	1:NY
29	Jun-95	Scrambled eggs	<i>S. enteritidis</i>	40	1:IN
30	Jul-95	Eggs	<i>S. heidelberg</i>	2	1:WA
31	Aug-95	Eggs benedict with hollandaise sauce (shell eggs)	<i>S. enteritidis</i>	13	1:WI
32	Feb-96	Eggs	<i>S. enteritidis</i>	8	1:WA
33	Jun-96	Eggs	<i>S. enteritidis</i>	3	1:WA

No.	Date	Vehicle	Etiology	Cases	States
34	Jun-96	Eggs	<i>S. typhimurium</i>	4	1:WA
35	Sep-96	Eggs (suspected)	<i>S. enteritidis</i>	9	1:MD
36	Sep-96	Eggs	<i>S. enteritidis</i>	250	1:SC
37	Sep-96	Pooled eggs	<i>S. braenderup</i>	46	1:MO
38	Oct-96	Eggs/multiple	<i>S. enteritidis</i>	78	1:MN
39	Feb-97	Eggs benedict	<i>S. enteritidis</i>	7	1:CA
40	Sep-97	Boiled eggs	<i>S. enteritidis</i>	192	1:SC
41	Sep-97	Chopped boiled eggs	<i>S. enteritidis</i>	192	1:SC
42	Sep-97	Eggs (suspected)	<i>S. enteritidis</i>	10	1:WI
43	Nov-97	Eggs benedict with hollandaise sauce	<i>S. enteritidis</i>	27	1:WI
44	Dec-97	Eggs (suspected)	<i>S. enteritidis</i>	7	1:CA
45	Mar-98	Eggs	<i>S. montevideo</i>	5	1:OH
46	Aug-98	Eggs	<i>S. enteritidis</i>	40	1:HI
47	Nov-98	Eggs benedict	<i>Staphylococcus</i> spp. (suspected)	3	1:HI
48	Jun-99	Eggs	<i>S. enteritidis</i>	40	1:HI
49	Jun-99	Eggs	<i>S. enteritidis</i>	4	1:WA
50	Jun-99	Eggs/ French toast	<i>S. enteritidis</i>	177	1:VA
51	Jul-99	Eggs	<i>S. enteritidis</i>	100	1:CA

Eggs Cases 2,228

Egg-Dishes					
No.	Date	Vehicle	Etiology	Cases	States
1	1990	Cheesecake (duck shell eggs)	<i>S. enteritidis</i>	18	1:WI
2	1990	French toast (shell eggs)	<i>S. enteritidis</i>	18	1:NY
3	1990	Frosting (shell eggs)	<i>S. enteritidis</i>	8	1:MA
4	Jan-90	Crab meat (shell eggs) (suspected)	<i>S. enteritidis</i>	14	1:DE
5	Feb-90	Milk shake (shell eggs)	<i>S. enteritidis</i>	10	1:MD
6	Mar-90	Meringue (shell eggs)	<i>S. enteritidis</i>	13	1:NC
7	Mar-90	Egg sandwiches	<i>S. enteritidis</i>	22	1:NY
8	Apr-90	Crab cakes (shell eggs)	<i>S. enteritidis</i>	22	1:DE
9	May-90	Banana pudding with meringue (shell egg)	<i>S. heidelberg</i>	56	1:TN

Egg-Dishes					
No.	Date	Vehicle	Etiology	Cases	States
10	May-90	Crab-cake mixture (shell eggs)	<i>S. enteritidis</i>	13	1:NJ
11	Jun-90	Crepe mix (shell eggs)	<i>S. enteritidis</i>	5	1:CT
12	Jun-90	Egg dishes	<i>S. enteritidis</i>	94	1:PA
13	Jun-90	Hollandaise sauce (shell eggs)	<i>S. enteritidis</i>	169	1:CT
14	Jun-90	Home-made ice cream (shell eggs)	<i>S. enteritidis</i>	9	1:PA
15	Jun-90	Home-made pasta (shell eggs)	<i>S. typhimurium</i>	31	1:NM
16	Jul-90	Fishburger (shell eggs) (suspected)	<i>S. enteritidis</i>	27	1:MD
17	Jul-90	Lasagna (shell eggs)	<i>S. enteritidis</i>	4	1:MD
18	Jul-90	Strawberry ice cream (shell eggs)	<i>Salmonella</i> spp.	30	1:AL

Outbreaks Traced to FDA-Regulated Foods

No.	Date	Vehicle	Etiology	Cases	States	No.	Date	Vehicle	Etiology	Cases	States
19	Aug-90	Hollandaise sauce (shell eggs)	<i>S. enteritidis</i>	42	1:KY	43	Oct-91	Omelettes	<i>S. enteritidis</i>	24	1:NY
20	Sep-90	Bernaise sauce (shell eggs)	<i>S. enteritidis</i>	74	1:NC	44	Oct-91	Bread filling (raw egg)	<i>S. enteritidis</i>	58	1:PA
21	Sep-90	Bernaise sauce (shell eggs)	<i>S. enteritidis</i>	16	1:NJ	45	Feb-92	Lasagna (shell eggs)	<i>S. enteritidis</i>	9	1:OH
22	Sep-90	Bread pudding (shell eggs)	<i>S. enteritidis</i>	435	1:IL	46	Feb-92	Ice cream (shell eggs)	<i>S. enteritidis</i>	10	1:PA
23	Oct-90	Banana pudding (shell eggs)	<i>S. enteritidis</i>	6	1:TN	47	Apr-92	Banana pudding w/meringue (shell eggs)	<i>S. enteritidis</i>	191	1:NJ
24	Dec-90	Chicken stuffing (shell eggs)	<i>S. enteritidis</i>	8	1:PA	48	Apr-92	Chemzrel (shell eggs)	<i>Salmonella</i> spp.	12	1:NY
25	Dec-90	Hollandaise sauce (shell eggs)	<i>S. enteritidis</i>	14	1:IL	49	May-92	Cracker pudding (shell eggs)	<i>S. enteritidis</i>	42	1:PA
26	Dec-90	Hollandaise sauce (shell eggs)	<i>S. enteritidis</i>	7	1:NY	50	May-92	Cracker pudding (shell eggs)	<i>S. enteritidis</i>	17	1:PA
27	Dec-90	Pie, pudding, meringue (shell eggs)	<i>S. enteritidis</i>	4	1:NC	51	May-92	Cracker pudding (shell eggs)	<i>S. enteritidis</i>	4	1:PA
28	Jan-91	Egg sandwiches	<i>S. enteritidis</i>	5	1:NY	52	May-92	Fish w/ aioli sauce (shell eggs)	<i>S. enteritidis</i>	31	1:CT
29	Mar-91	Salmon; hollandaise sauce (raw egg)	<i>S. heidelberg</i>	5	1:NH	53	May-92	Sage dressing (shell eggs)	<i>Salmonella</i> spp.	25	1:IA
30	Apr-91	Raspberry souffle (shell eggs)	<i>S. enteritidis</i>	35	1:DE	54	Jun-92	Home-made ice cream (suspected) (raw eggs)	<i>S. enteritidis</i>	15	1:KS
31	May-91	Baked ziti (shell eggs)	<i>S. enteritidis</i>	19	1:DE	55	Jul-92	Coated chicken (shell eggs)	<i>S. enteritidis</i>	250	1:NY
32	May-91	Rum cake (raw eggs)	<i>S. enteritidis</i>	20	1:MA	56	Jul-92	Crab cakes (shell eggs)	<i>S. enteritidis</i>	5	1:MD
33	Jun-91	Bread pudding (pooled eggs)	<i>S. enteritidis</i>	105	1:MA	57	Jul-92	Crab cakes (suspected) (shell eggs)	<i>Salmonella</i> spp.	5	1:MD
34	Jun-91	Ice cream (raw eggs)	<i>S. typhimurium</i>	25	1:PA	58	Jul-92	Deviled eggs; egg salad	<i>S. enteritidis</i>	25	1:PA
35	Jul-91	Crab cakes (raw eggs)	<i>S. enteritidis</i>	7	1:MD	59	Jul-92	Egg salad	<i>S. enteritidis</i>	27	1:PA
36	Jul-91	Crab meat mix (raw eggs)	<i>S. enteritidis</i>	28	1:NJ	60	Jul-92	Food made with eggs (suspected)	<i>S. enteritidis</i>	5	1:NY
37	Jul-91	Omelettes	<i>S. enteritidis</i>	25	1:CO	61	Jul-92	French toast (shell eggs)	<i>S. enteritidis</i>	3	1:CA
38	Jul-91	Omelettes	<i>S. enteritidis</i>	11	1:ID	62	Jul-92	Home-made ice cream (shell eggs)	<i>S. typhimurium</i>	31	1:KS
39	Aug-91	Omelettes	<i>S. enteritidis</i>	3	1:ID	63	Jul-92	Home-made ice cream (suspected) (raw eggs)	<i>S. heidelberg</i>	9	1:OR
40	Aug-91	Pooled egg dishes (suspected)	<i>S. enteritidis</i>	6	1:NJ	64	Jul-92	Meringue pies (shell eggs)	<i>S. enteritidis</i>	7	1:PA
41	Oct-91	Bread stuffing (shell eggs)	<i>S. enteritidis</i>	393	1:NY	65	Jul-92	Monte Cristo sandwiches (shell eggs)	<i>S. enteritidis</i>	74	1:MA
42	Oct-91	Caesar salad dressing (shell eggs); raw egg dishes	<i>S. enteritidis</i> ; <i>Salmonella</i> Group D	38	1:MD	66	Jul-92	Rice pudding (shell eggs)	<i>S. infantis</i>	113	1:GA

Outbreaks Traced to FDA-Regulated Foods

No.	Date	Vehicle	Etiology	Cases	States	No.	Date	Vehicle	Etiology	Cases	States
67	Jul-92	Stuffed mushrooms (shell eggs)	<i>S. enteritidis</i>	2	1:NY	94	Mar-93	Egg dishes	<i>S. enteritidis</i>	22	1:NV
68	Aug-92	Baked ziti (shell eggs)	<i>S. enteritidis</i>	18	1:PA	95	Mar-93	Lasagna (shell eggs)	<i>S. enteritidis</i>	7	1:NY
69	Aug-92	Home-made mayonnaise (shell eggs)	<i>S. enteritidis</i>	98	1:NY	96	Mar-93	Stuffed shells (shell eggs)	<i>S. enteritidis</i>	25	1:CT
70	Aug-92	Crab cakes (shell eggs)	<i>S. enteritidis</i>	14	1:MD	97	Mar-93	Mayonnaise (raw eggs)	<i>S. enteritidis</i>	22	1:CA
71	Aug-92	Egg batter	<i>S. enteritidis</i>	434	1:NY	98	Apr-93	Egg rolls (shell eggs)	<i>S. enteritidis</i>	130	1:TX
72	Aug-92	Crab cakes/balls (shell eggs)	<i>S. enteritidis</i>	25	1:MD	99	Apr-93	Rellenos (shell eggs)	<i>S. enteritidis</i>	4	1:WA
73	Aug-92	Imitation crab meat pancakes (shell eggs)	<i>S. enteritidis</i>	118	1:MD	100	May-93	Pureed egg	<i>S. enteritidis</i>	5	1:NY
74	Aug-92	Ice cream (shell eggs)	<i>S. enteritidis</i>	15	1:OH	101	Jul-93	Chocolate meringue pie (shell eggs)	<i>S. enteritidis</i>	23	1:VA
75	Aug-92	Spanish cream (shell eggs)	<i>S. enteritidis</i>	8	1:PA	102	Jul-93	Ice cream (shell eggs)	<i>S. enteritidis</i>	8	1:MD
76	Aug-92	Mayonnaise (shell eggs)	<i>S. enteritidis</i>	120	1:NY	103	Jul-93	Stuffing (shell eggs); egg dishes	<i>S. enteritidis</i>	11	1:PA
77	Aug-92	Imitation crab pancake (shell eggs)	<i>S. enteritidis</i>	97	1:MD	104	Aug-93	Potato filling (shell eggs)	<i>S. enteritidis</i>	29	1:PA
78	Sep-92	Home-made popsicles (shell eggs)	<i>Salmonella</i> spp.	9	1:PR	105	Sep-93	Chocolate mousse (shell eggs)	<i>S. enteritidis</i>	70	1:NJ
79	Sep-92	Ravioli (shell eggs)	<i>S. enteritidis</i>	6	1:PA	106	Sep-93	Egg rolls (shell eggs)	<i>S. enteritidis</i>	19	1:TX
80	Sep-92	Chicken salad (shell eggs)	<i>S. enteritidis</i>	194	1:DE	107	Sep-93	Hard-boiled eggs	<i>S. enteritidis</i>	175	1:VT
81	Sep-92	Egg sandwich	<i>S. enteritidis</i>	80	1:NH	108	Sep-93	Ice cream (shell eggs)	<i>S. enteritidis</i>	13	1:FL
82	Oct-92	Coconut cream/lemon meringue pie (shell eggs)	<i>S. enteritidis</i>	27	1:PA	109	Sep-93	Tiramisu (shell eggs)	<i>S. enteritidis</i>	5	1:NY
83	Oct-92	Cream pie with meringue (shell eggs)	<i>S. enteritidis</i>	16	1:PA	110	Sep-93	Baked ziti (shell eggs)	<i>S. enteritidis</i>	23	1:CT
84	Oct-92	Coconut cream pie with meringue (shell eggs)	<i>S. enteritidis</i>	21	1:PA	111	Sep-93	House salad with eggs	<i>S. enteritidis</i>	140	1:VT
85	Nov-92	Home-made eggnog	<i>S. enteritidis</i>	12	1:NJ	112	Oct-93	Lasagna (shell eggs)	<i>S. enteritidis</i>	21	1:MA
86	Dec-92	Caesar salad (raw eggs)	<i>S. enteritidis</i>	10	1:NY	113	Nov-93	Bearnaise sauce (shell eggs)	<i>S. enteritidis</i>	13	1:IL
87	Dec-92	Egg dishes	<i>S. enteritidis</i>	6	1:CA	114	Nov-93	Stuffing (shell eggs)	<i>S. enteritidis</i>	10	1:PA
88	Jan-93	Lemon meringue pie (shell eggs)	<i>S. enteritidis</i>	4	1:MD	115	Nov-93	Shrimp and bearnaise sauce (shell eggs)	<i>S. enteritidis</i>	52	1:NC
89	Feb-93	Pancakes (shell eggs)	<i>S. enteritidis</i>	22	1:IL	116	May-94	Tiramisu (shell eggs)	<i>S. enteritidis</i>	9	1:PA
90	Feb-93	Hollandaise sauce (shell eggs)	<i>S. enteritidis</i>	23	1:CA	117	Jul-94	Coconut cream pie (shell eggs)	<i>S. enteritidis</i>	28	1:PA
91	Feb-93	Egg dishes	<i>S. enteritidis</i>	47	1:PA	118	Jul-94	Rice pudding (shell eggs)	<i>S. enteritidis</i>	9	1:NY
92	Feb-93	Celery dressing (raw eggs)	<i>S. enteritidis</i>	16	1:IL	119	Aug-94	Hollandaise sauce (shell eggs)	<i>S. enteritidis</i> ; <i>Salmonella</i> Group D	56	1:DC
93	Mar-93	Mayonnaise (shell eggs)	<i>S. enteritidis</i>	38	1:CA	120	Aug-94	Ice cream (shell eggs)	<i>S. enteritidis</i>	6	1:PA

Outbreaks Traced to FDA-Regulated Foods

No.	Date	Vehicle	Etiology	Cases	States	No.	Date	Vehicle	Etiology	Cases	States
121	Aug-94	Flounder with crab stuffing (shell eggs)	<i>S. enteritidis</i>	20	1:MD	149	Apr-96	Coconut cream pie (shell eggs)	<i>S. enteritidis</i>	2	1:VA
122	Aug-94	Lasagna (shell eggs)	<i>S. enteritidis</i>	6	1:PA	150	May-96	Food made with raw eggs; corn tortilla	<i>S. enteritidis</i>	29	1:GA
123	Aug-94	Ham croquettes (shell eggs)	<i>S. enteritidis</i>	39	1:CA	151	May-96	Rellenos (shell eggs)	<i>S. enteritidis</i>	44	1:GA
124	Sep-94	Egg dishes	<i>S. enteritidis</i>	20	1:CO	152	May-96	Salad dressing (shell eggs)	<i>S. enteritidis</i>	21	1:CA
125	Sep-94	Stuffing (shell eggs)	<i>S. enteritidis</i>	21	1:PA	153	Jun-96	Ice cream (shell eggs)	<i>S. enteritidis</i>	2	1:OH
126	Oct-94	Hollandaise sauce (shell eggs)	<i>S. enteritidis</i>	19	1:KY	154	Jun-96	Ice cream (shell eggs)	<i>S. enteritidis</i>	32	1:CA
127	Oct-94	Home-made mayonnaise (raw eggs)	<i>S. enteritidis</i>	21	1:CA	155	Jul-96	Egg rolls (shell eggs)	<i>S. enteritidis</i>	18	1:CA
128	Oct-94	Seafood stuffing; eggs (shell eggs)	<i>S. enteritidis</i>	28	1:NY	156	Jul-96	Foods made with raw eggs	<i>S. enteritidis</i>	10	1:NY
129	Nov-94	Cake with mousse filling (shell eggs)	<i>S. enteritidis</i>	11	1:NY	157	Jul-96	French toast (shell eggs)	<i>S. enteritidis</i>	6	1:OH
130	Nov-94	Hollandaise sauce (shell eggs)	<i>S. enteritidis</i>	13	1:DC	158	Jul-96	Ice cream (shell eggs)	<i>S. enteritidis</i>	118	1:OH
131	Nov-94	Tiramisu (shell eggs)	<i>S. enteritidis</i>	14	1:MD	159	Jul-96	Ice cream (shell eggs)	<i>S. enteritidis</i>	11	1:OH
132	Jan-95	Rice pudding (shell eggs)	<i>S. enteritidis</i>	7	1:PA	160	Jul-96	Ice cream (shell eggs)	<i>S. enteritidis</i>	21	1:CA
133	Feb-95	Chicken lasagna (shell eggs)	<i>S. enteritidis</i>	7	1:CA	161	Jul-96	Multiple eggs dishes	<i>S. enteritidis</i>	15	1:NY
134	Apr-95	Omelet (suspected)	<i>S. enteritidis</i>	7	1:IA	162	Jul-96	Rice pudding (shell eggs)	<i>S. enteritidis</i>	26	1:PA
135	Jun-95	Caesar salad dressing (shell eggs)	<i>S. enteritidis</i> ; <i>Salmonella</i> Group D	28	1:NY	163	Aug-96	Raw egg dishes	<i>S. enteritidis</i>	10	1:CA
136	Jun-95	Egg dishes	<i>S. enteritidis</i>	8	1:CA	164	Aug-96	Baked ziti (shell eggs)	<i>S. enteritidis</i>	12	1:NY
137	Jun-95	Ice cream (shell eggs)	<i>S. enteritidis</i>	27	1:VA	165	Sep-96	Deviled eggs (suspected)	<i>S. enteritidis</i>	8	1:MN
138	Jun-95	Ice cream (shell eggs)	<i>Salmonella</i> Group D	7	1:MD	166	Sep-96	Egg salad	<i>S. enteritidis</i>	600	1:SC
139	Jul-95	"Jamaican malt" beverage (shell eggs)	<i>S. enteritidis</i>	3	1:NY	167	Sep-96	Egg salad (shell eggs)	<i>S. enteritidis</i>	250	1:SC
140	Jul-95	Crab meat stuffing (shell eggs)	<i>S. enteritidis</i>	23	1:NJ	168	Oct-96	Ice cream (shell eggs)	<i>S. enteritidis</i>	NA	1:NM
141	Jul-95	Malt beverage (raw eggs)	<i>S. enteritidis</i>	3	1:NY	169	Nov-96	Raw eggs in dish	<i>S. enteritidis</i>	22	1:VA
142	Aug-95	Cake (shell eggs)	<i>S. enteritidis</i>	16	1:CA	170	Dec-96	Ice cream (shell eggs)	<i>S. enteritidis</i>	14	1:PA
143	Sep-95	Spinach souffle (shell eggs)	<i>S. enteritidis</i>	13	1:CT	171	Apr-97	Bearnaise sauce (shell eggs)	<i>S. enteritidis</i>	30	1:NJ
144	Sep-95	Cheesecake (shell eggs)	<i>S. enteritidis</i>	18	1:PA	172	Apr-97	Pastries (shell eggs)	<i>S. enteritidis</i>	17	1:CT
145	Oct-95	Bearnaise sauce (shell eggs)	<i>S. enteritidis</i>	3	1:PA	173	May-97	Crab cakes (shell eggs)	<i>S. enteritidis</i>	6	1:MD
146	Dec-95	Eggnog (shell eggs)	<i>S. enteritidis</i>	5	1:NY	174	May-97	Omelets	<i>S. enteritidis</i>	9	1:WI
147	Jan-96	Egg-containing dishes	<i>S. enteritidis</i>	20	1:CA	175	Jun-97	Egg-battered shrimp (suspected)	<i>S. enteritidis</i>	2	1:CA
148	Jan-96	Chicken-fried steak (shell eggs)	<i>S. enteritidis</i>	30	1:UT	176	Jul-97	Cake w/meringue topping (shell eggs)	<i>S. enteritidis</i>	13	1:WI

Outbreaks Traced to FDA-Regulated Foods

No.	Date	Vehicle	Etiology	Cases	States	No.	Date	Vehicle	Etiology	Cases	States
177	Jul-97	Crab cakes (shell eggs)	<i>S. enteritidis</i>	14	1:PA	199	Sep-98	Ziti (shell eggs)	<i>S. enteritidis</i>	71	1:NV
178	Jul-97	Egg dishes (suspected)	<i>S. enteritidis</i>	21	1:MI	200	Oct-98	Rellenos (shell eggs)	<i>S. enteritidis</i>	18	1:CA
179	Jul-97	Egg casserole (suspected)	<i>S. enteritidis</i>	10	1:WI	201	Nov-98	Stuffing (shell eggs)	<i>S. enteritidis</i>	12	1:PA
180	Jul-97	Omelets	<i>S. enteritidis</i>	3	1:OH	202	Dec-98	Stuffing (shell eggs)	<i>S. enteritidis</i>	21	1:PA
181	Jul-97	Sushi with egg	<i>S. enteritidis</i>	77	1:CA	203	Dec-98	Oyster stuffing (shell eggs)	<i>S. enteritidis</i>	7	1:PA
182	Aug-97	Bearnaise sauce (shell eggs)	<i>S. enteritidis</i>	50	1:PA	204	May-99	French toast and other foods (shell eggs)	<i>S. enteritidis</i>	177	1:VA
183	Aug-97	Meringue on poppy seed torte (shell eggs)	<i>S. enteritidis</i>	13	1:WI	205	May-99	Manicotti (shell eggs)	<i>S. enteritidis</i>	26	1:MA
184	Aug-97	Cheesecake (shell eggs)	<i>S. enteritidis</i>	12	1:CA	206	Jun-99	Ice cream (shell eggs)	<i>S. enteritidis</i>	64	1:UT
185	Aug-97	Chicken fried rice (shell eggs)	<i>S. enteritidis</i>	13	1:OH	207	Jun-99	Ice cream (shell eggs)	<i>S. enteritidis</i>	250	1:UT
186	Sep-97	Chili rellenos (shell eggs)	<i>S. enteritidis</i>	5	1:CA	208	Jun-99	Tiramisu (shell eggs)	<i>S. enteritidis</i>	25	1:NY
187	Oct-97	Lasagna (shell eggs)	<i>S. enteritidis</i>	43	1:DC	209	Jul-99	Egg dishes	<i>S. enteritidis</i>	29	1:CA
188	Nov-97	Pooled egg dishes	<i>S. enteritidis</i>	55	1:CA	210	Jul-99	Pastries (shell eggs)	<i>S. enteritidis</i>	6	1:CA
189	Nov-97	Hollandaise sauce (shell eggs)	<i>S. enteritidis</i>	91	1:NV	211	Jul-99	Quail eggs	<i>S. hadar</i>	3	1:WA
190	Dec-97	Egg nog (shell eggs)	<i>S. enteritidis</i>	4	1:WA	212	Jul-99	Tiramisu (shell eggs)	<i>S. enteritidis</i>	16	1:NJ
191	Jan-98	Tiramisu (shell eggs)	<i>S. enteritidis</i>	8	1:MD	213	Aug-99	Cheese blintz (shell eggs)	<i>S. enteritidis</i>	9	1:NY
192	Jan-98	Turkey stuffing (shell eggs)	<i>S. enteritidis</i>	5	1:CA	214	Aug-99	Lasagna (shell eggs)	<i>S. enteritidis</i>	13	1:NC
193	Jan-98	Lasagna (shell eggs)	<i>S. enteritidis</i>	26	1:CA	215	Nov-99	Stuffing (shell eggs)	<i>S. enteritidis</i>	16	1:PA
194	Mar-98	Cream pies (shell eggs)	<i>S. enteritidis</i>	19	1:VA	216	Dec-99	Lasagna (shell eggs)	<i>S. enteritidis</i>	20	1:MA
195	Jul-98	Ice cream (shell eggs)	<i>S. enteritidis</i>	6	1:PA	217	Dec-99	Lasagna (shell eggs)	<i>S. enteritidis</i>	10	1:CA
196	Jul-98	Rellenos (shell eggs)	<i>S. enteritidis</i>	58	1:AZ	218	Dec-99	Chile relleno (shell eggs)	<i>S. enteritidis</i>	14	1:CA
197	Aug-98	Ice cream (shell eggs)	<i>S. enteritidis</i>	11	1:TX	219	Feb-00	Bearnaise sauce (shell eggs)	<i>S. enteritidis</i>	31	1:IL
198	Sep-98	Mexican cake (shell eggs)	<i>S. enteritidis</i>	50	1:MD	220	Apr-00	Macaroni and cheese (shell eggs)	<i>S. enteritidis</i>	81	1:VA

Egg Dishes Cases 8,599

Totals

Eggs Total Outbreaks

271

Eggs Total Cases

10,827

PRODUCE

Fruits					
No.	Date	Vehicle	Etiology	Cases	States
1	Apr-90	Strawberries	Hepatitis A	51	2:GA, MT
2	Jun-90	Tomatoes	<i>S. javiana</i>	176	4
3	Mar-91	Fresh fruit	<i>G. intestinalis</i>	20	1:MN
4	Jun-91	Cantaloupe	<i>S. poona</i>	400	23:Can.
5	Jun-91	Watermelon	<i>S. javiana</i>	39	1:MI

Fruits					
No.	Date	Vehicle	Etiology	Cases	States
6	May-93	Watermelon	<i>S. javiana</i>	27	1:WI
7	Jun-93	Tomatoes	<i>S. montevideo</i>	100	4
8	Aug-93	Cantaloupe	<i>E. coli</i> O157:H7	27	1:OR
9	Sep-93	Melon; strawberries	<i>C. jejuni</i>	48	1:MN
10	Aug-94	Fruit salad	<i>C. jejuni</i>	62	1:MN

Outbreaks Traced to FDA-Regulated Foods

No.	Date	Vehicle	Etiology	Cases	States
11	Dec-94	Fruit; bread; cheese	<i>V. cholerae</i> O1	2	1:IN
12	May-95	Raspberries	<i>C. cayetanensis</i>	32	1:NY
13	Aug-95	Raspberries	<i>C. cayetanensis</i>	38	1:FL
14	May-96	Strawberries	<i>Cyclospora</i>	10	1:TX
15	May-96	Raspberries	<i>C. cayetanensis</i>	1465	21/2: ONT, QUE
16	Jan-97	Frozen strawberries	Hepatitis A	256	5: MI, ME, WI, AZ, LA
17	Feb-97	Cantaloupe	<i>S. saphra</i>	24	1:CA
18	Mar-97	Fruit	Hepatitis A	21	1:MI

No.	Date	Vehicle	Etiology	Cases	States
19	Apr-97	Raspberries	<i>C. cayetanensis</i>	1012	14/1: ONT
20	Jul-97	Fruit	<i>C. cayetanensis</i>	26	1:VA
21	May-98	Mangoes	<i>S. oranienburg</i>	9	1:WA
22	Jun-98	Fruit salad	<i>E. coli</i> O157:H7	40	1:WI
23	Dec-98	Mamey	<i>S. typhi</i>	14	1:FL
24	Jun-99	Cut fruit (melons)	<i>S. javiana</i>	11	1:WA
25	Apr-00	Cantaloupe	<i>S. poona</i>	46	6:CA, CO, NV, NM, OR, WA
26	Jul-00	Watermelon	<i>E. coli</i> O157:H7	62	1:WI
Fruits Cases				4,018	

Vegetables

No.	Date	Vehicle	Etiology	Cases	States
1	Jan-90	Home-canned asparagus	<i>C. botulinum</i>	2	1:OR
2	Jun-90	Home-canned asparagus	<i>C. botulinum</i>	1	1:WA
3	Jun-90	Mushrooms	Mushroom poisoning	5	1:CA
4	Jul-90	Salad (vegetable)	Hepatitis A	3	1:CA
5	Aug-90	Salad	Hepatitis A	39	1:WA
6	Aug-90	Home-canned corn	<i>C. botulinum</i>	1	1:TN
7	Oct-90	Alfalfa sprouts	<i>S. anatum</i>	15	1:WA
8	Oct-90	Home-made salsa	<i>C. botulinum</i>	2	1:CA
9	Nov-90	Raw vegetables	<i>Giardia lamblia</i>	27	1:CT
10	Mar-91	Mushrooms	Mushroom poisoning	3	1:HI
11	Jun-91	Green beans	<i>C. botulinum</i>	1	1:WI
12	Aug-91	Home-canned peppers	<i>C. botulinum</i>	1	1:IL
13	Sep-91	Home-canned vegetables	<i>C. botulinum</i>	1	1:NY
14	Sep-91	Mashed potatoes	<i>S. enteritidis</i>	8	1:KY
15	Sep-91	Whipped potatoes	<i>S. enteritidis</i>	8	1:KY
16	Oct-91	Garlic oil (suspected)	<i>C. botulinum</i>	1	1:CA
17	Dec-91	Home-canned pumpkin	<i>C. botulinum</i>	1	1:OR
18	Dec-91	Tossed salad	Norwalk/ Norwalk-like virus	117	1:AR
19	Apr-92	Lettuce	<i>S. enteritidis</i>	12	1:VT
20	Jul-92	Salad (vegetable)	<i>S. flexneri</i>	46	2:MI, OH
21	Sep-92	Vegetables	<i>E. coli</i> O157:H7	4	1:ME
22	Jan-93	Lettuce	<i>S. heidelberg</i>	18	1:MN
23	Feb-93	Carrots; celery sticks	Hepatitis A	17	1:MN
24	Mar-93	Garden salad (carrots)	<i>E. coli</i> (ETEC) O6:NM	47	1:RI

Vegetables

No.	Date	Vehicle	Etiology	Cases	States
25	Apr-93	Tabouleh (carrots)	<i>E. coli</i> O6:NM (ETEC)	121	1:NH
26	May-93	Home-canned beets	<i>C. botulinum</i>	3	1:WA
27	Jul-93	Green salad	<i>S. infantis</i>	35	1:MD
28	Jul-93	Lettuce and tomatoes	<i>S. montevideo</i>	122	3:IL, MN, WI
29	Jul-93	Pea salad	<i>E. coli</i> O157:H7	16	1:WA
30	Jul-93	Vegetable salad	<i>E. coli</i> O157:H7	10	1:WA
31	Sep-93	Mushrooms	Mushroom poisoning	2	1:NY
32	Apr-94	Potatoes	<i>C. botulinum</i>	30	1:TX
33	Apr-94	Lettuce	<i>S. thompson</i>	16	1:MN
34	May-94	Lettuce	<i>S. braenderup</i>	19	1:NY
35	Jun-94	Scallions	<i>S. flexneri</i>	53	7
36	Aug-94	Home-canned asparagus	<i>C. botulinum</i>	2	1:WA
37	Sep-94	Poi (ground vegetable)	<i>S. aureus</i>	3	1:HI
38	Sep-94	Potatoes and asparagus (suspected)	<i>E. coli</i> O153:H45	507	1:WI
39	Sep-94	Seaweed	<i>Pseudomonas</i> and <i>Vibrio</i>	7	1:HI
40	Mar-95	Alfalfa sprouts	<i>S. stanley</i>	128	17
41	Jun-95	Lettuce	<i>C. jejuni</i>	5	1:WA
42	Jul-95	Lettuce (leafy green, red, romaine)	<i>E. coli</i> O157:H7	74	1:MT
43	Aug-95	Salad; fresh fruit; vegetables	<i>S. typhimurium</i>	14	1:MN
44	Sep-95	Alfalfa sprouts	<i>S. newport</i>	133	7/ Can, Denmark
45	Sep-95	Lettuce (iceberg)	<i>E. coli</i> O157:H7	30	1:ME
46	Sep-95	Lettuce (romaine)	<i>E. coli</i> O157:H7	20	1:ID
47	Oct-95	Lettuce	<i>E. coli</i> O157:H7	11	1:OH
48	Oct-95	Mashed potatoes	<i>S. aureus</i>	6	1:FL

Outbreaks Traced to FDA-Regulated Foods

No.	Date	Vehicle	Etiology	Cases	States
49	Dec-95	Alfalfa sprouts	<i>S. newport</i>	69	1:OR
50	Dec-95	Lettuce	Norwalk/ Norwalk-like virus	76	1:FL
51	Feb-96	Alfalfa sprouts	<i>S. stanley</i>	30	1:VA
52	Feb-96	Mushrooms	Mushroom poisoning	4	1:CA
53	May-96	Alfalfa and clover sprouts	<i>S. montevideo</i> ; <i>S. meleagridis</i>	600	1:CA
54	May-96	Home-canned eggplant	<i>C. botulinum</i>	2	1:CA
55	May-96	Lettuce (mesclun; red leaf)	<i>E. coli</i> O157:H7	61	3:CT, IL, NY
56	Jun-96	Home-canned asparagus	<i>C. botulinum</i>	2	1:WA
57	Jun-96	Mesclun lettuce (suspected)	<i>E. coli</i> O157:H7	7	1:NY
58	Jul-96	Home-canned asparagus	<i>C. botulinum</i>	2	1:WA
59	Jul-96	Whipped potatoes	<i>S. enteritidis</i>	12	1:CA
60	Aug-96	Jack-O-lantern	Mushroom poisoning	22	1:NY
61	Aug-96	Lettuce	<i>C. jejuni</i>	14	1:OK
62	Nov-96	Green onions	Hepatitis A	60	1:CA
63	Nov-96	Lima beans; pork and beans	<i>C. perfringens</i>	646	1:IL
64	Dec-96	Baked potato; chives	Hepatitis A	22	1:OK
65	Dec-96	Mashed potatoes	<i>C. perfringens</i>	34	1:NY
66	Dec-96	Mushrooms	Mushroom poisoning	3	1:CA
67	Dec-96	Mushrooms	Mushroom poisoning	3	1:CA
68	Jan-97	Mushrooms	Mushroom poisoning	9	1:CA
69	Feb-97	Sprouts (alfalfa and other varieties)	<i>S. infantis</i> ; <i>S. anatum</i>	109	2:KS, MO
70	Mar-97	Lettuce (mesclun)	<i>Cyclospora</i>	29	1:FL
71	May-97	Basil	<i>C. cayetanensis</i>	341	1:VA
72	Jun-97	Alfalfa sprouts	<i>E. coli</i> O157:H7	108	2:VA, MI
73	Aug-97	Mushrooms	Mushroom poisoning	4	1:OH
74	Aug-97	Sweet potatoes	<i>Campylobacter</i> spp.	17	1:CT
75	Sep-97	Alfalfa and clover sprouts	<i>S. senftenberg</i>	52	2:CA, NV
76	Sep-97	Sprouts	<i>S. senftenberg</i>	60	multistate
77	Nov-97	Sweet potatoes	<i>S. enteritidis</i>	6	1:IL
78	Dec-97	Green onion	<i>C. parvum</i>	54	1:WA
79	Dec-97	Lettuce	<i>Shigella sonnei</i>	7	1:WI
80	Dec-97	Mesclun lettuce	<i>C. cayetanensis</i>	12	1:FL
81	Dec-97	Scallions	<i>Cryptosporidium</i>	56	1:WA
82	Jan-98	Home-canned vegetables	<i>C. botulinum</i>	1	1:VA

No.	Date	Vehicle	Etiology	Cases	States
83	Feb-98	Home-canned vegetables	<i>C. botulinum</i>	1	1:MT
84	Apr-98	Alfalfa sprouts	<i>S. havana</i>	18	2:CA, AZ
85	May-98	Cole slaw (cabbage)	<i>E. coli</i> O157:H7	33	1:IN
86	Jun-98	Alfalfa and clover sprouts	<i>E. coli</i> O157:non-motile	8	2:CA, NV
87	Jun-98	Home-canned asparagus	<i>C. botulinum</i>	2	1:WA
88	Jul-98	Cabbage salad	Aldicarb (pesticide)	14	1:LA
89	Jul-98	Parsley	<i>S. sonnei</i>	491	4/2:ALB, ONT
90	Aug-98	Lettuce	<i>S. sonnei</i>	160	1:MN
91	Aug-98	Parsley	<i>S. sonnei</i>	218	1:MN
92	Aug-98	Parsley	<i>S. sonnei</i>	9	1:CA
93	Aug-98	Parsley	<i>S. sonnei</i>	6	1:MA
94	Nov-98	Home-canned mushrooms	<i>C. botulinum</i>	1	1:CT
95	Nov-98	Home-canned olives	<i>C. botulinum</i>	1	1:CA
96	Dec-98	Home-canned olives	<i>C. botulinum</i>	1	1:CA
97	Jan-99	Asparagus	<i>C. botulinum</i>	1	1:WA
98	Jan-99	Alfalfa/clover sprouts	<i>S. typhimurium</i>	119	2:CO, CT
99	Jan-99	Alfalfa sprouts	<i>S. mbandaka</i>	85	4
100	Feb-99	Lettuce (iceberg)	<i>E. coli</i> O157:H7	72	1:NE
101	May-99	Beets	<i>C. botulinum</i>	1	1:WA
102	May-99	Hashbrowns	<i>C. botulinum</i>	1	1:IA
103	Jun-99	Clover sprouts	<i>S. Saint Paul</i>	36	1:CA
104	Jul-99	Basil	<i>C. cayetanensis</i>	59	1:MO
105	Jul-99	Cabbage	<i>E. coli</i> O157:H7	11	1:OH
106	Sep-99	Alfalfa sprouts	<i>S. muenchen</i>	61	10
107	Sep-99	Romaine lettuce	<i>E. coli</i> O157:H7	6	1:WA
108	Sep-99	Lettuce/ tomatoes	Norwalk-like virus	137	1:WA
109	Sep-99	Garlic in oil	<i>C. botulinum</i>	3	1:FL
110	Oct-99	Lettuce	<i>E. coli</i> O157:H7	47	2:OH, IN
111	Oct-99	Romaine lettuce	<i>E. coli</i> O157:H7	44	2:OR, PA
112	Dec-99	Vegetables	Norwalk-like virus	62	1:WA
113	Feb-00	Alfalfa Sprouts	<i>Salmonella</i> spp.	22	1:CA
114	Mar-00	Mung bean sprouts	<i>S. enteritidis</i>	75	4:CA, NE, OR, MA
115	May-00	Garden salad	Norwalk virus	69	1:CO

Vegetables Cases 6,155

Outbreaks Traced to FDA-Regulated Foods

Fruits and Vegetables					
No.	Date	Vehicle	Etiology	Cases	States
1	Jun-90	Fruits and vegetables	<i>S. javiana</i>	84	1:MN
2	Oct-90	Fruits and vegetables	<i>S. enteritidis</i>	11	1:OR
3	Dec-90	Fruits and vegetables	Hepatitis A	130	1:MO
4	Apr-94	Fruits and vegetables	<i>E. coli</i> O11:H43	25	1:MN

Fruits and Vegetables					
No.	Date	Vehicle	Etiology	Cases	States
5	Sep-95	Fruits and vegetables	<i>C. botulinum</i>	3	1:ID
6	Oct-95	Fruits and vegetables	Norwalk virus	76	1:FL
7	Feb-97	Fruits and vegetables	<i>C. botulinum</i>	2	1:CA

Fruits and Vegetables Cases 331

Totals					
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Produce Total Outbreaks 148

Produce Total Cases 10,504

DAIRY

Milk					
No.	Date	Vehicle	Etiology	Cases	States
1	Mar-90	Chocolate milk	<i>S. typhimurium</i>	37	1:MI
2	Mar-90	Raw milk	<i>C. jejuni</i>	13	1:WA
3	Apr-90	Raw milk	<i>C. jejuni</i>	2	1:WA
4	May-90	Raw milk	<i>C. jejuni</i>	42	1:TX
5	Aug-90	Raw milk	<i>S. typhimurium</i>	2	1:WA
6	Mar-91	Chocolate milk	<i>S. typhimurium</i>	37	1:MI
7	Jul-91	Raw goat's milk	<i>C. jejuni</i>	3	1:WA
8	Feb-92	Raw milk (suspected)	<i>Campylobacter</i> spp.	11	1:ME
9	Oct-92	Raw milk	<i>C. jejuni</i>	3	1:WA
10	Dec-92	Raw milk	<i>E. coli</i> O157:H7	9	1:OR

Milk					
No.	Date	Vehicle	Etiology	Cases	States
11	Jun-93	Raw milk	<i>E. coli</i> O157:H7	4	1:OR
12	Aug-94	Hot chocolate	<i>B. cereus</i>	4	1:MN
13	Feb-94	Milk	<i>E. coli</i> O104:H21	18	1:MT
14	Jun-94	Chocolate milk	<i>L. monocytogenes</i>	69	3:WI, MI, IL
15	Jul-94	Chocolate milk	<i>L. monocytogenes</i>	45	1:IL
16	Apr-95	Raw milk	<i>S. typhimurium</i> variate copenhagen	3	1:CA
17	Oct-96	Chocolate milk	<i>Salmonella</i> spp.	19	1:NV
18	Oct-96	Pasteurized milk	<i>Y. enterocolitica</i> O:8	10	2:VT, NH
19	Jun-99	Raw milk	<i>C. jejuni</i>	2	1:WA

Milk Cases 333

Cheese					
No.	Date	Vehicle	Etiology	Cases	States
1	Jun-90	Cheese sauce	<i>S. braenderup</i>	23	1:PA
2	Jul-90	Processed cheese	<i>S. enteritidis</i>	12	1:NY
3	Apr-92	Cheese sauce	<i>S. enteritidis</i>	69	1:ID
4	Apr-92	Cheese sauce (suspected)	<i>S. enteritidis</i>	50	1:IL
5	Dec-92	Cottage cheese	<i>C. fetus</i>	13	1:OH
6	Oct-93	Canned cheese sauce	<i>C. botulinum</i>	8	1:GA
7	Mar-94	Cheese; lettuce; tomatoes	<i>S. sonnei</i>	300	1:MN
8	Nov-94	Goat cheese	<i>S. enteritidis</i>	5	1:PA
9	Nov-95	Hard cheese	<i>C. perfringens</i>	9	1:NY

Cheese					
No.	Date	Vehicle	Etiology	Cases	States
10	Nov-96	Cheese sauce	<i>S. typhi</i> ; Hepatitis A	9; 14	1:FL
11	Jan-97	Raw-milk cheese	<i>S. typhimurium</i> DT104	89	1:WA
12	Feb-97	Raw-milk cheese	<i>S. typhimurium</i> DT104	147	1:CA
13	Feb-97	Mexican cheese	<i>S. typhimurium</i>	31	1:CA
14	Apr-97	Queso fresco (cheese)	<i>Salmonella</i> spp.	79	1:CA
15	May-97	Queso fresco (cheese)	<i>Salmonella</i> spp.	89	1:WA
16	Jun-98	Cheese curds	<i>E. coli</i> O157:H7	63	1:WI
17	Nov-00	Queso fresco (cheese)	<i>L. monocytogenes</i>	12	1:NC
18	Mar-01	Raw-milk cheese	<i>S. newport</i>	15	1:CT

Cheese Cases 1,014

Ice cream					
No.	Date	Vehicle	Etiology	Cases	States
1	Jun-90	Ice cream	<i>S. enteritidis</i>	9	1:PA
2	Jul-90	Ice cream	<i>Salmonella</i> Group B	30	1:AL

Ice cream					
No.	Date	Vehicle	Etiology	Cases	States
3	Jul-90	Ice cream	<i>S. typhimurium</i>	2	1:MO
4	Jul-90	Ice cream	<i>S. heidelberg</i>	6	1:MS

Outbreaks Traced to FDA-Regulated Foods

No.	Date	Vehicle	Etiology	Cases	States
5	Apr-91	Cherry-flavored ice-cream pops	Unspecified chemical	4	1:NY
6	Jun-91	Ice cream	<i>S. enteritidis</i>	22	1:MD
7	Jul-91	Ice cream	<i>S. enteritidis</i>	11	1:CO
8	Aug-94	Ice cream	<i>S. heidelberg</i>	22	1:OK
9	Aug-94	Ice cream	Heavy metals	2	1:NY
10	Sep-94	Ice cream	<i>Salmonella</i> spp.	100	1:WA
11	Sep-94	Ice cream	<i>S. enteritidis</i>	743	41
12	Sep-94	Ice cream	<i>S. enteritidis</i>	186	1:IL

No.	Date	Vehicle	Etiology	Cases	States
13	Dec-94	Home-made ice cream	<i>S. enteritidis</i>	5	1:SD
14	Jul-95	Home-made ice cream (suspected)	<i>S. enteritidis</i>	27	1:VA
15	Jun-96	Fried ice cream	<i>S. enteritidis</i>	8	1:TN
16	Jul-96	Home-made ice cream	<i>S. enteritidis</i>	118	1:OH
17	Jul-96	Home-made ice cream; sherbet	<i>S. enteritidis</i>	20	1:CA
18	Sep-96	Home-made ice cream	<i>S. enteritidis</i>	10	1:NM
19	Sep-96	Ice cream	<i>Giardia</i>	6	1:IL
20	May-97	Ice cream bars	<i>E. coli</i> O157:H7	3	1:IL

Ice cream Cases 1,334

Other Dairy					
No.	Date	Vehicle	Etiology	Cases	States
1	Jun-90	Dairy products	Hepatitis A	15	1:FL
2	Oct-91	Whipped butter blend	<i>S. aureus</i>	15	1:NV
3	Apr-92	Dairy products	<i>C. jejuni</i>	23	1:NY
4	May-92	Dairy products	<i>C. jejuni</i>	50	1:MN

Other Dairy					
No.	Date	Vehicle	Etiology	Cases	States
5	Nov-92	Dairy products	<i>S. enteritidis</i>	12	1:NJ
6	May-93	Dairy products	<i>S. tennessee</i>	3	Multi-state
7	Sep-93	Sour cream	<i>S. flexneri</i>	38	1:IL
8	Jun-96	Dairy products	<i>C. jejuni</i>	29	1:NY

Other Dairy Cases 185

Totals

Dairy Total Outbreaks 65

65

Dairy Total Cases 2,866

2,866

BREADS AND BAKERY

Breads					
No.	Date	Vehicle	Etiology	Cases	States
1	Jul-90	French toast	<i>S. enteritidis</i>	20	1:NY
2	Sep-90	Rolls; macaroni; cheese	<i>Salmonella</i> spp.	10	1:OH
3	Nov-90	French toast	<i>S. enteritidis</i>	19	1:WV
4	Sep-91	Bread stuffing	<i>S. enteritidis</i>	26	1:GA
5	Oct-91	Bread stuffing	<i>S. enteritidis</i>	58	1:PA
6	May-93	Rolls	<i>Salmonella</i> spp.	36	1:MO

Breads					
No.	Date	Vehicle	Etiology	Cases	States
7	Oct-96	Muffins; doughnuts	<i>S. dysenteriae</i>	12	1:TX
8	Aug-97	French toast (suspected)	<i>S. enteritidis</i>	2	1:NY
9	Aug-97	French toast (suspected)	<i>S. enteritidis</i>	3	1:WI
10	Apr-98	Toasted oats cereal	<i>S. agona</i>	409	21
11	Mar-98	Breading mix	<i>S. aureus</i>	5	1:OR

Breads Cases 600

Bakery					
No.	Date	Vehicle	Etiology	Cases	States
1	Apr-90	Baked goods	<i>S. aureus</i>	11	1:WI
2	Jul-90	Cream puff éclair	<i>S. enteritidis</i>	16	1:NJ
3	Dec-90	Chocolate cake with icing	<i>B. cereus</i>	12	1:OH
4	Jan-91	Cake with frosting	<i>S. enteritidis</i>	37	1:CA
5	Feb-91	Chocolate cake; cupcakes	Hepatitis A	11	1:NY
6	Jun-91	Coconut cream pie	<i>S. aureus</i>	3	1:IA
7	Jul-91	Banana split cream pie	<i>S. aureus</i>	50	1:KS

Bakery					
No.	Date	Vehicle	Etiology	Cases	States
8	Jan-92	Desserts (suspected)	<i>S. enteritidis</i>	11	1:NY
9	Jul-93	Chocolate pie	<i>S. enteritidis</i>	6	1:VA
10	Sep-93	Cake	<i>S. enteritidis</i>	70	1:NJ
11	Sep-93	Bakery items	<i>S. enteritidis</i>	5	1:NY
12	Mar-94	Pumpkin pie	<i>S. flexneri</i>	6	1:CA
13	Apr-94	Sugar-glazed baked goods	Hepatitis A	64	1:NY
14	Oct-94	Sugar-free pie	<i>S. heidelberg</i>	10	1:OK

Outbreaks Traced to FDA-Regulated Foods

No.	Date	Vehicle	Etiology	Cases	States
15	Oct-94	Baked goods	<i>S. heidelberg</i>	9	1:OK
16	Dec-94	Coconut cream pie	<i>S. aureus</i>	50	1:IN
17	Jun-95	Bakery foods	<i>S. heidelberg</i>	4	1:WA
18	Jul-95	Coconut cream pie	<i>S. aureus</i>	3	1:OH
19	Sep-95	Fruit tarts	Norwalk virus	97	1:CA
20	Feb-96	Coconut cream pie	<i>S. aureus</i>	7	1:FL
21	Mar-96	Fruit rolls (suspected)	Norwalk/ Norwalk-like virus	14	1:ID
22	Apr-96	Coconut cream pie	<i>S. enteritidis</i>	2	1:VA

No.	Date	Vehicle	Etiology	Cases	States
23	May-96	Berry dessert	<i>Cyclospora</i>	16	1:TX
24	Mar-97	Italian pastries	<i>S. enteritidis</i>	17	1:CT
25	May-97	Melon/lemon bars	<i>E. coli</i> O157:H7	9	1:OR
26	Aug-97	Cheesecake	<i>S. enteritidis</i>	13	1:CA
27	Aug-98	Cannoli/cream puffs	<i>S. enteritidis</i>	16	1:MD
28	Sep-98	Cake	<i>E. coli</i> O157:H7	20	1:CA
29	Jan-99	Apple pie	<i>C. botulinum</i>	1	1:NY
30	Feb-00	Butter cream frosting	Norwalk-like virus	113	1:GA
Bakery Cases				703	

Totals

Breads and Bakery Total Outbreaks 41

Breads and Bakery Total Cases 1,303

BEVERAGES

Juices					
No.	Date	Vehicle	Etiology	Cases	States
1	1999	Apple juice	<i>E. coli</i> O157:H7	9	1:OK
2	Jan-90	Guanabana juice	Annonaceous acetogenins toxin	80	1:TX
3	Aug-91	Fresh frozen coconut milk	<i>V. cholerae</i> O1	4	1:MD
4	Oct-91	Apple cider	<i>E. coli</i> O157:H7	23	1:MA
5	Oct-93	Unpasteurized apple cider	<i>Cryptosporidium</i> spp.	160	1:ME
6	May-95	Orange juice	<i>S. hartford</i> ; <i>S. gaminara</i>	63	21
7	Sep-96	Apple cider	<i>C. parvum</i>	31	1:NY

Juices					
No.	Date	Vehicle	Etiology	Cases	States
8	Oct-96	Apple cider	<i>E. coli</i> O157:H7	12	1:CT
9	Oct-96	Apple cider	<i>E. coli</i> O157:H7	6	1:WA
10	Oct-96	Apple juice	<i>E. coli</i> O157:H7	70	3:WA, CA, CO 1:BC
11	Apr-97	Pineapple juice	<i>B. cereus</i>	70	2:FL, TX
12	Oct-97	Unpasteurized apple cider	<i>E. coli</i> O157:H7	6	1:IN
13	Jun-99	Orange juice	<i>S. muenchen</i>	400	25/3
14	Oct-99	Unpasteurized apple cider	<i>E. coli</i> O157:H7	17	1:OK

Juices Cases 951

Other Beverages					
No.	Date	Vehicle	Etiology	Cases	States
1	Jul-90	Diet soda	Unspecified chemical	2	1:NY
2	Oct-91	Orange drink mix (suspected)	<i>S. agona</i>	28	1:WA
3	Dec-91	Punch	Unspecified chemical	25	1:MN
4	May-93	Soft drink; cola	Unspecified chemical	2	1:NY
5	Mar-94	Paraguayan tea	Unspecified chemical	7	1:NY
6	Dec-94	Coffee	Heavy metals	6	1:MI

Other Beverages					
No.	Date	Vehicle	Etiology	Cases	States
7	Aug-95	Iced tea	<i>S. javiana</i>	25	1:MO
8	Sep-95	Fountain soda	Heavy metals	3	1:FL
9	Oct-95	Punch	<i>E. coli</i> O157:H7	21	1:KS
10	Dec-95	Draft beer	Unspecified chemical	3	1:FL
11	Aug-98	Soft drinks	Norwalk-like virus	99	1:TX

Other Beverages Cases 221

Totals

Beverages Total Outbreaks 25

Beverages Total Cases 1,172

Outbreaks Traced to FDA-Regulated Foods; Outbreaks Traced to USDA-Regulated Foods

GAME

No.	Date	Vehicle	Etiology	Cases	States
1	1991	Walrus meat	<i>Trichinella</i>	4	1:AK
2	1991	Black bear meat	<i>Trichinella</i>	2	1:AK
3	Sep-91	Moose soup	<i>S. sonnei</i>	25	1:AK
4	1992	Polar bear meat	<i>Trichinella</i>	13	1:AK
5	1992	Polar bear meat	<i>Trichinella</i>	5	1:AK
6	1992	Walrus meat	<i>Trichinella</i>	7	1:AK
7	1992	Black bear meat	<i>Trichinella</i>	2	1:AK
8	Feb-92	Venison	<i>T. gondii</i>	3	1:CO

No.	Date	Vehicle	Etiology	Cases	States
9	1993	Bear meat	<i>Trichinella</i>	2	1:WA
10	1994	Bear meat	<i>Trichinella</i>	4	1:AK
11	Jan-95	Cougar jerky	<i>T. nativa</i> , <i>Trichinella</i> T6	10	1:ID
12	Nov-95	Venison jerky	<i>E. coli</i> O157:H7	11	1:OR
13	Nov-96	Venison	<i>E. coli</i> O157:H7	2	1:IL
14	Dec-96	Venison	<i>E. coli</i> O157:H7	4	1:OR
15	Aug-00	Black bear meat	<i>Trichinella</i>	4	1:AK

Totals					
Game Total Outbreaks		15		Game Total Cases	98

Outbreaks Traced to USDA-Regulated Foods, 1990-2001

BEEF

Ground Beef					
No.	Date	Vehicle	Etiology	Cases	States
1	Aug-91	Ground beef	<i>E. coli</i> O157:H7	2	1:WA
2	Sep-91	Ground beef	<i>E. coli</i> O157:H7	8	1:MN
3	Nov-91	Taco meat	<i>C. perfringens</i>	300	1:WA
4	May-92	Taco meat	<i>C. perfringens</i>	91	1:GA
5	Aug-92	Taco meat	<i>C. perfringens</i>	115	1:WA
6	Oct-92	Taco meat	<i>C. perfringens</i>	41	1:WA
7	Nov-92	Hamburger	<i>E. coli</i> O157:H7	4	1:WA
8	Dec-92	Ground beef	<i>E. coli</i> O157:H7	732	4:CA, ID, NV, WA
9	Jul-93	Ground beef	<i>E. coli</i> O157:H7	10	1:MA
10	Jul-93	Ground beef	<i>E. coli</i> O157:H7	10	1:CA
11	Aug-93	Ground beef	<i>E. coli</i> O157:H7	3	1:PA
12	Sep-93	Ground beef	<i>E. coli</i> O157:H7	23	1:CT
13	Sep-93	Ground beef	<i>E. coli</i> O157:H7	8	1:MT
14	Nov-93	Hamburger	<i>E. coli</i> O157:H7	3	1:WA
15	Jan-94	Ground beef	<i>E. coli</i> O157:H7	21	2:OR, WA
16	Jan-94	Ground beef	<i>E. coli</i> O157:H7	30	2:WA, OR
17	Feb-94	Ground beef	<i>E. coli</i> O157:H7	8	1:MN
18	Apr-94	Ground beef	<i>E. coli</i> O157:H7	24	1:NE
19	May-94	Ground beef	<i>E. coli</i> O157:H7	33	1:ND
20	May-94	Ground beef	<i>E. coli</i> O157:H7	9	1:CA
21	Jun-94	Ground beef	<i>E. coli</i> O157:H7	19	1:NY
22	Jun-94	Ground beef	<i>E. coli</i> O157:H7	2	1:CT
23	Jun-94	Ground beef	<i>E. coli</i> O157:H7	4	1:PA
24	Jul-94	Ground beef	<i>E. coli</i> O157:H7	20	1:VA
25	Dec-94	Hamburger; ground turkey	<i>C. perfringens</i>	60	1:WA
26	Dec-94	Raw ground beef	<i>S. typhimurium</i>	158	1:WI

Ground Beef					
No.	Date	Vehicle	Etiology	Cases	States
27	Dec-94	Taco meat	<i>C. perfringens</i>	60	1:WA
28	May-95	Ground beef	<i>E. coli</i> O157:H7	2	1:MN
29	May-95	Ground beef	<i>E. coli</i> O157:H7	4	1:MN
30	Jun-95	Ground beef	<i>E. coli</i> O157:H7	3	1:SD
31	Jun-95	Ground beef	<i>E. coli</i> O157:H7	8	2:GA, TN
32	Jun-95	Hamburger	<i>E. coli</i> O157:H7	10	2:GA, TN
33	Jul-95	Ground beef	<i>E. coli</i> O157:H7	12	1:NY
34	Jul-95	Ground beef	<i>E. coli</i> O157:H7	21	1:CO
35	Jul-95	Ground beef	<i>E. coli</i> O157:H7	8	1:MA
36	Jul-95	Ground beef	<i>E. coli</i> O157:H7	11	1:MA
37	Aug-95	Ground beef	<i>E. coli</i> O157:H7	3	1:WA
38	Sep-95	Ground beef	<i>E. coli</i> O157:H7	2	1:WA
39	Oct-95	Ground beef	<i>E. coli</i> O157:H7	2	1:NY
40	Nov-95	Ground beef	<i>E. coli</i> O157:H7	5	1:MN
41	Mar-96	Ground beef	<i>E. coli</i> O157:H7	3	1:TX
42	Apr-96	Ground beef	<i>E. coli</i> O157:H7	3	1:TX
43	Jul-96	Ground beef	<i>E. coli</i> O157:H7	2	1:NV
44	Aug-96	Ground beef	<i>E. coli</i> O157:H7	9	1:PA
45	Sep-96	Ground beef	<i>E. coli</i> O157:H7	7	1:OR
46	Nov-96	Ground beef	<i>C. perfringens</i>	125	1:WA
47	May-97	Ground beef	<i>E. coli</i> O157:H7	5	1:FL
48	Jun-97	Ground beef	<i>E. coli</i> O157:H7	15	2:CO, KY
49	Jun-97	Ground beef	<i>E. coli</i> O157:H7	15	1:CO
50	Mar-98	Hamburgers / breakfast sandwiches	Hepatitis A	8	1:WA
51	May-98	Ground beef	<i>E. coli</i> O157:H7	2	1:WA
52	May-98	Ground beef	<i>E. coli</i> O157:H7	22	4

Outbreaks Traced to USDA-Regulated Foods

No.	Date	Vehicle	Etiology	Cases	States
53	Jun-98	Ground beef	<i>E. coli</i> O157:H7	2	1:NY
54	Jun-98	Ground beef	<i>E. coli</i> O157:H7	6	2:VA, NY
55	Sep-98	Ground beef	<i>E. coli</i> O157:H7	8	1:WA
56	Oct-98	Taco meat	<i>E. coli</i> O157:H7	11	1:WA
57	Feb-99	Ground beef	<i>E. coli</i> O157:H7	9	4:ME, MA, NH, MN
58	Apr-99	Ground beef	<i>E. coli</i> O157:H7	24	6:CT, MA, NH, NY, RI, VA

No.	Date	Vehicle	Etiology	Cases	States
59	Jun-99	Ground beef	<i>E. coli</i> O157:H7	16	6:CT, MA, NY, RI, SD, VT
60	Jun-99	Hamburger	<i>E. coli</i> O157:H7	5	1:WA
61	Sep-99	Ground beef	<i>E. coli</i> O157:H7	332	3:IL, MO, KY
62	Mar-00	Hamburger	<i>E. coli</i> O157:H7	6	1:NY
63	Aug-00	Hamburger (cross contamination to other foods)	<i>E. coli</i> O157:H7	85	1:OR
64	Dec-00	Ground beef	<i>E. coli</i> O157:H7	24	1:MN

Ground Beef Cases 2,633

Other Beef					
No.	Date	Vehicle	Etiology	Cases	States
1	Jun-05	Corned beef	<i>S. enteritidis</i>	35	1:NY
2	Mar-90	Prime rib	<i>C. perfringens</i>	204	1:WI
3	May-90	Beef tartar (suspected)	<i>S. enteritidis</i>	18	1:WI
4	Jun-90	Beef	<i>S. aureus</i>	23	1:VA
5	Jul-90	Beef	<i>S. aureus</i>	3	1:CA
6	Jul-90	Roast beef	<i>E. coli</i> O157:H7	65	1:ND
7	Aug-90	Beef	<i>S. berta</i>	8	1:CA
8	Oct-90	Roast veal	<i>S. enteritidis</i>	30	1:PR
9	Nov-90	Beef	<i>C. perfringens</i>	39	1:CT
10	May-91	Beef	<i>C. perfringens</i>	50	1:IL
11	Jul-91	Beef; ham; pork	<i>C. perfringens</i>	28	1:IL
12	Aug-91	Beef	<i>S. enteritidis</i>	49	1:LA
13	Sep-91	Roast sirloin	<i>S. enteritidis</i>	79	1:WI
14	Dec-91	Roast beef (suspected)	<i>C. perfringens</i>	43	1:IL
15	Dec-91	Roast beef (suspected)	<i>S. braenderup</i>	91	1:MO
16	Jan-92	Veal (suspected)	<i>Salmonella</i> spp.	42	1:PR
17	Mar-92	Beef	<i>S. aureus</i>	19	1:WI
18	Sep-92	Beef	<i>S. aureus</i>	60	1:MN
19	Dec-92	Beef	<i>C. perfringens</i>	17	1:WI
20	Dec-92	Roast beef	<i>C. perfringens</i>	31	1:IN
21	Mar-93	Beef	<i>S. aureus</i>	8	1:MO
22	Mar-93	Corned beef; veal	<i>C. perfringens</i>	156	1:OH
23	Mar-93	Corned beef	<i>C. perfringens</i>	86	1:VA
24	Jul-93	Roast beef/gravy	<i>C. perfringens</i>	30	1:WA
25	Aug-93	Beef	Unspecified bacteria	23	1:IL
26	Sep-93	Beef	<i>E. coli</i> O157:H7	18	1:CT
27	Oct-93	Beef; veal	<i>C. perfringens</i>	11	1:NY
28	Oct-93	Corned beef	<i>S. enteritidis</i>	58	1:VT
29	Jan-94	Beef jerky	<i>S. typhimurium</i> ; <i>S. montevideo</i> ; <i>S. kentucky</i>	93	1:NM

Other Beef					
No.	Date	Vehicle	Etiology	Cases	States
30	Jan-94	Raw beef	<i>S. typhimurium</i>	130	1:CA
31	Jan-94	Roast beef	<i>C. perfringens</i>	55	1:OH
32	Jun-94	Beef	<i>E. coli</i> O157:H7	26	1:NJ
33	Jun-94	Beef	<i>E. coli</i> O157:H7	16	1:NY
34	Jul-94	Beef	<i>S. hadar</i>	28	1:WI
35	Jul-94	Beef	<i>S. infantis</i>	30	1:CA
36	Aug-94	Raw beef	<i>S. typhimurium</i>	13	1:WI
37	Sep-94	Beef	<i>E. coli</i> O157:H7	2	1:WA
38	Nov-94	Beef	<i>E. coli</i> O157:H7	2	1:WA
39	Nov-94	Dry cured salami	<i>E. coli</i> O157:H7	15	1:WA
40	Nov-94	Steak fingers	<i>E. coli</i> O157:H7	20	1:NM
41	Dec-94	Beef	<i>S. typhimurium</i>	100	1:IN
42	Jan-95	Beef jerky	<i>S. typhimurium</i>	93	1:NM
43	Jan-95	Beef jerky	<i>S. typhimurium</i> ; <i>S. montevideo</i> ; <i>S. kentucky</i>	93	1:NM
44	Mar-95	Beef	<i>S. hadar</i>	55	1:CA
45	Mar-95	Beef	<i>S. enteritidis</i>	55	1:CA
46	Apr-95	Beef	<i>C. perfringens</i>	28	1:IL
47	Jul-95	Beef; veal	<i>E. coli</i> O157:H7	12	1:NY
48	Aug-95	Corned beef	<i>S. enteritidis</i>	53	1:OH
49	Aug-95	Roast beef	<i>E. coli</i> O157:H7	31	1:MN
50	Aug-95	Roast beef	<i>E. coli</i> O157:H7	11	1:MN
51	Oct-95	Beef; veal	<i>E. coli</i> O157:H7	2	1:NY
52	Dec-95	Roast beef au jus	<i>C. perfringens</i>	45	1:VA
53	Feb-96	Chicken fried steak	<i>S. enteritidis</i>	30	1:NV
54	Feb-96	French dip beef	<i>S. aureus</i>	30	1:CA
55	Feb-96	Roast beef	<i>C. perfringens</i>	40	1:CA
56	Apr-96	Roast beef	<i>C. perfringens</i>	68	1:OH
57	May-96	Beef	<i>S. agona</i>	37	1:OK
58	Sep-96	Roast beef	<i>S. thompson</i>	52	1:SD

Outbreaks Traced to USDA-Regulated Foods

No.	Date	Vehicle	Etiology	Cases	States
59	Oct-96	Corned beef	<i>S. aureus</i>	10	1:FL
60	Nov-96	Smoked beef	<i>S. aureus</i>	5	1:IL
61	Jan-97	Corned beef	<i>S. reading</i>	130	1:NJ
62	Jan-97	Short beef ribs	<i>C. perfringens</i>	34	1:CA
63	Feb-97	Roast beef	<i>C. perfringens</i>	31	1:ND
64	Apr-97	Beef; pork	<i>S. agona</i>	45	1:OR

No.	Date	Vehicle	Etiology	Cases	States
65	Aug-97	Beef barbaloa	<i>S. agona</i>	21	1:IL
66	Dec-97	Beef; veal	<i>C. perfringens</i>	32	1:IL
67	Dec-97	Roast beef	<i>C. perfringens</i>	200	1:IL
68	Jan-98	Sliced beef	<i>C. perfringens</i>	34	1:WI
69	Sep-99	Steer	<i>E. coli</i> O157:H7	323	1:IL
70	Aug-00	Steer	<i>B. anthracis</i>	2	1:MN

Other Beef Cases 3,456

Totals

Beef Total Outbreaks 134

Beef Total Cases 6,089

POULTRY

Chicken					
No.	Date	Vehicle	Etiology	Cases	States
1	Apr-90	Chicken	<i>S. heidelberg</i>	25	1:MD
2	May-90	Chicken	<i>C. perfringens</i>	92	1:NY
3	May-90	Chicken	<i>S. aureus</i>	54	1:MO
4	Jun-90	Chicken	<i>S. enteritidis</i>	45	1:CT
5	Jun-90	Chicken	<i>S. typhimurium</i>	65	1:MI
6	Sep-90	Chicken	<i>S. newport</i>	115	1:MO
7	Jan-91	Chicken	<i>S. enteritidis</i>	24	1:NY
8	Mar-91	Chicken	<i>S. heidelberg</i>	77	1:PA
9	May-91	Chicken	<i>S. heidelberg</i>	13	1:OH
10	Jun-91	Chicken	<i>S. enteritidis</i>	40	1:NY
11	Jul-91	Chicken	<i>S. enteritidis</i>	89	1:PA
12	Sep-91	Buffalo wings	<i>S. enteritidis</i>	9	1:PA
13	Oct-91	Chicken	<i>S. newport</i>	15	1:OK
14	Nov-91	Chicken	<i>S. enteritidis</i>	10	1:NY
15	Mar-92	Chicken	<i>B. cereus</i>	13	1:CA
16	May-92	Chicken	<i>C. perfringens</i>	23	1:NY
17	Jun-92	Chicken	Unspecified bacteria	3	1:NY
18	Nov-92	Chicken	<i>S. enteritidis</i>	3	1:WA
19	Mar-93	Chicken	<i>S. enteritidis</i>	2	1:WA
20	Mar-93	Chicken	<i>S. braenderup</i>	2	1:WA
21	Jun-93	Chicken wings (suspected)	<i>S. enteritidis</i>	4	1:VT
22	Jul-93	Chicken	<i>C. jejuni</i>	2	1:WA
23	Jul-93	Chicken livers	<i>S. heidelberg; C. jejuni</i>	119	1:NY

Chicken					
No.	Date	Vehicle	Etiology	Cases	States
24	Mar-94	Chicken	<i>C. jejuni</i>	2	1:WA
25	Apr-94	Chicken	<i>S. miami</i>	17	1:WA
26	May-94	Chicken	<i>S. typhimurium</i>	2	1:WA
27	Jul-94	Chicken dishes (suspected)	<i>S. enteritidis</i>	3	1:NY
28	Aug-94	Chicken	<i>S. enteritidis</i>	3	1:MD
29	Aug-94	Chicken (suspected)	<i>S. enteritidis</i>	5	1:MD
30	Feb-95	Chicken	<i>S. enteritidis</i>	27	1:WA
31	Jul-95	Chicken	<i>S. thompson</i>	28	1:CA
32	Aug-95	Chicken dishes (suspected)	<i>S. enteritidis</i>	10	1:DC
33	Mar-96	Barbeque Chicken	<i>S. senftenberg</i>	18	1:HI
34	Aug-96	Barbeque Chicken	<i>S. enteritidis</i>	205	1:UT
35	Dec-96	Chicken	<i>S. enteritidis</i>	7	1:NY
36	Mar-97	Chicken	<i>B. cereus</i>	3	1:FL
37	May-97	Chicken	<i>S. aureus</i>	7	1:FL
38	May-97	Chicken	<i>C. perfringens</i>	23	1:MN
39	Jun-97	Chicken	<i>S. heidelberg</i>	15	1:CA
40	Jul-97	Chicken	<i>S. sonnei</i>	63	1:NY
41	Nov-97	Chicken	<i>S. hadar</i>	39	1:VA
42	Jan-98	Chicken	<i>V. parahaemolyticus</i>	47	1:GU
43	Sep-98	Chicken	<i>S. typhimurium</i>	15	1:WA
44	Jun-99	Chicken	<i>S. typhimurium</i>	2	1:WA
45	Dec-99	Chicken	<i>S. enteritidis</i>	98	1:CA

Chicken Cases 1,483

Turkey					
No.	Date	Vehicle	Etiology	Cases	States
1	Apr-90	Turkey	<i>C. botulinum</i>	7	1:PR
2	Apr-90	Raw turkey (suspected)	<i>Salmonella</i> spp.	15	1:MA
3	May-90	Turkey	<i>S. heidelberg</i>	36	1:NY
4	May-90	Turkey (suspect)	<i>Salmonella</i> spp.	15	1:FL
5	Aug-90	Turkey	<i>S. agona</i>	851	1:SC

Turkey					
No.	Date	Vehicle	Etiology	Cases	States
6	Oct-90	Turkey	<i>S. aureus; S. infantis</i>	215	1:FL
7	Oct-90	Turkey	<i>S. reading</i>	101	1:CT
8	Nov-90	Turkey	<i>C. perfringens</i>	20	1:FL
9	Nov-90	Turkey (suspected)	<i>S. typhimurium</i>	11	1:OH
10	May-91	Turkey	<i>C. perfringens</i>	600	1:WI

Outbreaks Traced to USDA-Regulated Foods

No.	Date	Vehicle	Etiology	Cases	States
11	Jun-91	Turkey	<i>S. montevideo</i>	12	1:WA
12	Nov-91	Turkey	<i>C. perfringens</i>	45	1:OH
13	Feb-92	Turkey	<i>C. perfringens</i>	100	1:MN
14	Feb-93	Turkey (suspected)	<i>S. enteritidis</i>	24	1:MD
15	May-94	Turkey	<i>S. hadar</i>	4	1:ND
16	Jul-94	Turkey	<i>S. heidelberg</i>	55	1:CA
17	Oct-94	Turkey; lamb (suspected)	<i>S. enteritidis</i>	7	1:MO
18	Nov-94	Turkey	<i>C. perfringens</i>	56	1:NY
19	Nov-94	Turkey	<i>S. aureus</i>	20	1:PA
20	Nov-94	Turkey	<i>S. aureus</i>	45	1:SC
21	Nov-94	Turkey	<i>S. enteritidis</i>	51	1:NY

No.	Date	Vehicle	Etiology	Cases	States
22	Nov-94	Turkey	<i>S. enteritidis</i>	55	1:OH
23	Dec-95	Turkey	<i>S. aureus</i>	17	1:IL
24	Dec-95	Turkey	<i>S. aureus</i>	6	1:VA
25	Nov-96	Turkey	<i>S. hadar</i>	27	1:IL
26	Nov-96	Turkey	<i>S. enteritidis</i>	106	1:OH
27	Nov-96	Turkey	<i>C. perfringens</i>	35	1:NY
28	Dec-96	Turkey	<i>C. perfringens</i>	80	1:MD
29	Oct-97	Turkey	<i>C. perfringens</i>	18	1:NY
30	Nov-97	Turkey	<i>Salmonella</i> spp.	40	1:IN
31	May-00	Deli turkey meat	<i>L. monocytogenes</i>	29	10

Turkey Cases 2,703

Other Poultry					
No.	Date	Vehicle	Etiology	Cases	States
1	Aug-90	Roasted, marinated duck	<i>S. derby</i>	15	1:NY
2	Oct-97	Cornish hen	Unspecified virus	67	1:IL

Other Poultry					
No.	Date	Vehicle	Etiology	Cases	States
3	Jul-99	Goose liver pâté	<i>L. monocytogenes</i>	11	3:MD, NY, CT

Other Poultry Cases 93

Totals					
Poultry Total Outbreaks			79	Poultry Total Cases	
				4,279	

PORK

Ham					
No.	Date	Vehicle	Etiology	Cases	States
1	May-90	Ham	<i>S. aureus</i>	100	1:RI
2	Jul-92	Ham; beef; veal	<i>S. heidelberg</i>	45	1:IA
3	Jun-93	Ham	<i>S. aureus</i>	48	1:WI
4	May-94	Ham	<i>S. aureus</i>	80	1:CA

Ham					
No.	Date	Vehicle	Etiology	Cases	States
5	Sep-97	Ham	<i>S. aureus</i>	18	1:FL
6	Nov-97	Ham	<i>S. heidelberg</i>	747	1:MD
7	Mar-98	Deli ham	Norwalk-like virus	125	1:TX

Ham Cases 1,163

Other Pork					
No.	Date	Vehicle	Etiology	Cases	States
1	May-90	Pork	<i>S. aureus</i>	2	1:ID
2	Jul-90	Pork	<i>S. aureus</i>	2	1:WI
3	Jul-90	Pork sausage	<i>T. spiralis</i>	90	6:Can
4	Sep-90	Pork	<i>S. aureus</i>	37	1:IL
5	Nov-90	Pork sausage	<i>T. spiralis</i>	15	1:VA
6	Feb-91	Pork sausage	<i>T. spiralis</i>	40	1:WI
7	May-91	Pork	<i>B. cereus</i>	139	1:SC
8	Jul-91	Pork	<i>C. perfringens</i>	28	1:OH
9	Jul-91	Pork	<i>S. thompson</i>	24	1:OH
10	May-92	Pork	<i>S. aureus</i>	53	1:MT
11	Jul-92	Pork	<i>S. typhimurium</i>	22	1:AK
12	Jun-05	Pork sausage	<i>Trichinella</i>	3	1:MD
13	Sep-93	Pork	<i>S. enteritidis</i>	49	1:SC
14	Sep-93	Barbeque pork; ribs; chicken	<i>S. typhimurium</i>	131	1:VA

Other Pork					
No.	Date	Vehicle	Etiology	Cases	States
15	Oct-93	Pork (suspected)	<i>T. spiralis</i>	10	1:CA
16	Jun-05	Pork	<i>Trichinella</i>	2	1:WI
17	Jun-05	Pork sausage	<i>T. spiralis</i>	4	1:IA
18	Mar-94	Pork	<i>S. typhimurium</i>	28	1:CA
19	Aug-94	Pork	<i>S. aureus</i>	17	1:VA
20	Oct-94	Pork	<i>Y. enterocolitica</i>	10	1:NY
21	Dec-94	Pork	<i>S. aureus</i>	5	1:MN
22	Dec-94	Pork	<i>S. aureus</i>	17	1:WI
23	May-95	Barbequed pork	<i>S. typhimurium</i>	269	1:NE
24	Sep-95	Pork	<i>C. perfringens</i>	27	1:IL
25	Sep-95	Pork	<i>C. perfringens</i>	9	1:NY
26	Sep-95	Pork	<i>C. jejuni</i>	9	1:NY
27	Nov-95	Pork	<i>Y. enterocolitica</i>	17	1:NY
28	Jun-96	Open-pit-roasted pig	<i>S. litchfield</i>	80	1:DE

Outbreaks Traced to USDA-Regulated Foods; Outbreaks Traced to Both FDA- and USDA-Regulated Foods

No.	Date	Vehicle	Etiology	Cases	States
29	Jun-96	Pork	<i>S. heidelberg</i>	24	1:MN
30	Aug-96	Pork	<i>S. aureus</i>	35	1:FL
31	Aug-96	Pork	<i>S. enteritidis</i>	42	1:IL
32	Dec-96	Chitterlings (suspected)	<i>Y. enterocolitica</i>	6	1:NY
33	Sep-97	Pork	<i>B. cereus</i>	33	1:VA

No.	Date	Vehicle	Etiology	Cases	States
34	Dec-97	Pork	<i>S. aureus</i>	37	1:IN
35	May-98	Kalua pig	<i>S. aureus</i>	15	1:HI
36	Jul-98	Pork	<i>S. bredeney</i>	150	1:AL
37	Oct-98	Kalua pig	<i>C. perfringens</i>	36	1:HI

Other Pork Cases 1,517

Totals					
Pork Total Outbreaks			44	Pork Total Cases 2,680	

LUNCHEON / OTHER MEATS

Luncheon Meats					
No.	Date	Vehicle	Etiology	Cases	States
1	Feb-90	Bologna/barbecue chicken	<i>S. infantis</i>	5	1:TX
2	Jun-90	Pastrami (suspected)	<i>S. typhimurium</i>	7	1:CA
3	Feb-91	Mettwurst	<i>T. spiralis</i>	41	1:WI
4	Apr-91	Cold meat tray	<i>C. jejuni</i>	20	1:NY
5	Sep-94	Bologna	<i>S. typhimurium</i>	50	1:PA

Luncheon Meats					
No.	Date	Vehicle	Etiology	Cases	States
6	Nov-94	Dry-cured salami	<i>E. coli</i> O157:H7	23	2:CA, WA
7	Dec-94	Bologna	<i>S. enteritidis</i>	7	1:PA
8	Jul-96	Lunch meat (suspected)	<i>S. enteritidis</i>	21	1:PA
9	Jul-97	Deli meats	Norwalk/ Norwalk-like virus	4	1:OH
10	Aug-98	Hot dogs; possibly deli meats	<i>L. monocytogenes</i>	100	22

Luncheon Meats Cases 278

Other Meats					
No.	Date	Vehicle	Etiology	Cases	States
1	1990	Red meats	<i>S. enteritidis</i>	7	1:KY
2	Oct-90	Home-made sausage	<i>C. botulinum</i>	1	1:WY
3	May-94	Goat meat	<i>S. typhimurium</i>	41	1:CA

Other Meats					
No.	Date	Vehicle	Etiology	Cases	States
4	Nov-94	Dullet (beef and lamb)	<i>Salmonella</i> spp.	10	1:MD
5	Aug-95	Other meat	<i>C. botulinum</i>	3	1:WA
6	Mar-97	Goat meat	<i>S. sandiego</i>	22	1:CA

Other Meats Cases 84

Totals					
Luncheon / Other Meats Total Outbreaks			16	Luncheon / Other Meats Total Cases 362	

Outbreaks Traced to Both FDA- and USDA-Regulated Foods, 1990-2001

No.	Date	Vehicle	Etiology	Cases	States
1	Jan-90	Chicken (USDA); broccoli (FDA)	<i>C. perfringens</i>	40	1:NY
2	Feb-90	Sausage (USDA); peppers (FDA); tortilla salad (FDA)	<i>C. perfringens</i>	12	1:NY
3	Apr-90	Fruits (FDA); cheese (FDA); turkey (USDA)	<i>S. enteritidis</i>	29	1:PR
4	May-90	Carrots (FDA); beef (USDA)	<i>S. braenderup</i>	111	1:CA
5	May-90	Gravy (FDA); pastrami (USDA); tuna (FDA)	<i>S. enteritidis</i>	62	1:OH

No.	Date	Vehicle	Etiology	Cases	States
6	Jun-90	Baked ziti (FDA); sausage (USDA)	<i>Salmonella</i> spp.	27	1:PA
7	Jun-90	Chef salad (FDA); chicken (USDA); ham (USDA)	<i>S. aureus</i>	71	1:WI
8	Aug-90	Sliced raw pork (USDA); fried rice; wanton (FDA) (suspected)	<i>B. cereus</i>	5	1:MD
9	Feb-91	French toast (FDA); scrambled eggs (FDA); chicken (USDA)	<i>S. enteritidis</i>	42	1:IL
10	Mar-91	Taco (FDA); chicken (USDA); rice (FDA)	<i>S. aureus</i>	6	1:WI

Outbreaks Traced to Both USDA- and FDA- Regulated Foods

No.	Date	Vehicle	Etiology	Cases	States	No.	Date	Vehicle	Etiology	Cases	States
11	Apr-91	Steak (USDA); cheese (FDA); bun (FDA)	<i>S. reading</i>	107	1:VA	29	Jul-93	Mushrooms (FDA); Swiss cheese (FDA); Hamburger (USDA)	<i>S. montevideo</i>	10	1:VA
12	May-91	Macaroni and cheese (FDA); fried chicken (USDA); roll (FDA)	<i>Streptococcus</i> spp.	100	1:LA	30	Jul-93	Seafood salad (FDA); chicken (USDA); roast beef (USDA)	<i>S. enteritidis</i>	45	1:CT
13	May-91	Chicken (USDA); fruit (FDA)	<i>C. jejuni</i>	10	1:PA	31	Sep-93	Goat meat (USDA); cow stew (FDA)	<i>S. typhimurium</i>	103	1:MD
14	Jun-91	Turkey (USDA); potato salad (FDA)	<i>S. infantitis</i>	25	1:MO	32	Sep-93	Turkey (USDA); macaroni salad (FDA)	<i>S. aureus</i>	25	1:UT
15	Jul-91	Hamburgers (USDA); celery sticks (FDA)	<i>S. enteritidis</i>	34	1:MD	33	Oct-93	Chicken (USDA); green salad (FDA)	<i>S. enteritidis</i>	72	1:CA
16	Aug-91	Potato salad (FDA); turkey (USDA); ham (USDA); chicken dressing (FDA)	<i>S. reading</i>	11	1:MI	34	Oct-93	Ground beef (USDA); beans (FDA)	<i>C. perfringens</i>	5	1:IN
17	Aug-91	Fried rice (FDA); chicken (USDA); beef (USDA); broccoli (FDA)	<i>B. cereus</i>	2	1:NY	35	Jun-05	Pork sausage (USDA); venison sausage (FDA)	<i>Trichinella</i>	4	1:IA
18	Aug-91	Sirloin (USDA); gravy (FDA); roll (FDA)	<i>S. enteritidis</i>	79	1:WI	36	Jun-94	Pork sausage (USDA); potato salad (FDA) (suspected)	<i>S. enteritidis</i>	18	1:CA
19	Oct-91	Turkey (USDA); coleslaw (FDA)	<i>Salmonella</i> spp.	75	1:FL	37	Nov-94	Beef (USDA); noodles (FDA)	<i>S. enteritidis</i>	104	1:KS
20	Nov-91	Prime rib (USDA); potatoes (FDA) (suspected)	<i>S. enteritidis</i>	10	1:NJ	38	Nov-94	Turkey (USDA); dressing (FDA)	<i>S. aureus</i>	219	1:AR
21	Mar-92	Chicken (USDA); pasta (FDA); salad (FDA)	<i>S. agona</i>	93	1:IA	39	Nov-94	Turkey (USDA); dressing (FDA)	<i>S. enteritidis</i>	16	1:WA
22	Jun-92	Mushrooms (FDA); steak (USDA)	<i>S. heidelberg</i>	57	1:WI	40	Nov-94	Turkey (USDA); dressing (FDA)	<i>S. enteritidis</i>	8	1:WA
23	Oct-92	Barbeque pork (USDA); cheese cake (FDA)	<i>S. newport</i>	58	1:TN	41	Nov-94	Beef (USDA); noodles (FDA); mashed potatoes (FDA); ham & cheese sandwich (FDA)	<i>S. enteritidis</i>	109	1:KS
24	May-93	Chicken (USDA); pasta products (FDA)	<i>S. enteritidis</i>	258	1:WI	42	Nov-94	Turkey (USDA); noodles (FDA)	<i>S. sonnei</i>	17	1:IN
25	May-93	Spam (USDA); rice (FDA); orange drink (FDA)	<i>S. aureus</i>	44	1:HI	43	Dec-94	Turkey (USDA); dressing (FDA)	<i>S. enteritidis</i>	297	1:WA
26	May-93	Chicken (USDA); egg dishes (FDA) (suspected)	<i>S. enteritidis</i>	6	1:KS	44	Dec-94	Turkey (USDA); dressing (FDA)	<i>S. enteritidis</i>	10	1:WA
27	Jun-93	Beef (USDA); chicken (USDA); guacamole (FDA)	<i>S. typhimurium</i>	204	1:ID	45	Dec-94	Turkey (USDA); dressing (FDA)	<i>S. enteritidis</i>	68	1:WA
28	Jun-93	Ham (USDA); butter (FDA); milk (FDA); coffee (FDA)	<i>S. aureus</i>	48	1:WI	46	Dec-94	Turkey (USDA); dressing (FDA)	<i>S. enteritidis</i>	24	1:WA

Outbreaks Traced to Both USDA- and FDA- Regulated Foods

No.	Date	Vehicle	Etiology	Cases	States	No.	Date	Vehicle	Etiology	Cases	States
47	Dec-94	Bologna (USDA); carrots (FDA)	<i>S. enteritidis</i>	17	1:PA	61	Aug-96	Chicken salad (FDA); burger (USDA); fish (FDA)	<i>S. hadar</i>	47	1:NY
48	Dec-94	Chicken (USDA); potato casserole (FDA)	<i>C. perfringens</i>	4	1:MD	62	Aug-96	Chicken (USDA); lettuce (FDA); raw vegetables (FDA)	<i>Shigella</i> spp.	31	1:WI
49	Apr-95	Lemon chicken (USDA); tossed salad (FDA)	<i>Salmonella</i> spp.	12	1:NJ	63	Sep-96	Roast beef (USDA); bread and butter (FDA)	<i>S. newport</i>	29	1:NY
50	May-95	Veal tongue (USDA); hummus (FDA) (suspected)	<i>S. typhimurium</i>	127	1:CA	64	Oct-96	Spring salad (FDA); fried chicken (USDA)	<i>S. enteritidis</i>	16	1:PA
51	Jun-95	Barbeque pork (USDA); cole slaw (FDA)	<i>E. coli</i> O6:H16	102	1:VA	65	Nov-96	Turkey (USDA); gravy (FDA); mashed potatoes (FDA)	<i>C. perfringens</i>	15	1:WI
52	Aug-95	Mashed potatoes (FDA); turkey (USDA)	<i>S. enteritidis</i>	123	1:CA	66	Nov-96	Turkey (USDA); macaroni and cheese (FDA)	<i>S. enteritidis</i>	61	1:DC
53	Aug-95	Chicken (USDA); cheese (FDA); lettuce (FDA)	<i>S. newport</i>	979	1:FL	67	Dec-96	Chicken (USDA); rice (FDA); peas (FDA)	<i>C. perfringens</i>	13	1:NY
54	Aug-95	Carnitas (FDA); chicken (USDA)	<i>S. newport</i>	13	1:IL	68	Jun-97	Pork (USDA); rice (FDA)	<i>S. typhimurium</i>	37	1:WI
55	Aug-95	Salsa (FDA); beef (USDA)	<i>S. infantis</i>	87	1:IA	69	Aug-97	Turkey (USDA); potatoes (FDA); stuffing (FDA)	<i>S. aureus</i>	4	1:HI
56	Oct-95	Chicken (USDA); cole slaw (FDA); potato salad (FDA)	<i>C. jejuni</i>	17	1:FL	70	Nov-97	Gumbo (FDA); baked chicken (USDA)	<i>S. braenderup</i>	69	1:AL
57	Dec-95	Chicken (USDA) and broccoli (FDA) (suspected)	<i>S. enteritidis</i>	19	1:CT	71	Nov-97	Turkey (USDA); macaroni and cheese (FDA) (suspected)	<i>S. enteritidis</i>	60	1:CA
58	Dec-95	Lasagna (FDA); chicken (USDA)	<i>S. enteritidis</i>	11	1:MA	72	Nov-97	Coconut cream pie (FDA); turkey (USDA)	<i>S. enteritidis</i>	13	1:OH
59	Mar-96	Prime rib (USDA); gravy (FDA); potatoes (FDA)	<i>C. perfringens</i>	105	1:NY	73	Nov-97	Macaroni (FDA); ground turkey (USDA);	<i>S. aureus</i>	98	1:FL
60	Apr-96	Chicken (USDA); gravy (FDA); mashed potatoes (FDA)	<i>C. perfringens</i>	71	1:WI	74	Jul-98	Ground beef (USDA); potatoes (FDA)	<i>E. coli</i> O157:H7	10	1:UT

Totals

Both USDA and FDA Total Outbreaks 74

Both USDA and FDA Total Cases 4,970

APPENDIX B

Methodology

In 1997, CSPI began to compile this inventory of foodborne-illness outbreaks when efforts to obtain a comprehensive list from the CDC failed. This edition of *Outbreak Alert!* contains outbreaks that occurred in the U.S. from 1990 to 2001.²¹ The listing of outbreaks between 1990 and 1997 contains more complete information than was available from more recent years because the CDC and other sources have not yet released data for the years 1998-2001.

Outbreaks were classified by food and placed into three categories: USDA-regulated, FDA-regulated, and both FDA- and USDA-regulated foods. If the outbreak was linked to more than one food, the food item with the highest relative risk (as identified in epidemiology reports) was listed as the vehicle. If a pathogen could be epidemiologically linked to a common-food source, but could not be isolated from the food itself, it is listed as “suspected” in the table.

States where outbreaks occurred were listed using common postal abbreviations. Multi-state outbreaks involving less than six states were listed with the names of all states involved. If more than six states were involved, the location was listed as “multi-state.” Bacterial-name abbreviations are listed in Appendix C.

CSPI’s inventory of outbreaks was compiled from many different sources, such as the CDC’s “Line Listings of Foodborne Disease Outbreaks (1990-1997),”²² CDC’s *Morbidity and Mortality Weekly Report*, medical journal articles, and abstracts from conferences. We learned of some outbreaks from trade publications (*Food Chemical News* and *Meat and Poultry*) and newspapers. Additional outbreaks were discovered through Food Safety Net (FSnet), a “listserv” sponsored by the Agri-Food Risk Management and Communications Project at the University of Guelph, Canada, that sends out daily postings of food-safety information from newspapers and other sources from around the world. All information from trade publications, newspapers, and e-mail postings was verified by health officials. In order to verify outbreaks, a standard questionnaire was used, a copy of which can be provided on request. All outbreaks from non-CDC sources were checked against the CDC’s lists to ensure that the same outbreak was not listed twice. CSPI used the following reports to compile its list:

- Articles from the *Journal of Food Protection*, *Dairy Food and Environmental Sanitation*, the *Journal of Infectious Disease*, and others.
- State health-department websites.
- *Food Safety From Farm to Table, A Report to the President*, a report by the EPA, the USDA, and the Department of Health and Human Services, published in May 1997.

- *Food Safety, Information on Foodborne Illnesses*, a report by the General Accounting Office, published in May 1996.

CSPI also used the following National Advisory Committee on Microbiological Criteria for Foods reports:

- *White Paper on Epidemiology of Foodborne Outbreaks Related to Fresh Produce*.
- *Microbiological Safety Evaluations and Recommendations on Fresh Produce*, released on March 5, 1998.

Other sources of government information were:

- CDC memos on outbreaks
- CDC “Trip Reports” of foodborne-illness-outbreak investigations.
- USDA *Backgrounders*.
- A memorandum from USDA, FDA, and the CDC to the White House Domestic Policy Council with a chart of foodborne-illness outbreaks from January-July, 1998.
- Tables from the CDC on outbreaks caused by *E. coli* O157:H7 and *Salmonella enteritidis*.

Presentations from the following conferences and meetings also provided useful outbreak information:

- The National Advisory Committee on Microbiological Criteria for Foods, Fresh Produce Subcommittee Meeting on the Safety of Fresh Juices on December 16, 1996, in Arlington, VA.
- The Emerging Foodborne Pathogens Conference, sponsored by the International Life Sciences Institute on March 24-26, 1997, in Alexandria, VA.
- The meeting of the National Advisory Committee on Microbiological Criteria for Food, Fresh Produce Subcommittee, on March 3, 1998, in Atlanta, GA.

APPENDIX C: Bacterial Abbreviations

Nomenclature	Abbreviation	Nomenclature	Abbreviation
<i>Bacillus anthracis</i>	<i>B. anthracis</i>	<i>Salmonella meleagridis</i>	<i>S. meleagridis</i>
<i>Bacillus cereus</i>	<i>B. cereus</i>	<i>Salmonella miami</i>	<i>S. miami</i>
<i>Bacillus licheniformis</i>	<i>B. licheniformis</i>	<i>Salmonella montevideo</i>	<i>S. montevideo</i>
<i>Campylobacter fetus</i>	<i>C. fetus</i>	<i>Salmonella muenchen</i>	<i>S. muenchen</i>
<i>Campylobacter jejuni</i>	<i>C. jejuni</i>	<i>Salmonella newport</i>	<i>S. newport</i>
<i>Clostridium botulinum</i>	<i>C. botulinum</i>	<i>Salmonella oranienburg</i>	<i>S. oranienburg</i>
<i>Clostridium perfringens</i>	<i>C. perfringens</i>	<i>Salmonella poona</i>	<i>S. poona</i>
<i>Cryptosporidium parvum</i>	<i>C. parvum</i>	<i>Salmonella reading</i>	<i>S. reading</i>
<i>Cyclospora cayetanensis</i>	<i>C. cayetanensis</i>	<i>Salmonella Saint Paul</i>	<i>S. Saint Paul</i>
<i>Escherichia coli</i>	<i>E. coli</i>	<i>Salmonella sandiego</i>	<i>S. sandiego</i>
<i>Enterotoxigenic E. coli</i>	ETEC	<i>Salmonella saphra</i>	<i>S. saphra</i>
<i>Giardia intestinalis</i>	<i>G. intestinalis</i>	<i>Salmonella schwarzengrund</i>	<i>S. schwarzengrund</i>
<i>Listeria monocytogenes</i>	<i>L. monocytogenes</i>	<i>Salmonella senftenberg</i>	<i>S. senftenberg</i>
<i>Salmonella agona</i>	<i>S. agona</i>	<i>Salmonella stanley</i>	<i>S. stanley</i>
<i>Salmonella anatum</i>	<i>S. anatum</i>	<i>Salmonella tennessee</i>	<i>S. tennessee</i>
<i>Salmonella berta</i>	<i>S. berta</i>	<i>Salmonella thompson</i>	<i>S. thompson</i>
<i>Salmonella braenderup</i>	<i>S. braenderup</i>	<i>Salmonella typhi</i>	<i>S. typhi</i>
<i>Salmonella brandenburg</i>	<i>S. brandenburg</i>	<i>Salmonella typhimurium</i>	<i>S. typhimurium</i>
<i>Salmonella bredeney</i>	<i>S. bredeney</i>	<i>Salmonella weltevreden</i>	<i>S. weltevreden</i>
<i>Salmonella derby</i>	<i>S. derby</i>	<i>Shigella boydii</i>	<i>S. boydii</i>
<i>Salmonella enteritidis</i>	<i>S. enteritidis</i>	<i>Shigella dysenteriae</i>	<i>S. dysenteriae</i>
<i>Salmonella hadar</i>	<i>S. hadar</i>	<i>Shigella flexneri</i>	<i>S. flexneri</i>
<i>Salmonella hartford</i>	<i>S. hartford</i>	<i>Shigella sonnei</i>	<i>S. sonnei</i>
<i>Salmonella havana</i>	<i>S. havana</i>	<i>Staphylococcus aureus</i>	<i>S. aureus</i>
<i>Salmonella heidelberg</i>	<i>S. heidelberg</i>	<i>Toxoplasma gondii</i>	<i>T. gondii</i>
<i>Salmonella infantis</i>	<i>S. infantis</i>	<i>Trichinella nativa</i>	<i>T. nativa</i>
<i>Salmonella java</i>	<i>S. java</i>	<i>Trichinella spiralis</i>	<i>T. spiralis</i>
<i>Salmonella javiana</i>	<i>S. javiana</i>	<i>Vibrio alginolyticus</i>	<i>V. alginolyticus</i>
<i>Salmonella kentucky</i>	<i>S. kentucky</i>	<i>Vibrio cholerae</i>	<i>V. cholerae</i>
<i>Salmonella litchfield</i>	<i>S. litchfield</i>	<i>Vibrio parahaemolyticus</i>	<i>V. parahaemolyticus</i>
<i>Salmonella manhattan</i>	<i>S. manhattan</i>	<i>Vibrio vulnificus</i>	<i>V. vulnificus</i>
<i>Salmonella mbandaka</i>	<i>S. mbandaka</i>	<i>Yersinia enterocolitica</i>	<i>Y. enterocolitica</i>

ENDNOTES

1. The terms “food poisoning” and “foodborne disease” are used interchangeably in everyday talk, which is how we will refer to foodborne illnesses in this report. Technically, however, “foodborne disease” is a broader term, composed of three types of illnesses: foodborne intoxications (from ingestion of foodborne poisons); foodborne infections (caused by foodborne pathogenic microorganisms such as *Salmonella* that, when ingested, cause infections); and foodborne toxicoinfections (from foodborne pathogens such as *E. coli* O157:H7 that, once ingested, produce harmful toxins). Morton Satin, *Food Alert! The Ultimate Sourcebook for Food Safety* 16-17 (1999).
2. Paul S. Mead, et. al. *Food-Related Illness and Death in the United States*, 5 Morbidity and Mortality Weekly Report 607-625 (Sept.-Oct. 1999). Foodborne illnesses and deaths are caused by viruses, prions, bacteria, parasites, toxins, and metals that contaminate foods.
3. National Academy of Sciences, Institute of Medicine, National Research Council, Ensuring Safe Food From Production to Consumption 69 (1998) [hereinafter cited as *Ensuring Safe Food*].
4. Centers for Disease Control and Prevention, *About CDC* (accessed Sept. 26, 2001) <<http://www.cdc.gov/aboutcdc.htm>>.
5. Overall, the Centers for Disease Control and Prevention (CDC) has 12 major centers, institutes, and offices that concentrate on specific health threats. Foodborne disease activities fall under the National Center for Infectious Diseases (NCID), Division of Bacterial and Mycotic Diseases (DBMD), Foodborne and Diarrheal Diseases Branch. This branch is just one of five that make up the of DBMD which is just one of the 12 divisions in the NCID. Centers for Disease Control and Prevention, *About CDC* (accessed Sept. 26, 2001) <<http://www.cdc.gov/aboutcdc.htm>>.
6. Centers for Disease Control and Prevention, *FY 2002 Budget Request Information, Program Activity by Sub-Budget Categories* (accessed Sept. 26, 2001) <<http://www.cdc.gov/fmo/fy2002funcbudget.pdf>>.
7. Stephen R. Crutchfield and Tanya Roberts, *Food Safety Efforts Accelerate in the 1990's*, 23 FoodReview 44, 49 (Sept.-Dec. 2000).
8. Centers for Disease Control and Prevention, *U.S. Foodborne Disease Outbreaks* (accessed July-Sept. 2001) <http://www.cdc.gov/ncidod/dbmd/outbreak/us_outb.htm>[hereinafter *CDC Line Listings*] (not including the outbreaks with unknown food and etiology listed there).
9. *Ensuring Safe Food*, at 8.
10. *CDC Line Listings*.
11. Centers for Disease Control and Prevention, *E. coli O157 Outbreak Summaries* (accessed July, 2001) <http://www.cdc.gov/ncidod/dbmd/outbreak/ecoli_sum.htm>; Centers for Disease Control and Prevention, *Salmonella Subtype enteritidis Outbreak Summaries* (accessed July, 2001) <http://www.cdc.gov/ncidod/dbmd/outbreak/salmo_sum.htm>.
12. *Ensuring Safe Food*, at 83-84.
13. See, e.g., Centers for Disease Control and Prevention, *FoodNet: Diseases & Pathogens Under Surveillance* (accessed July-Sept. 2001) <<http://www.cdc.gov/foodnet/pus.htm>>. The CDC reports treat foodborne illnesses like any other type of disease and list outbreaks by etiological agent. *CDC Line Listings*.
14. General Accounting Office, *Food Safety: Overview of Federal and State Expenditures* 2-3 (2001) [hereinafter *GAO Food Safety Expenditures*]; U.S. Department of Agriculture, Office of Budget and Program Analysis, *U.S. Department of Agriculture FY 2002 Budget Summary* (accessed Sept. 26, 2001)

<<http://www.usda.gov/agency/obpa/Budget-Summary/2002/master2002.pdf>>; Food and Drug Administration, “*FY 2002 Budget for the Food and Drug Administration*”
<<http://www.fda.gov/oc/oms/ofm/budget/2002/CJ2002/HTML/CFSAN.htm>>. Furthermore, the FDA budget includes myriad functions not related to foodborne illness, such as food labeling, food-additive approvals, and cosmetics safety.

15. *GAO Food Safety Expenditures*, at 16.

16. *GAO Food Safety Expenditures*, at 12, 16.

17. Center for Science in the Public Interest, *Death On The Half Shell* (2001).

18. *Ensuring Safe Food*, at 12.

19. General Accounting Office, *Testimony Before the Subcommittee on Oversight of Government Management, Restructuring and the District of Columbia, Committee on Governmental Affairs, U.S. Senate, Food Safety and Security: Fundamental Changes Needed to Ensure Safe Food 1* (2001).

20. George W. Bush, “Getting Results from Government,” Philadelphia, PA, June 9, 2000, available at <http://www.fifthldrepublicans.org/new_page_5.htm>.

21. The table does not list any foodborne illnesses that were not linked to outbreaks (two or more illnesses linked to a common food source except with botulism, where one case is considered an outbreak).

22. CSPI obtained the complete set of line listings of foodborne-illness outbreaks for 1990-1997 from CDC only after filing a Freedom of Information Act (FOIA) request and subsequent appeal. But in July 2001, the CDC posted an update of the 1990-1997 line listings on its website. *CDC Line Listing*.