
All Over the Map

A 10-Year Review of State Outbreak Reporting

Acknowledgements

All Over the Map: A 10-Year Review of State Outbreak Reporting was researched and written by Caroline Smith DeWaal, Nils Fischer, Marcus Glassman, Agnes Cororaton, and Elena Martinez.

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Executive Summary

To better understand the current system of monitoring outbreaks of foodborne illness in the United States, the Center for Science in the Public Interest (CSPI) analyzed 10 years of state outbreaks reported to CDC from 2003 to 2012. Such data is essential for monitoring and evaluating foodborne disease in the United States, enabling industry experts and government regulators to design more effective control strategies. All 50 states and the District of Columbia were analyzed and individual results are provided.

CSPI used the methodology originally developed for the 2011 *All Over the Map* report, which analyzed outbreaks from 1998 to 2007, to develop performance profiles for each state. We slightly modified that methodology to include only outbreaks within the reporting state, thus excluding multistate outbreaks. States are grouped into high to low reporting categories based on the per-capita number of outbreaks reported to CDC. A high per-capita outbreak reporting rate probably reflects a robust public health system. Differences between state performance ratings may represent differences in funding, staffing, and infrastructure. Low ratings may indicate reduced funding and overburdened or inadequately staffed public health departments.

Main Findings

- Outbreak reporting has generally decreased over the decade (2003 to 2012). Furthermore, the percentage of *solved* outbreaks—those where both the contaminated food and the contaminant were identified by public health officials—declined from 41 percent in 2003 to 29 percent in 2012.
- Wide variations exist in state reporting. Of the 51 jurisdictions, nine states reported six or more outbreaks per million population and 19 states reported one or fewer outbreaks per million.
- Federal foodborne disease surveillance programs improve the quality of state outbreak reporting. States that participated in CDC’s FoodNet program identified a larger variety of pathogens than non-FoodNet states.

Our results suggest that many states may lack adequate funding and support for public health services. The resulting paucity of information impacts our ability to prevent future foodborne outbreaks.

Recommendations

Improving state reporting of foodborne illness outbreaks requires coordination from individuals and all levels of government agencies. CSPI recommends:

Consumers who suspect they have contracted a foodborne illness should seek medical attention, and inform their healthcare providers if they believe their illness is due to ingesting contaminated food. *They should also report foodborne illness to their local health department as close to the onset date as possible.*

Physicians and healthcare providers should pursue laboratory confirmation for suspected cases. They should alert health departments regarding suspected foodborne illnesses.

Public health and food regulatory officials should collaborate with laboratories, the food industry, healthcare providers and consumers to identify and solve outbreaks quickly so control measures can be implemented. To improve source attribution, departments should gather information on food characteristics, sourcing, preparation techniques and worker hygiene practices. Coordinating with local universities and public health students to conduct interviews with consumers who may be part of the outbreak can speed the investigation. Public health departments should also adopt innovative new technologies such as whole-genome sequencing to improve traceability. Complaint-based reporting systems are especially useful in enabling consumers to directly report foodborne illnesses to the local health department.

Local and state government officials and state legislators should provide adequate financial support to local, county, and state public health departments. They should also encourage reporting to and engagement with the CDC. Importantly, state legislators should be aware of the economic toll of foodborne illness. According to a recent USDA Economic Research Service (ERS) estimate, the annual health-related cost of common foodborne illnesses in the United States was almost \$16 billion (see page 11). Investing in faster detection of foodborne outbreaks would allow better targeting of hazards in the food supply, and in turn prevent the deaths, illnesses, and chronic effects of foodborne illness.

Federal officials should lead efforts in partnership with local and state agencies to achieve faster investigations and improved comparability. Sustained funding for the Epidemiology and Laboratory Capacity (ELC) grant is needed to develop and maintain more consistent surveillance outcomes.

Introduction

Both domestic and imported food often travel great distances through complex distribution chains where they may be contaminated with a variety of pollutants and pathogens. With contamination occurring anywhere along the farm-to-fork continuum, the CDC estimates that in the United States as many as 48 million people contract foodborne illnesses, 128,000 are hospitalized, and 3,000 die every year.

From farm to table, the safety of our food is dependent on the constant efforts of many actors: from producers and farm workers, to processors and slaughter plant workers, to truck drivers and supermarket clerks, to consumers and even government officials. However, the challenges of identifying a specific contaminated food or ingredient that is causing a disease outbreak often falls to local public health departments. With sufficient resources, health departments can do the laboratory work and consumer interviews necessary to solve the outbreak and identify the contaminated food. In turn, their hard work benefits industry and consumers alike by providing some of the best data for identifying, responding to, and preventing food safety risks in the food supply.

The most useful data for foodborne illness source attribution comes from completely solved outbreak investigations where investigators have identified both the contaminated food *and* the illness-causing bacteria, virus, or toxin. Finding the food or ingredient that caused the illnesses protects consumers when it leads to a recall before the culprit can cause additional illnesses. After the emergency has passed, the data from local health departments also allows industry specialists and policy makers to better understand where safety was compromised. Data generated from outbreak investigations also feeds into preventative measures like Hazard Analysis and Critical Control Point systems, which are vital to preventing hazards in the food supply. For consumers, analysis from outbreak investigations provides better advice on handling high-risk foods like frozen dinners or ground beef, and reminds them of the importance of safe handling and preparation.

Since 1997, CSPI has compiled outbreaks reported to the CDC with both an identified food and pathogen into its own Outbreak Alert! Database. CSPI reviews this database annually to provide insight into the general trends and characteristics of foodborne outbreaks, in order to improve foodborne disease regulation.

For this report, CSPI analyzed a total of 9,923 outbreaks reported between 2003 and 2012. Only 36 percent of those outbreaks—representing 85,113 illnesses—were solved (see Figure 4).

Characteristics of Foodborne Outbreaks (2003-2012)

All Over the Map

An analysis of solved outbreaks over the last 10 years provides important information on the foods and pathogens commonly implicated in foodborne illness outbreaks. At the end of the report, individual state profiles provide more detail on each state's performance.

On a national level, the five food categories that were linked to the most solved outbreaks were produce, seafood, poultry, beef, and dairy. Those five categories constituted 57 percent of all solved outbreaks and 58 percent of illnesses. Produce was linked to the largest number of foodborne illnesses associated with outbreaks, representing 26 percent of all illnesses in CSPI's database from 2003 to 2012 (Figure 1).

Bacterial pathogens were responsible for 54 percent of all solved outbreaks; viruses caused 35 percent; chemicals and toxins caused 11 percent; and parasites caused less than 1 percent (one outbreak with 18 illnesses). The bacterial pathogen most frequently identified was *Salmonella* spp. (19 percent), followed by *Clostridium* spp. (11 percent), *Bacillus cereus* and *E. coli* spp. (both 6 percent), and finally *Staphylococcus* spp. (5 percent) (Figure 2).

Most solved outbreaks were reported from restaurants and other food establishments (40 percent), followed by private homes (24 percent), work places (8 percent), and catered events (6 percent). Outbreaks were less frequently reported from other categories (Figure 3).

Figure 1: Foods Linked to Solved Outbreaks (2003-2012)

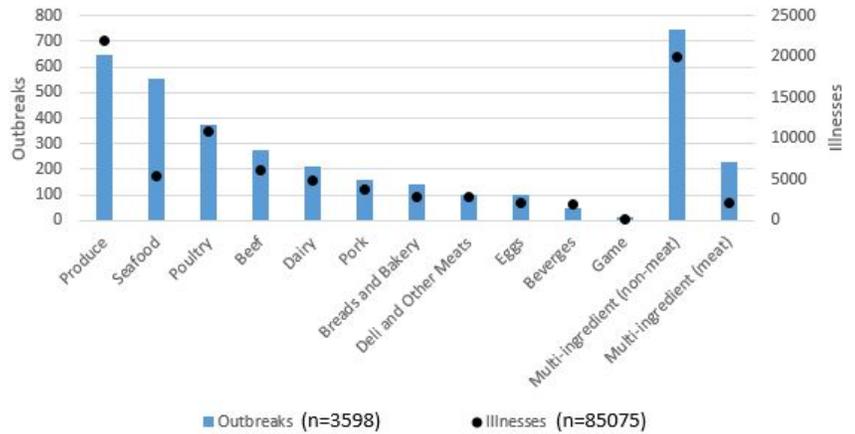


Figure 2: Pathogens Implicated in Solved Outbreaks (2003-2012)

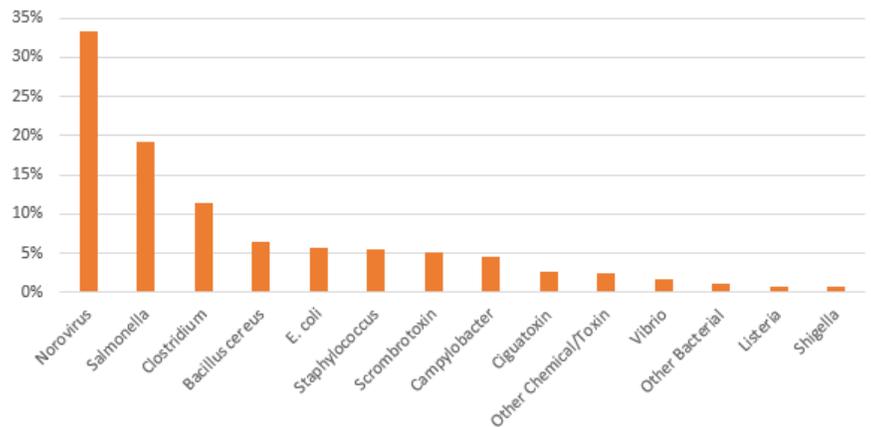
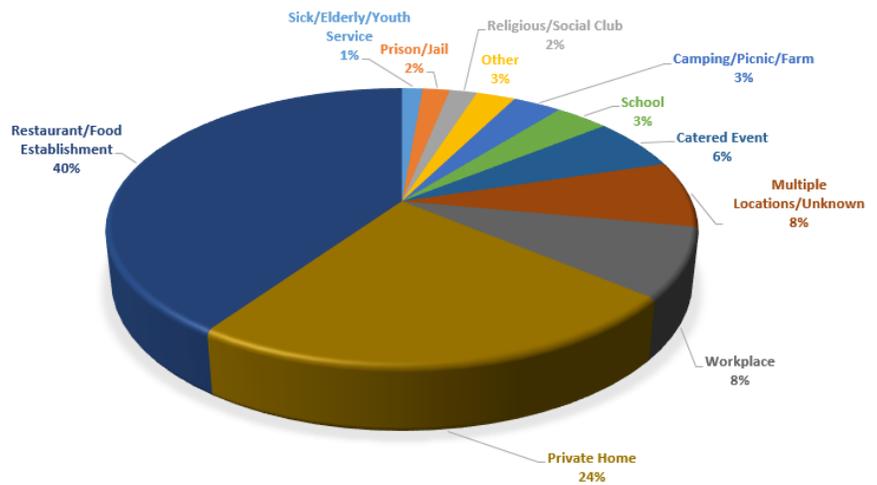


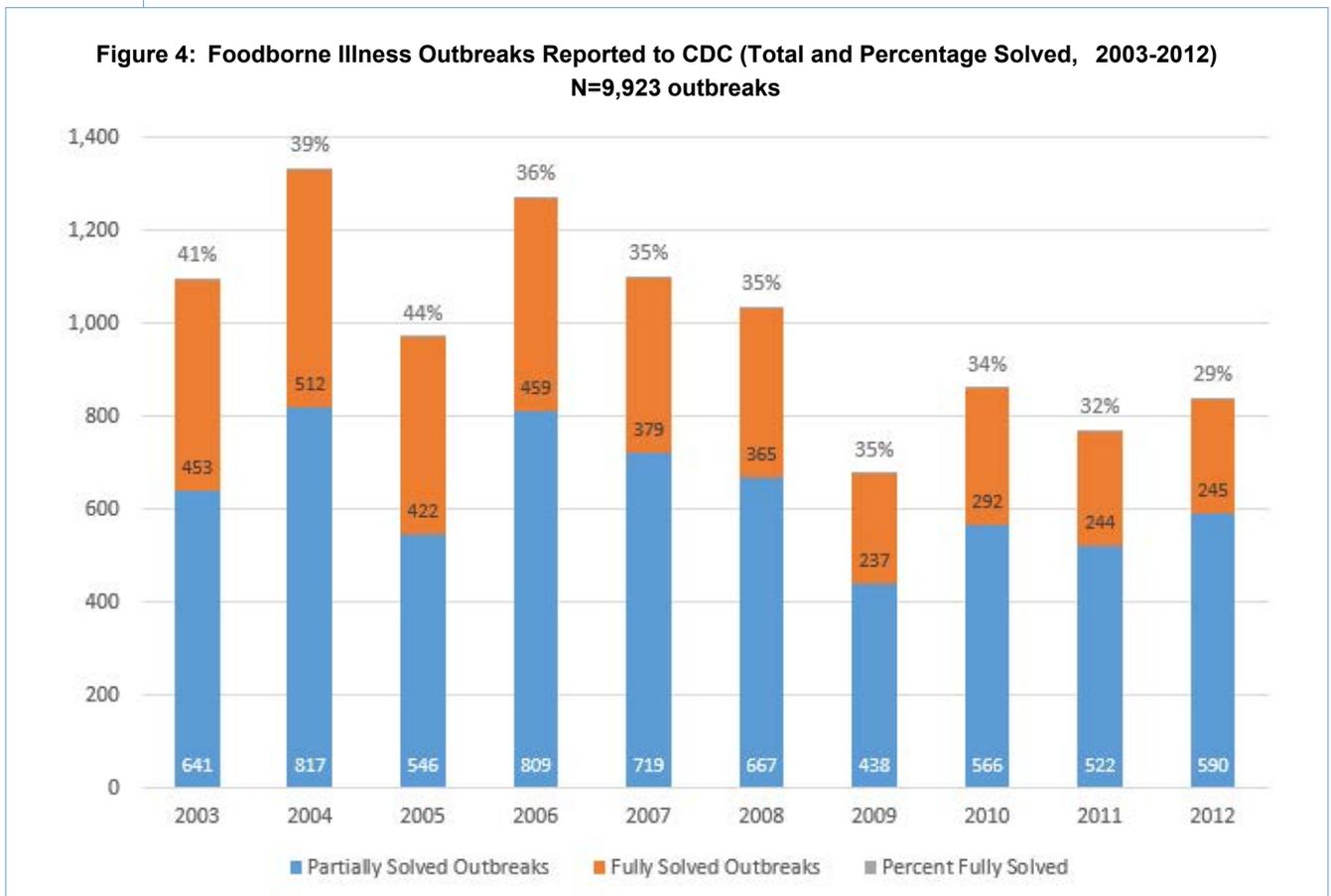
Figure 3: Solved Outbreaks by Location (2003-2012)



State Outbreak Reporting

Overall outbreak reporting and solved outbreaks decreased throughout the decade (2003-2012)

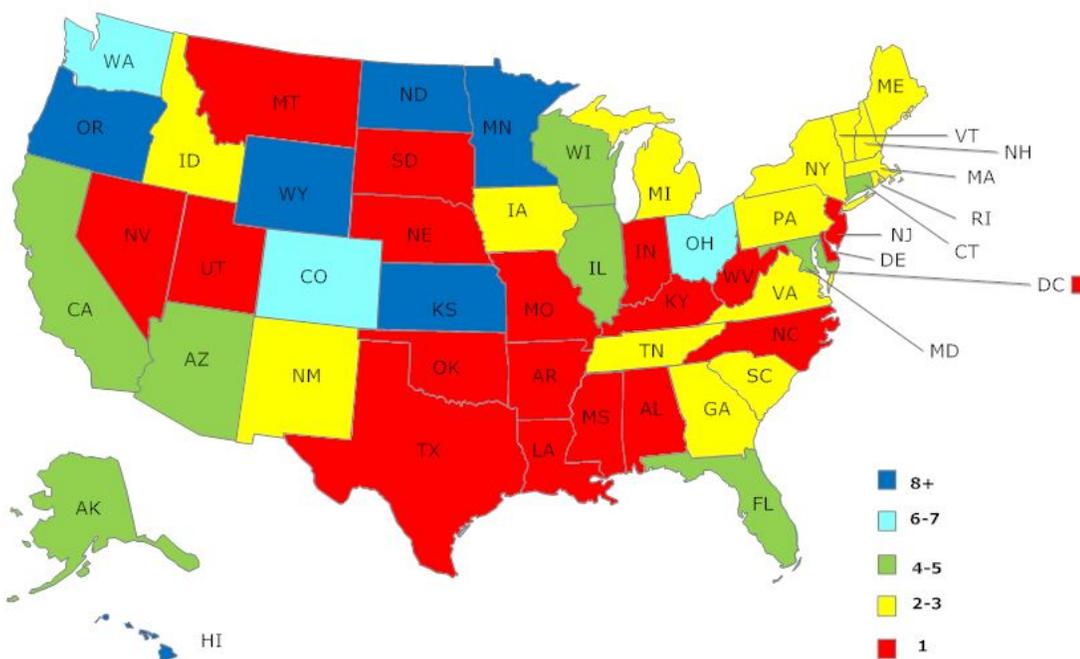
Over the last 10 years, annual reporting of food-related outbreaks to the CDC varied greatly. Reports from the states to CDC ranged from greater than 1,300 outbreaks in 2004 to fewer than 700 in 2009, with yearly fluctuations up to 34 percent. Overall there was a 12-percentage-point decline in solved outbreaks that were reported to CDC in 2012 compared to 2003. From 2009 to 2012, the average number of reported foodborne outbreaks decreased by about one third compared to the mean of the six preceding years (Figure 4). Several factors may have contributed to this decline since 2009 including the implementation of the web-based National Outbreak Reporting System (NORS) in 2009 and reductions in public funding after 2009. The factors contributing to trends in foodborne disease surveillance are discussed further in the report.



Wide variations of outbreak reporting exist among different states (2003-2012)

State outbreak reporting to CDC ranged from a high of 10 outbreak reports per million population to less than one per million population per year. State performance evaluations, adjusted for each state's population, can serve as a baseline to measure changes in outbreak reporting (Figure 5).

Figure 5: Median Outbreaks per Million Population (2003-2012)



Minnesota and Oregon have a history of strong public health departments with reputations for excellent surveillance and outbreak investigation. Since both states reported comparable numbers of foodborne outbreaks, they helped set the benchmark of eight or more outbreaks per million population for high performing states. Four other states—Hawaii, Kansas, North Dakota, and Wyoming—had equally strong reporting records, and reported eight or more outbreaks per million population.

As shown in the map and detailed in Appendix A, three states reported six to seven outbreaks per million population; eight states reported four to five outbreaks per million population; 15 states reported two to three outbreaks per million population; and 19 states and the District of Columbia reported one or fewer outbreaks per million population. We found large differences in outbreak-reporting rates even among neighboring states: Florida (five outbreaks per million) and Alabama (one outbreak per million); Maryland (four outbreaks per million) and West Virginia (one outbreak per million); and Wyoming (eight outbreaks per million) and Nebraska (one outbreak per million). State public health budgets and staffing may account for those observed variations. Individual states can use this report to pinpoint the most relevant factors in their state.

FoodNet states outperform non-FoodNet states in foodborne disease surveillance

Founded in 1995, FoodNet is a population-based surveillance system that covers 7 states: Connecticut, Georgia, Maryland, Minnesota, New Mexico, Oregon, Tennessee and certain counties in New York, California, and Colorado. Federal foodborne-disease surveillance programs (detailed in Appendix B) can have a powerful impact on states’ abilities to effectively report foodborne outbreaks. While FoodNet states represent 15 percent of the total population of the United States, they account for 21 percent of total outbreaks reported and 26 percent of solved outbreaks. We compared FoodNet and non-FoodNet states on the following factors:

- Average number of pathogens reported
- Average number of outbreaks reported per million population
- Average number of solved outbreaks per million population

On average, FoodNet states identified a larger variety of pathogens associated with outbreaks compared to non-FoodNet states (statistically significant at $p=0.003$). We expected this result because FoodNet states test for a wider range of pathogens including *Campylobacter*, *Cryptosporidium*, *Cyclospora*, *Listeria*, *Salmonella*, Shiga toxin-producing *Escherichia coli* (STEC) O157, non-O157 *E.coli*, *Shigella*, *Vibrio*, and *Yersinia*. While our analysis showed that relative to their population size, FoodNet states reported more outbreaks (47 vs. 33 per million population) and a higher number of solved outbreaks (19 vs. 11 per million population), these findings were not statistically significant perhaps due to wide range of values within each variable. The variability in average number of outbreaks reported and outbreaks solved per million people across states can be attributed to the presence of other surveillance programs (Appendix B) implemented between 2003 and 2012 (i.e. CaliciNet norovirus surveillance network implemented in 2009 in 27 states).

Comparison of FoodNet vs. non-FoodNet states (total between 2003-2012)¹

	FoodNet States (n=7)	Non-FoodNet States (n=41)	P-Value
Average number of pathogens reported (95% confidence interval)	13 (8,18)	7 (6, 8)	0.003
Average number of outbreaks reported (per million population) (95% confidence interval)	47 (19, 74)	33 (24, 42)	0.25
Average number of solved outbreaks (per million population) (95% confidence interval)	19 (4, 34)	11 (7, 16)	0.15

¹ Analyses included all FoodNet states, but excluded Colorado, California, and New York where FoodNet only operates in a portion of the state. Statistical significance was conducted using a two tailed t-test with Microsoft Excel.

Factors Contributing to Trends in Foodborne Disease Surveillance (2003-2012)

From 2009 to 2012, the average number of reported foodborne outbreaks decreased by about one third in comparison to the average of the six preceding years (Figure 4). Interestingly, 2009 coincides with the transition of the National Outbreak Reporting System (NORS) to a more modern data entry interface. A recent CDC study largely attributes this trend in declining reported outbreaks to a decrease in norovirus reporting, noting that other pathogens such as *Salmonella* spp. have been more consistently reported throughout this time frame (Imanishi et al., 2014). Using a 2013 survey completed by 50 local health officials in 30 jurisdictions, it was determined that norovirus outbreaks that were reported as foodborne prior to 2009 were more likely to be reported as non-food modes of transmission after 2009. As norovirus is the most commonly reported foodborne pathogen (Figure 2), any changes in how this pathogen is reported will have a significant effect on the total number of outbreaks reported.

The observed decline in the percentage of solved outbreaks (Figure 4) is likely associated with decreased funding for federal and local public health institutions, which cripples the capacity of laboratories and epidemiologists to identify both the pathogen and the contaminated food. Importantly, a report from the Trust for America's Health and the Robert Wood Johnson Foundation, found that when adjusted for inflation, CDC's budget was effectively reduced by 15 percent between 2005 and 2006 to 2012 and 2013 (Trust for America's Health, 2014). This report also found a decline of federal public health funding for states since 2005-2006, with 20 states receiving reduced funding for two or more consecutive years, and 16 states for three or more consecutive years.

Wide variations in how different states reported foodborne outbreaks (Figure 5) is also largely attributed to differences in budgets and resources allocated to local and state public health departments. A 2014 report from the National Association of County & City Health Officials found that 63 percent of Americans live in counties with local health departments that "cut" or "significantly cut" services in 2009. A survey of public health departments found that budget cuts to local health departments in certain states resulted in deep job losses and in reduction or elimination of essential public health services (NACCHO, 2014). In addition, not all states participate in federal surveillance programs. Our findings show states that participate in FoodNet have an advantage in the quality of foodborne disease surveillance.

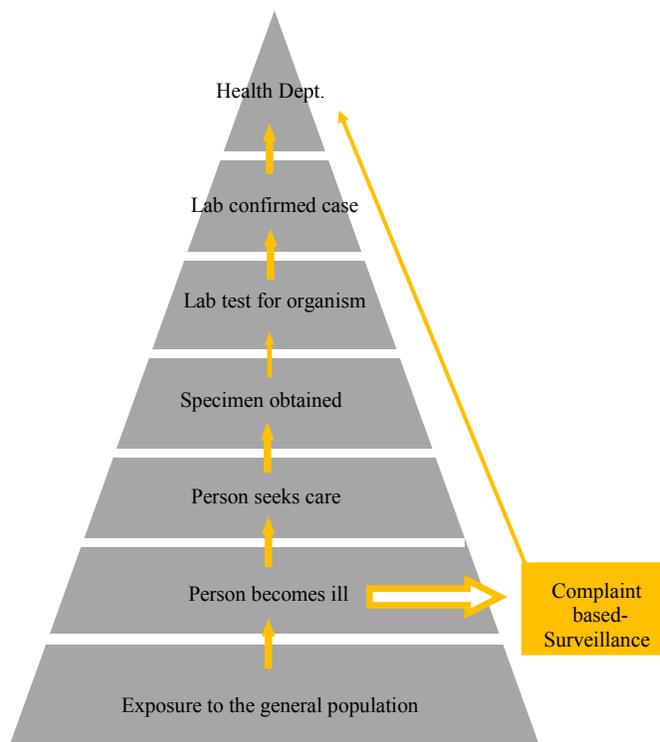
Foodborne Disease Surveillance: The Process

Key actors in the investigation of foodborne illness are not limited to state and local health departments. Actions of consumers, the medical community, and state officials also contribute to whether outbreaks are identified and reported—or escape detection entirely.

Two common routes through which outbreaks are identified are: (1) direct reporting, when a consumer notifies the health department directly of a suspected foodborne illness (complaint-based) and (2) laboratory reporting when a consumer seeks traditional medical care (pathogen-specific).

In Minnesota, consumer complaints helped identify almost 80 percent of outbreaks reported by health departments (Li et al., 2010). Depending on the infrastructure and efficiency of the health department, improving the consumer-complaint pathway could likely increase outbreak reporting rates in lower performing states.

Figure 6: Pathways of Foodborne Disease Reporting



Pathogen-specific surveillance is laboratory based and requires that a consumer seek traditional medical care. However, many variables determine whether an illness is reported and then recognized as being part of an outbreak. For example, depending on the severity of illness or access to medical care, a consumer might not seek medical treatment. And even if treatment is sought, physicians don't always order the appropriate laboratory test or forward the results to the public health agency.

Once a pathogen is identified by a laboratory, interviews with consumers who were ill are conducted to identify the suspect food sources. In these field investigations, delays reduce the likelihood of accurate consumer recall. The estimated "lag-time" between the onset of illness and notification to the health department is between two days for consumer complaint-based reporting and 19 days for laboratory-based reporting (Hedberg et al., 2008).

Lastly, regardless of how reports of illnesses reach the health department, the agency might not have the resources to perform a full investigation. Insufficient staffing or laboratory resources may hinder the process of collecting or analyzing suspected foods. Without a complete investigation, cases caused by a common food source may not be identified as part of an outbreak. Furthermore, some states don't report all their outbreaks to the CDC.

Methodology

CDC's Foodborne Outbreak Online Database was the source for data used in the study. A majority of the outbreaks included in this report were reported on a voluntary basis to the NORS by the state, local, territorial, and tribal health departments.

The CDC database was searched by state name (for all 50 states and the District of Columbia). The data were downloaded into Microsoft Office Excel for analysis. Criteria for single-state outbreaks includes outbreaks that are due to exposures in a single state but that can affect residents of more than one state. Multi-state outbreaks were removed to better gauge individual state performance.

The reported number of outbreaks per million population for each state was determined by dividing the median of the number of total outbreaks reported by the state to the CDC, both solved and unsolved, over the 10-year period by the average population in millions from 2003 to 2012, as determined by the latest United States' Annual Census population estimates. The median, rather than the mean, was used to calculate reported outbreaks because the median is less affected by outliers, thus ensuring a more dependable central tendency for small sample sizes.

Solved outbreaks included only outbreaks for which the food and pathogen were identified. Outbreaks with a vehicle listed as "multiple food," "other food," and "unknown food" or for which no pathogen was identified, were excluded from the total solved outbreaks. Outbreaks with a vehicle listed as "water," "tap water," or "ice" were excluded from this analysis.

Uses and Limitations of the Study

As a variety of factors go into outbreak reporting, direct comparisons cannot be made between the individual states. Only individual state public health departments will know, for example, whether years with a higher percentage of solved outbreaks were the result of improved outbreak investigations or the result of fewer outbreaks. Similarly, a dearth of reported outbreaks may indicate a particularly good year for food safety in the state—or an inadequate reporting system.

CSPI encourages states to study their own data, and, where possible, improve reporting, investigations, and policies. In addition, this report will serve as a benchmark, so that policymakers can make the necessary changes to improve public health services. CSPI points to the lack of funding for health department programs and staffing as a likely cause in the decline of outbreak reporting—one that may negatively impact prevention efforts affecting food safety and public health.

Conclusions and Recommendations

The current system of outbreak identification and reporting in the United States is dependent on multiple actors. A consumer's initial failure to file a complaint with the public health department or seek medical attention might mean that illness is never counted or linked to an outbreak. A physician's decision not to obtain a laboratory analysis might mean that a pathogen is not found, resulting in no action to link the illness to a contaminated food source. A budgetary cutback in the state capitol eliminating an investigator's job in a county health department might mean that there is no one to contact an ill consumer or conduct a follow-up investigation. At each step in this inherently passive process, a single moment of inaction can result in a failed investigation or an undiscovered outbreak.

This report's perspective across states illustrates extreme variability, with a majority of states reporting three or fewer median outbreaks per million population from 2003 to 2012. This variability derives from a passive system of outbreak reporting, magnified by inadequate funding, staffing, and laboratory capabilities. Such gaps can lead to a lower percentage of solved outbreaks in the state, and perpetuate a cycle of unanswered questions about the full burden of disease from hazards in the food supply or identification of the foods involved.

States initiating more investigations and reporting higher incidences of foodborne illnesses may be those with robust epidemiological structures, political support for prioritizing food safety, and more generous budget allowances compared to other states. While it may seem counterintuitive, higher reporting states may in fact have fewer illnesses from food because they are finding outbreaks more rapidly and stopping them.

For Consumers

On the front lines to identify and stop foodborne illness outbreaks, consumers can help ensure that their illnesses are counted. When they seek medical care for gastrointestinal problems, they should be proactive in requesting laboratory tests to identify the cause. Consumers should also seek out hotlines or other ways to notify local and state health departments directly when they first suspect an illness is food related.

For Physicians and Medical Associations

Physician membership organizations should expand continuing education training on foodborne illness detection and treatment. Medical school curriculums should cover foodborne illnesses, so physicians are better able to diagnose and report them to state health departments.

Physicians should order appropriate laboratory tests to verify foodborne illnesses, and provide accurate and timely reporting of their patients' complaints and relevant test results to public health authorities.

For the Centers for Disease Control and Prevention

The CDC should enhance collaboration with states to develop standards for outbreak investigations and practices to streamline data collection between local and state health departments and federal agencies. Currently, reporting of foodborne outbreaks is voluntary. A 2013 Council of State and Territorial Epidemiologists (CSTE) study found that about one-third of entry and mid-level epidemiologists expressed a need for additional training. Joint training programs, such as the Integrated Food Safety Centers of Excellence (Appendix B), help assure higher levels of proficiency among epidemiologists and other public health specialists.

Their training should include dealing with emerging pathogens, such as antibiotic-resistant strains of *Salmonella* and *E. coli*. CDC should also consider awarding grants to states to bolster laboratory infrastructure. Finally, the CDC should consider methods to incentivize outbreak reporting to the National Notifiable Disease Surveillance System.

For State and Local Health Departments

Despite limitations in budget and staffing, most health departments have options to improve their systems.

For low-reporting states, health departments, in collaboration with the CDC, should consider streamlining investigation protocols. As evidence shows that food outbreak reporting could be greatly enhanced with consumer-complaint-based reporting, states should consider enhanced protocols for using those systems (Li et al., 2010). Health departments might recruit public health students for paid-positions or academic-credit internships. Especially for underfunded health departments, students can provide “boots on the ground” to aid epidemiologists by interviewing consumers who are the victims of foodborne illnesses, and speed up the record keeping needed to report an outbreak to CDC.

Health departments should utilize available outbreak detection technology to the greatest extent practicable. The 2013 CSTE report found that more than one-third of states did not have electronic laboratory reporting and 71 percent of states did not use cluster detection software. Updated technology will help to link illnesses in multiple states and quantify the impact of disease outbreaks.

Health departments should also carefully examine current outbreak reporting practices throughout their jurisdictions and ensure they are keeping consumers informed on their findings. Failing to report unsolved outbreaks to CDC may bury important information and skew the statistical estimates of foodborne illness across the United States.

Collaboration between CDC and the states

CDC is a working partner at the Council to Improve Foodborne and Outbreak Response (CIFOR), a multidisciplinary working group comprised of 12 public health entities including FDA and USDA. To reduce foodborne illness in the United States, CIFOR developed the Guidelines for Foodborne Disease Outbreak Response which describes improved methods of detection, investigation, control, and follow-up at the local, state, and federal levels. For better surveillance, the Guide places emphasis on more detailed interviews of patients to build hypotheses regarding clusters, active soliciting of cases to generate more complete reports, and effective analysis of laboratory results to rapidly identify outbreaks.

For Congress and the States

With robust investigation and reporting systems, public health officials are better prepared to identify contaminated food sources before an outbreak spreads, and policy makers can develop regulations to minimize contamination problems. The 2013 USDA-ERS estimates of medical costs associated with 15 common foodborne pathogens was close to \$16 billion dollars (below). Those estimates are conservative, as they do not account for the economic burden on industry.

2013 Mean Estimate Annual Cost of Common Foodborne Pathogens (USDA-ERS)

<i>Salmonella</i> (non-typhoidal)	\$ 3,666,600,031
<i>Toxoplasma gondii</i>	\$ 3,303,984,478
<i>Listeria monocytogenes</i>	\$ 2,834,444,202
Norovirus	\$ 2,255,827,318
<i>Campylobacter</i>	\$ 1,928,787,166
<i>Clostridium perfringens</i>	\$ 342,668,498
<i>Vibrio vulnificus</i>	\$ 319,850,293
<i>Yersinia enterocolitica</i>	\$ 278,111,168
<i>Escherichia coli</i> O157	\$ 271,418,690
<i>Vibrio</i> (all other non-cholera species)	\$ 142,086,209
<i>Shigella</i>	\$ 137,965,962
<i>Cryptosporidium parvum</i>	\$ 51,813,652
<i>Vibrio parahaemolyticus</i>	\$ 40,682,312
non-O157 STEC <i>E. Coli</i>	\$ 27,364,561
<i>Cyclospora cayetanensis</i>	\$ 2,301,423
TOTAL	\$ 15,603,905,963

Foodborne illnesses are both a medical problem and an economic burden. USDA-ERS published data on the mean estimate cost for the most common pathogens in 2013. These 15 pathogens are implicated in more than 95 percent of all foodborne illnesses cases. The estimate accounts for outpatient and inpatient medical costs, lost wages or productivity losses, and willingness to pay to reduce mortality.

Yet too often, these programs face funding cuts. Cutting allocations at health departments has short-term and long-lasting repercussions on food safety that can endanger consumer health.

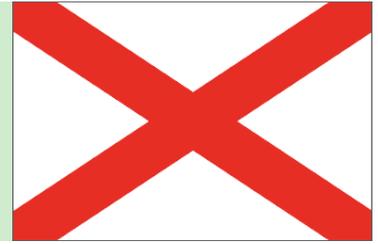
States' abilities to detect and respond to infectious diseases relies on funding from the Epidemiology and Laboratory Capacity (ELC) grant, which supplies basic financial and technical infrastructure to improve surveillance outcomes. In addition, federal programs—such as FoodNet and FoodCore—have benefits that go beyond the states in which they are funded. Congress and individual state legislatures must recognize these as essential services and give them priority and funding.

In addition, federal and state governments should proceed carefully with proposals to transfer additional responsibilities for inspecting FDA-regulated facilities to states. Shifting the responsibility to perform federal mandates may overburden the states and divert resources from traditional and essential public health functions.

Ultimately, preventing foodborne illness requires the dedication of all those involved: food producers, processors, restaurants and retailers, consumers, physicians, state and local health departments, federal food safety agencies, Congress, and state legislatures. With state outbreak reporting literally all over the map, efforts to prevent foodborne illness could be delayed by the undiscovered outbreaks and the secrets they hold.

Outbreak Reporting from the States: Foodborne Illness Outbreaks from 2003 to 2012

Alabama

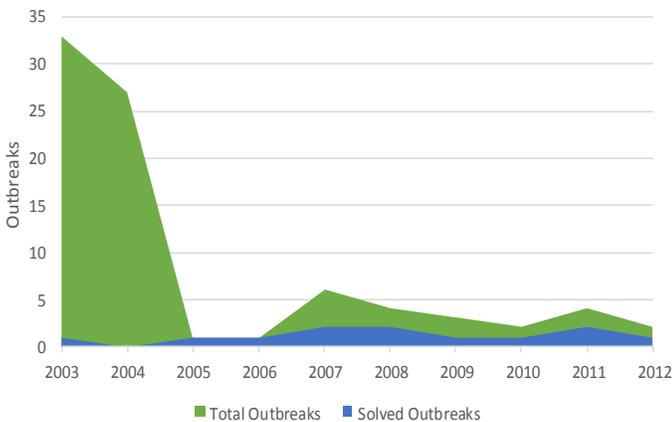


83 Outbreaks Reported in Alabama

12 Outbreaks Solved in Alabama

Over a ten-year period, Alabama’s state and local health departments reported 83 outbreaks affecting only Alabama residents to the Centers for Disease Control and Prevention (CDC). Of the reported outbreaks, 12 were solved. “Solved” outbreaks—those where both a pathogen and a food source are identified—represent a minority of most states’ reported outbreaks. Solved outbreaks are the most valuable in terms of providing information to help prevent future illnesses. Rapid identification of the contaminated food source also enables states to quickly alert consumers and implement a food recall, thereby decreasing the public health impact.

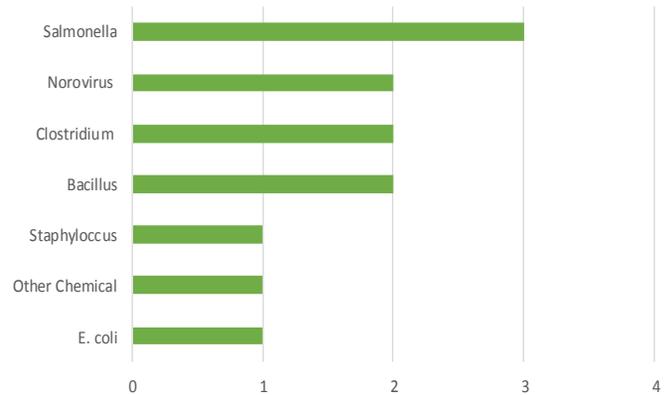
Trends in Reported and Solved Outbreaks



The median number of reported outbreaks was 3.5 per year over the ten-year period, or 1 reported outbreak per 1 million population. The best performing states report 8 or more outbreaks per million population. Fourteen percent of outbreaks reported in Alabama during this period were solved. These indicators reflect the state’s capacity for epidemiologic investigation.

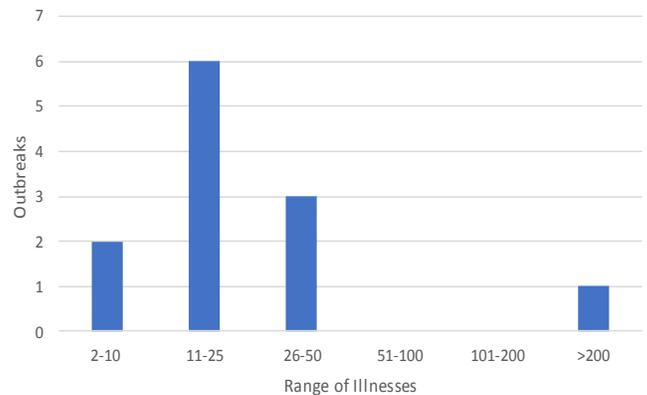
Pathogens Implicated in Solved Outbreaks (n=12)

The most common pathogen implicated in solved food-related outbreaks in Alabama was *Salmonella* (3 outbreaks, 25%). A total of 7 pathogens were identified in the 12 solved outbreaks in the state. The number of pathogens reported indicates the state’s laboratory capacity.



Size of Solved Outbreaks (n=12)

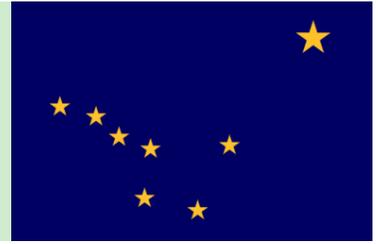
Seventeen percent of Alabama outbreaks affected between 2 and 10 people. Outbreak size can indicate the emphasis a state places on investigating smaller outbreaks, which can affect the speed with which a state identifies contaminated food and removes it from commerce. Alternately, a small outbreak might indicate a more limited food source.



Multi-State Outbreaks: 18
From 2003-2012

Alabama participates in two CDC surveillance programs: CaliciNet and PulseNet.

Outbreak Reporting from the States: Foodborne Illness Outbreaks from 2003 to 2012



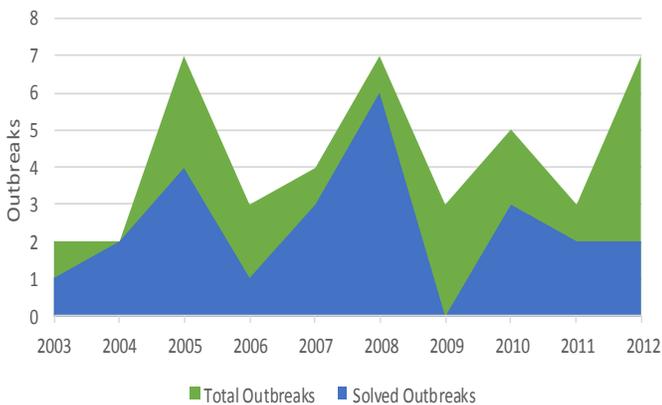
Alaska

43 Outbreaks Reported in Alaska

24 Outbreaks Solved in Alaska

Over a ten-year period, Alaska’s state and local health departments reported 43 outbreaks affecting only Alaska residents to the Centers for Disease Control and Prevention (CDC). Of the reported outbreaks, 24 were solved. “Solved” outbreaks—those where both a pathogen and a food source are identified—represent a minority of most states’ reported outbreaks. Solved outbreaks are the most valuable in terms of providing information to help prevent future illnesses. Rapid identification of the contaminated food source also enables states to quickly alert consumers and implement a food recall, thereby decreasing the public health impact.

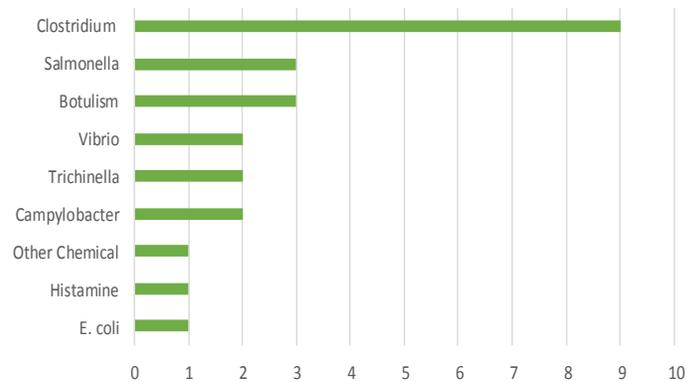
Trends in Reported and Solved Outbreaks



The median number of reported outbreaks was 3.5 per year over the ten-year period, or 5 reported outbreaks per 1 million population. The best performing states report 8 or more outbreaks per million population. Fifty-six percent of outbreaks reported in Alaska during this period were solved. These indicators reflect the state’s capacity for epidemiologic investigation.

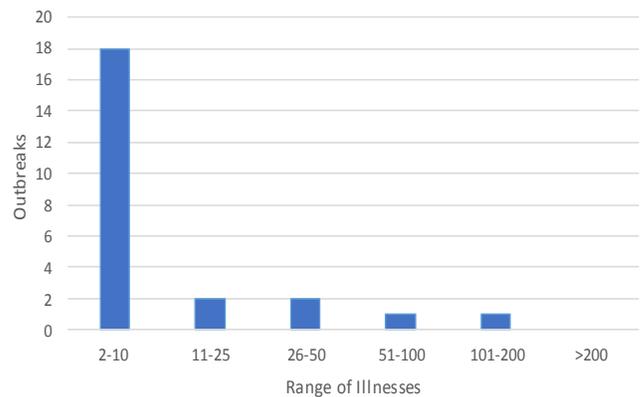
Pathogens Implicated in Solved Outbreaks (n=24)

The most common pathogen implicated in solved food-related outbreaks in Alaska was *Clostridium* (9 outbreaks, 38%), followed by *Salmonella* and Botulism (3 outbreaks, 13%). A total of 9 pathogens were identified in the 24 solved outbreaks in the state. The number of pathogens reported indicates the state’s laboratory capacity.



Size of Solved Outbreaks (n=24)

Seventy-five percent of Alaska outbreaks affected between 2 and 10 people. Outbreak size can indicate the emphasis a state places on investigating smaller outbreaks, which can affect the speed with which a state identifies contaminated food and removes it from commerce. Alternately, a small outbreak might indicate a more limited food source.



Multi-State Outbreaks: 10
From 2003-2012

Alaska participates in one CDC surveillance program: PulseNet.

Outbreak Reporting from the States: Foodborne Illness Outbreaks from 2003 to 2012



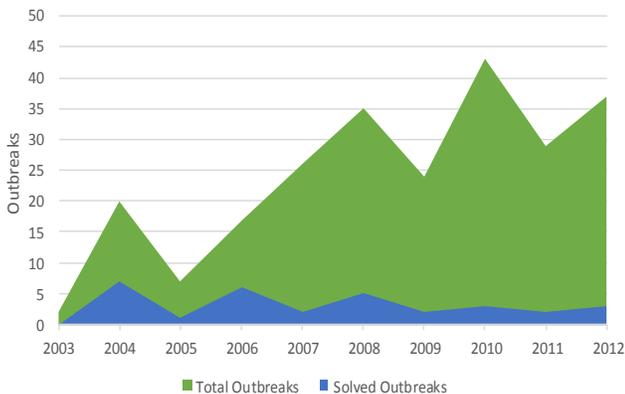
Arizona

240 Outbreaks Reported in Arizona

31 Outbreaks Solved in Arizona

Over a ten-year period, Arizona's state and local health departments reported 240 outbreaks affecting only Illinois residents to the Centers for Disease Control and Prevention (CDC). Of the reported outbreaks, 31 were solved. "Solved" outbreaks—those where both a pathogen and a food source are identified—represent a minority of most states' reported outbreaks. Solved outbreaks are the most valuable in terms of providing information to help prevent future illnesses. Rapid identification of the contaminated food source also enables states to quickly alert consumers and implement a food recall, thereby decreasing the public health impact.

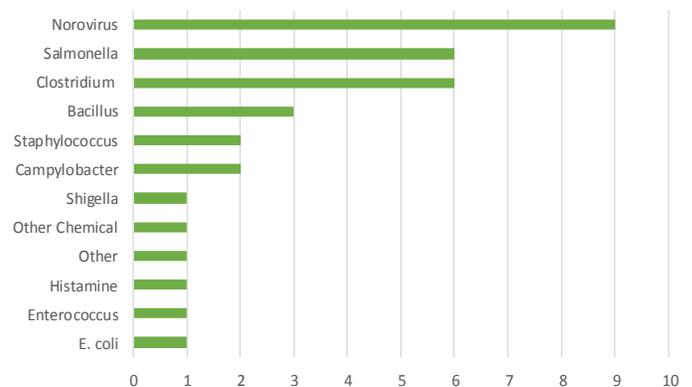
Trends in Reported and Solved Outbreaks



The median number of reported outbreaks was 25 per year over the ten-year period, or 4 reported outbreaks per 1 million population. The best performing states report 8 or more outbreaks per million population. Thirteen percent of outbreaks reported in Arizona during this period were solved. These indicators reflect the state's capacity for epidemiologic investigation.

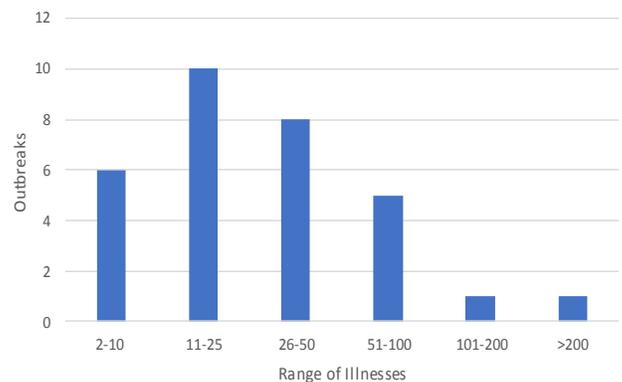
Pathogens Implicated in Solved Outbreaks (n=31)

The most common pathogen implicated in solved food-related outbreaks in Arizona was Norovirus (9 outbreaks, 29%), followed by *Salmonella* and *Clostridium* (6 outbreaks, 19%). A total of 12 pathogens were identified in the 31 solved outbreaks in the state. The number of pathogens reported indicates the state's laboratory capacity.



Size of Solved Outbreaks (n=31)

Nineteen percent of Arizona outbreaks affected between 2 and 10 people. Outbreak size can indicate the emphasis a state places on investigating smaller outbreaks, which can affect the speed with which a state identifies contaminated food and removes it from commerce. Alternately, a small outbreak might indicate a more limited food source.



Multi-State Outbreaks: 30
From 2003-2012

Arizona participates in one CDC surveillance program: PulseNet.

Outbreak Reporting from the States: Foodborne Illness Outbreaks from 2003 to 2012



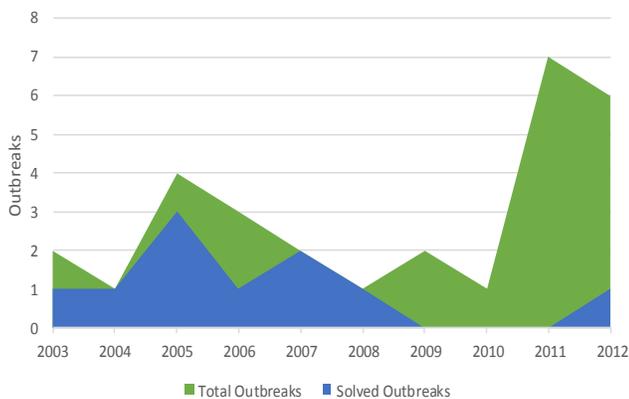
Arkansas

29 Outbreaks Reported in Arkansas

10 Outbreaks Solved in Arkansas

Over a ten-year period, Arkansas' state and local health departments reported 29 outbreaks affecting only Arkansas residents to the Centers for Disease Control and Prevention (CDC). Of the reported outbreaks, 10 were solved. "Solved" outbreaks—those where both a pathogen and a food source are identified—represent a minority of most states' reported outbreaks. Solved outbreaks are the most valuable in terms of providing information to help prevent future illnesses. Rapid identification of the contaminated food source also enables states to quickly alert consumers and implement a food recall, thereby decreasing the public health impact.

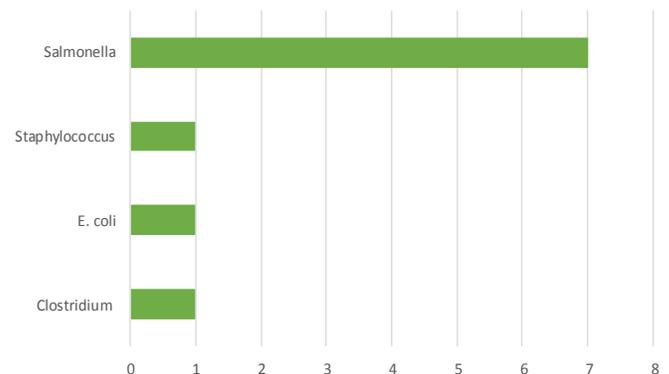
Trends in Reported and Solved Outbreaks



The median number of reported outbreaks was 2 per year over the ten-year period, or 1 reported outbreak per 1 million population. The best performing states report 8 or more outbreaks per million population. Thirty-four percent of outbreaks reported in Arkansas during this period were solved. These indicators reflect the state's capacity for epidemiologic investigation.

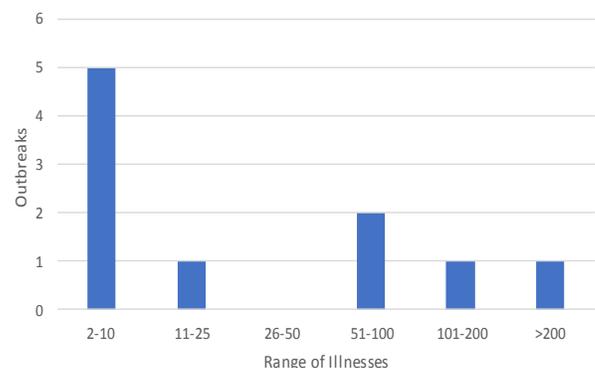
Pathogens Implicated in Solved Outbreaks (n=10)

The most common pathogen implicated in solved food-related outbreaks in Arkansas was *Salmonella* (7 outbreaks, 70%). A total of 4 pathogens were identified in the 10 solved outbreaks in the state. The number of pathogens reported indicates the state's laboratory capacity.



Size of Solved Outbreaks (n=10)

Fifty percent of Arkansas outbreaks affected between 2 and 10 people. Outbreak size can indicate the emphasis a state places on investigating smaller outbreaks, which can affect the speed with which a state identifies contaminated food and removes it from commerce. Alternately, a small outbreak might indicate a more limited food source.



Multi-State Outbreaks: 16
From 2003-2012

Arkansas participates in two CDC surveillance programs: CaliciNet and PulseNet.

Outbreak Reporting from the States: Foodborne Illness Outbreaks from 2003 to 2012



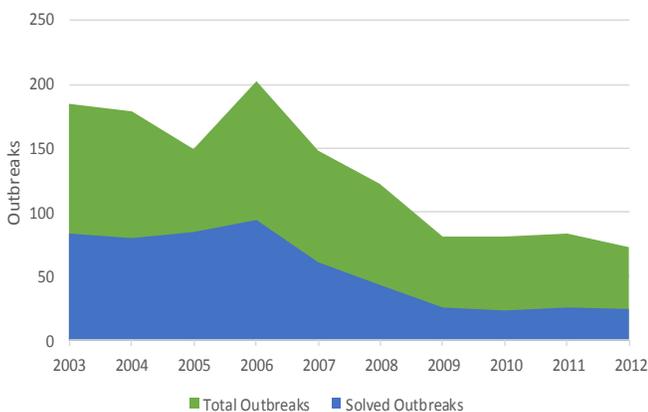
California

1303 Outbreaks Reported in California

543 Outbreaks Solved in California

Over a ten-year period, California’s state and local health departments reported 1303 outbreaks affecting only California residents to the Centers for Disease Control and Prevention (CDC). Of the reported outbreaks, 543 were solved. “Solved” outbreaks—those where both a pathogen and a food source are identified—represent a minority of most states’ reported outbreaks. Solved outbreaks are the most valuable in terms of providing information to help prevent future illnesses. Rapid identification of the contaminated food source also enables states to quickly alert consumers and implement a food recall, thereby decreasing the public health impact.

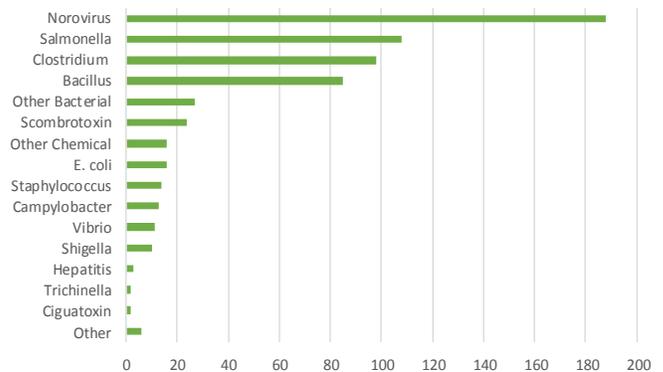
Trends in Reported and Solved Outbreaks



The median number of reported outbreaks was 135 per year over the ten-year period, or 4 reported outbreaks per 1 million population. The best performing states report 8 or more outbreaks per million population. Forty-two percent of outbreaks reported in California during this period were solved. These indicators reflect the state’s capacity for epidemiologic investigation.

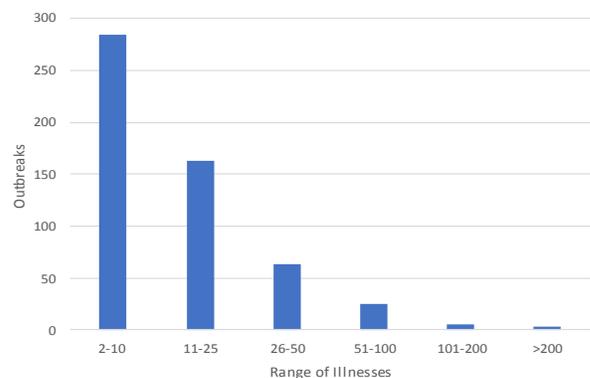
Pathogens Implicated in Solved Outbreaks (n=543)

The most common pathogen implicated in solved food-related outbreaks in California was Norovirus (188 outbreaks, 35%), followed by *Salmonella* (108 outbreaks, 20%) and *Clostridium* (98 outbreaks, 18%). A total of 21 pathogens were identified in the 543 solved outbreaks in the state. The number of pathogens reported indicates the state’s laboratory capacity.



Size of Solved Outbreaks (n=543)

Fifty-two percent of California outbreaks affected between 2 and 10 people. Outbreak size can indicate the emphasis a state places on investigating smaller outbreaks, which can affect the speed with which a state identifies contaminated food and removes it from commerce. Alternately, a small outbreak might indicate a more limited food source.



Multi-State Outbreaks: 54
From 2003-2012

California participates in four CDC surveillance programs: FoodNet, CaliciNet, EHS-Net and PulseNet.

Outbreak Reporting from the States: Foodborne Illness Outbreaks from 2003 to 2012

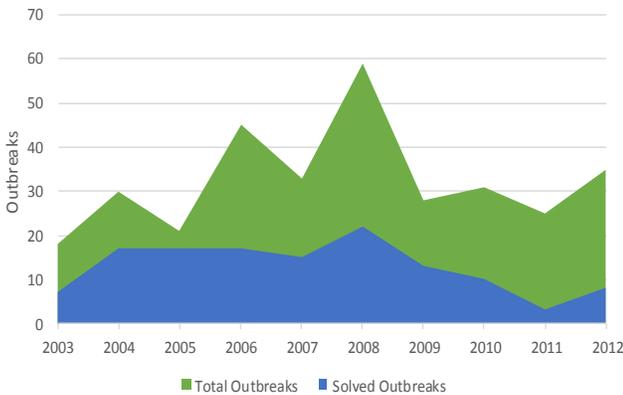
Colorado



325 Outbreaks Reported in Colorado
129 Outbreaks Solved in Colorado

Over a ten-year period, Colorado's state and local health departments reported 325 outbreaks affecting only Colorado residents to the Centers for Disease Control and Prevention (CDC). Of the reported outbreaks, 129 were solved. "Solved" outbreaks—those where both a pathogen and a food source are identified—represent a minority of most states' reported outbreaks. Solved outbreaks are the most valuable in terms of providing information to help prevent future illnesses. Rapid identification of the contaminated food source also enables states to quickly alert consumers and implement a food recall, thereby decreasing the public health impact.

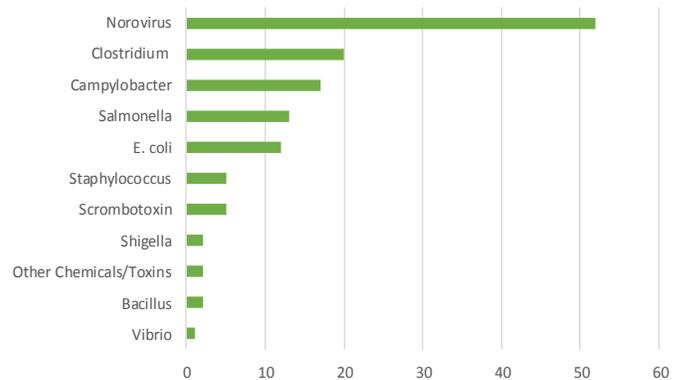
Trends in Reported and Solved Outbreaks



The median number of reported outbreaks was 30.5 per year over the ten-year period, or 6 reported outbreaks per 1 million population. The best performing states report 8 or more outbreaks per million population. Forty percent of outbreaks reported in Colorado during this period were solved. These indicators reflect the state's capacity for epidemiologic investigation.

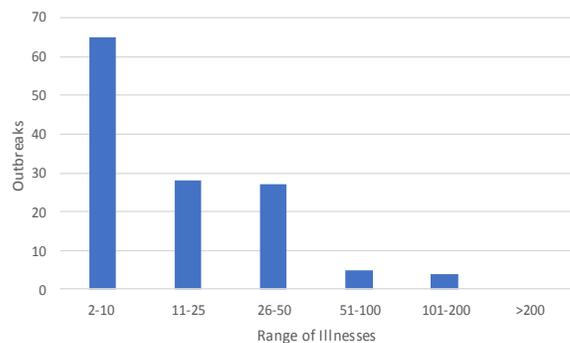
Pathogens Implicated in Solved Outbreaks (n=129)

The most common pathogen implicated in solved food-related outbreaks in Colorado was Norovirus (52 outbreaks, 40%), followed by *Clostridium* (20 outbreaks, 16%) and *Campylobacter* (17 outbreaks, 13%). A total of 11 pathogens were identified in the 129 solved outbreaks in the state. The number of pathogens reported indicates the state's laboratory capacity.



Size of Solved Outbreaks (n=129)

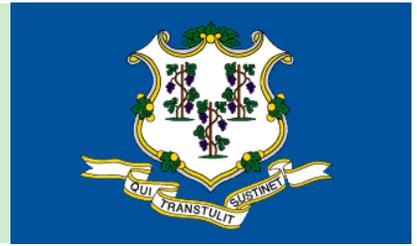
Fifty percent of Colorado outbreaks affected between 2 and 10 people. Outbreak size can indicate the emphasis a state places on investigating smaller outbreaks, which can affect the speed with which a state identifies contaminated food and removes it from commerce. Alternately, a small outbreak might indicate a more limited food source.



Multi-State Outbreaks: 42
From 2003-2012

Colorado participates in five CDC surveillance programs: FoodNet, CaliciNet, Integrated Food Safety Centers of Excellence, EHS-Net and PulseNet.

Outbreak Reporting from the States: Foodborne Illness Outbreaks from 2003 to 2012



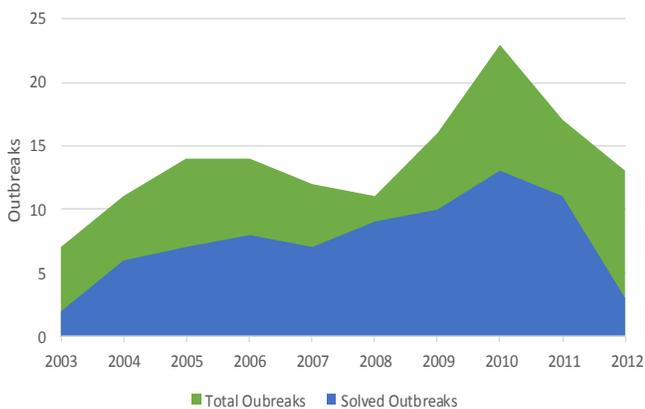
Connecticut

138 Outbreaks Reported in Connecticut

76 Outbreaks Solved in Connecticut

Over a ten-year period, Connecticut’s state and local health departments reported 138 outbreaks affecting only Connecticut residents to the Centers for Disease Control and Prevention (CDC). Of the reported outbreaks, 76 were solved. “Solved” outbreaks—those where both a pathogen and a food source are identified—represent a minority of most states’ reported outbreaks. Solved outbreaks are the most valuable in terms of providing information to help prevent future illnesses. Rapid identification of the contaminated food source also enables states to quickly alert consumers and implement a food recall, thereby decreasing the public health impact.

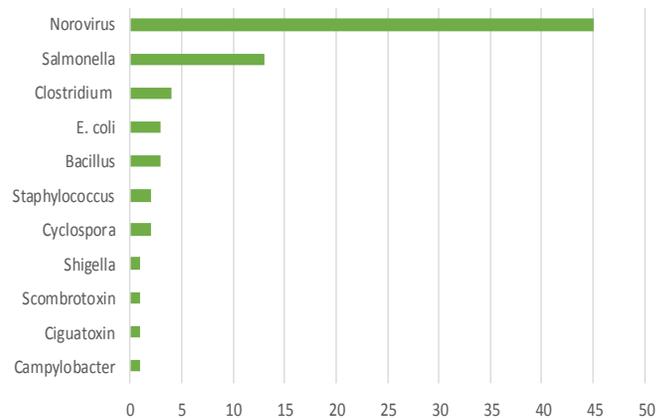
Trends in Reported and Solved Outbreaks



The median number of reported outbreaks was 13.5 per year over the ten-year period, or 4 reported outbreaks per 1 million population. The best performing states report 8 or more outbreaks per million population. Fifty-five percent of outbreaks reported in Connecticut during this period were solved. These indicators reflect the state’s capacity for epidemiologic investigation.

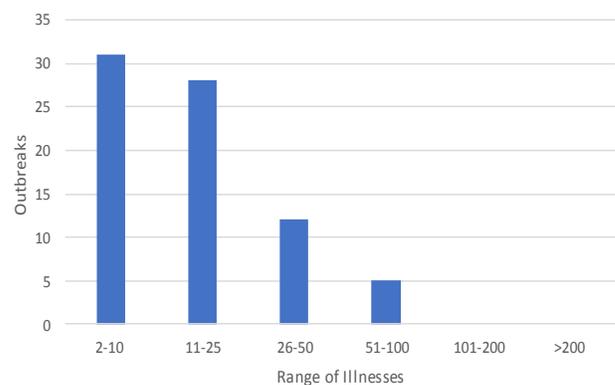
Pathogens Implicated in Solved Outbreaks (n=76)

The most common pathogen implicated in solved food-related outbreaks in Connecticut was Norovirus (45 outbreaks, 59%), followed by *Salmonella* (13 outbreaks, 17%). A total of 11 pathogens were identified in the 76 solved outbreaks in the state. The number of pathogens reported indicates the state’s laboratory capacity.



Size of Solved Outbreaks (n=76)

Forty-one percent of Connecticut outbreaks affected between 2 and 10 people. Outbreak size can indicate the emphasis a state places on investigating smaller outbreaks, which can affect the speed with which a state identifies contaminated food and removes it from commerce. Alternately, a small outbreak might indicate a more limited food source.



Multi-State Outbreaks: 40
From 2003-2012

Connecticut participates in four CDC surveillance programs: FoodCORE, FoodNet, EHS-Net and PulseNet.

Outbreak Reporting from the States: Foodborne Illness Outbreaks from 2003 to 2012



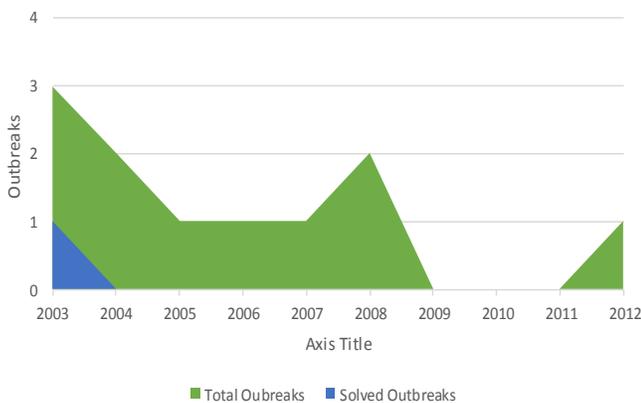
DECEMBER 7, 1787

11 Outbreaks Reported in Delaware

1 Outbreaks Solved in Delaware

Over a ten-year period, Delaware's state and local health departments reported 11 outbreaks affecting only Delaware residents to the Centers for Disease Control and Prevention (CDC). Of the reported outbreaks, 1 was solved. "Solved" outbreaks—those where both a pathogen and a food source are identified—represent a minority of most states' reported outbreaks. Solved outbreaks are the most valuable in terms of providing information to help prevent future illnesses. Rapid identification of the contaminated food source also enables states to quickly alert consumers and implement a food recall, thereby decreasing the public health impact.

Trends in Reported and Solved Outbreaks



The median number of reported outbreaks was 1 per year over the ten-year period, or 1 reported outbreak per 1 million population. The best performing states report 8 or more outbreaks per million population. Nine percent of outbreaks reported in Delaware during this period were solved. These indicators reflect the state's capacity for epidemiologic investigation.

Pathogens Implicated in Solved Outbreaks (n=1)

One pathogen was identified in the one solved outbreak in Delaware: Norovirus. The number of pathogens reported indicates the state's laboratory capacity.

Size of Solved Outbreaks (n=1)

The only solved outbreak in Delaware affected 28 people. Outbreak size can indicate the emphasis a state places on investigating smaller outbreaks, which can affect the speed with which a state identifies contaminated food and removes it from commerce. Alternately, a small outbreak might indicate a more limited food source.

An analysis was not completed because only one solved outbreak during this ten-year period affected only Delaware residents.

Multi-State Outbreaks: 16
From 2003-2012

Delaware participates in two CDC surveillance programs: CaliciNet and PulseNet.

Outbreak Reporting from the States: Foodborne Illness Outbreaks from 2003 to 2012



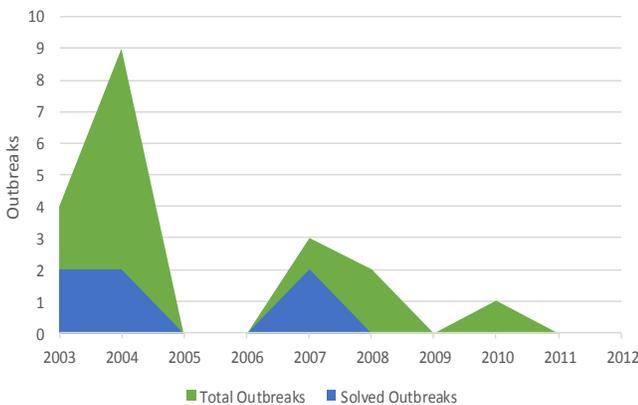
District of Columbia

19 Outbreaks Reported in DC

6 Outbreaks Solved in DC

Over a ten-year period, the District of Columbia's health department reported 19 outbreaks affecting only Illinois residents to the Centers for Disease Control and Prevention (CDC). Of the reported outbreaks, 6 were solved. "Solved" outbreaks—those where both a pathogen and a food source are identified—represent a minority of most states' reported outbreaks. Solved outbreaks are the most valuable in terms of providing information to help prevent future illnesses. Rapid identification of the contaminated food source also enables states to quickly alert consumers and implement a food recall, thereby decreasing the public health impact.

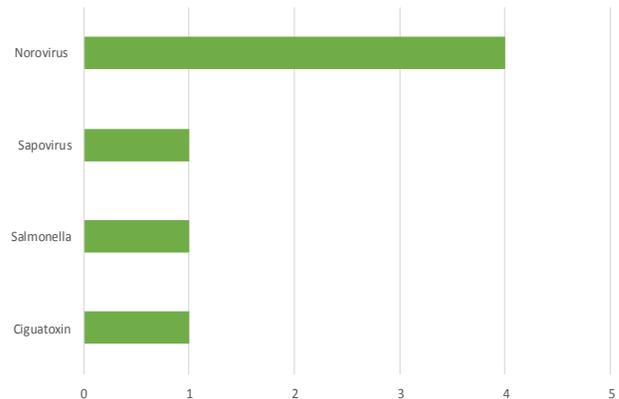
Trends in Reported and Solved Outbreaks



The median number of reported outbreaks was 0.5 per year over the ten-year period, or 1 reported outbreak per 1 million population. The best performing states report 8 or more outbreaks per million population. Thirty-two percent of outbreaks reported in the District of Columbia during this period were solved. These indicators reflect the state's capacity for epidemiologic investigation.

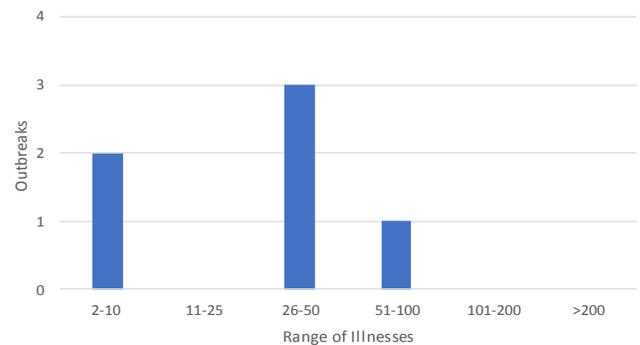
Pathogens Implicated in Solved Outbreaks (n=6)

The most common pathogen implicated in solved food-related outbreaks in the District of Columbia was Norovirus (4 outbreaks, 67%). A total of 4 pathogens were identified in the 6 solved outbreaks in the district. The number of pathogens reported indicates the district's laboratory capacity.



Size of Solved Outbreaks (n=6)

Thirty-three percent of District of Columbia outbreaks affected between 2 and 10 people. Outbreak size can indicate the emphasis a state places on investigating smaller outbreaks, which can affect the speed with which a state identifies contaminated food and removes it from commerce. Alternately, a small outbreak might indicate a more limited food source.



Multi-State Outbreaks: 5
From 2003-2012

The District of Columbia participates in two CDC surveillance programs: CaliciNet and PulseNet.

Outbreak Reporting from the States: Foodborne Illness Outbreaks from 2003 to 2012

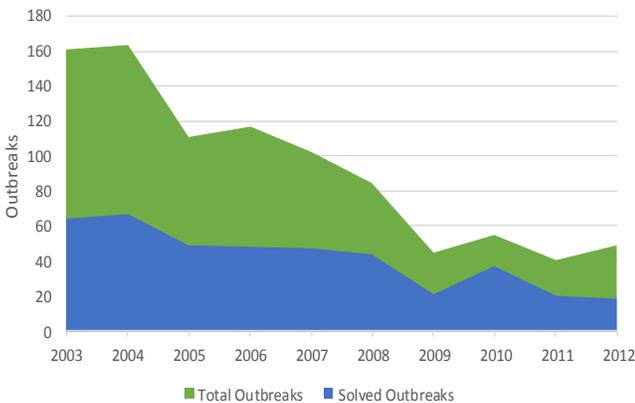
Florida



929 Outbreaks Reported in Florida
415 Outbreaks Solved in Florida

Over a ten-year period, Florida’s state and local health departments reported 929 outbreaks affecting only Illinois residents to the Centers for Disease Control and Prevention (CDC). Of the reported outbreaks, 415 were solved. “Solved” outbreaks—those where both a pathogen and a food source are identified—represent a minority of most states’ reported outbreaks. Solved outbreaks are the most valuable in terms of providing information to help prevent future illnesses. Rapid identification of the contaminated food source also enables states to quickly alert consumers and implement a food recall, thereby decreasing the public health impact.

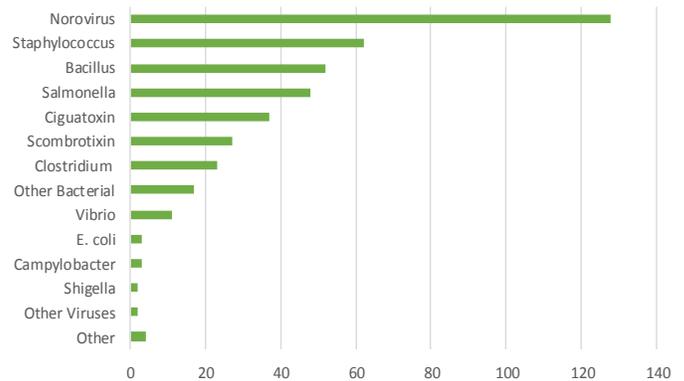
Trends in Reported and Solved Outbreaks



The median number of reported outbreaks was 93.5 per year over the ten-year period, or 5 reported outbreaks per 1 million population. The best performing states report 8 or more outbreaks per million population. Forty-five percent of outbreaks reported in Florida during this period were solved. These indicators reflect the state’s capacity for epidemiologic investigation.

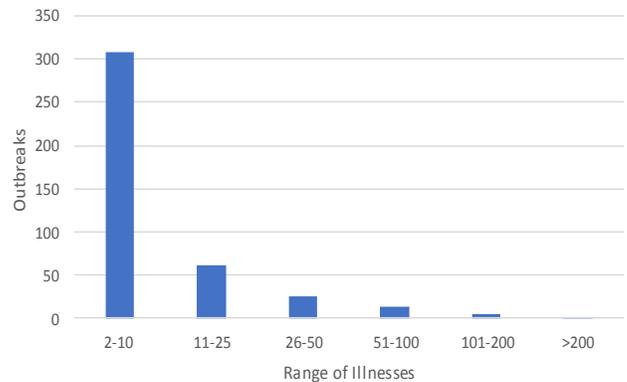
Pathogens Implicated in Solved Outbreaks (n=415)

The most common pathogen implicated in solved food-related outbreaks in Florida was Norovirus 128 outbreaks, 31%. A total of 17 pathogens were identified in the 415 solved outbreaks in the state. The number of pathogens reported indicates the state’s laboratory capacity.



Size of Solved Outbreaks (n=415)

Seventy-four percent of Florida outbreaks affected between 2 and 10 people. Outbreak size can indicate the emphasis a state places on investigating smaller outbreaks, which can affect the speed with which a state identifies contaminated food and removes it from commerce. Alternately, a small outbreak might indicate a more limited food source.



Multi-State Outbreaks: 23
From 2003-2012

Florida participates in three CDC surveillance programs: CaliciNet, Integrated Food Safety Centers for Excellence and PulseNet.

Outbreak Reporting from the States: Foodborne Illness Outbreaks from 2003 to 2012 Georgia

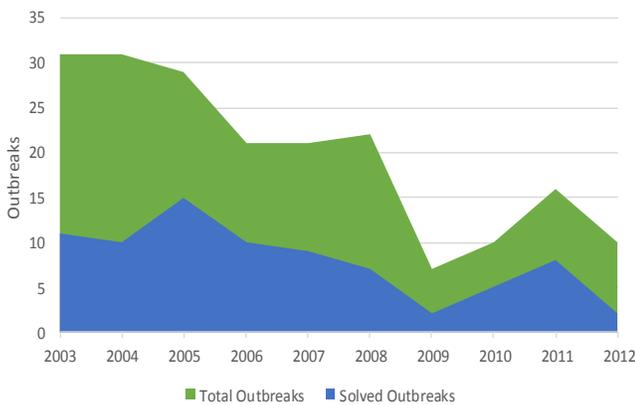


198 Outbreaks Reported in Georgia

79 Outbreaks Solved in Georgia

Over a ten-year period, Georgia's state and local health departments reported 198 outbreaks affecting only Georgia residents to the Centers for Disease Control and Prevention (CDC). Of the reported outbreaks, 79 were solved. "Solved" outbreaks—those where both a pathogen and a food source are identified—represent a minority of most states' reported outbreaks. Solved outbreaks are the most valuable in terms of providing information to help prevent future illnesses. Rapid identification of the contaminated food source also enables states to quickly alert consumers and implement a food recall, thereby decreasing the public health impact.

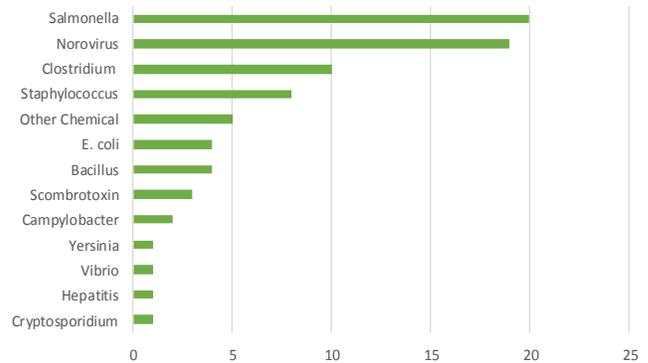
Trends in Reported and Solved Outbreaks



The median number of reported outbreaks was 21 per year over the ten-year period, or 2 reported outbreaks per 1 million population. The best performing states report 8 or more outbreaks per million population. Forty percent of outbreaks reported in Georgia during this period were solved. These indicators reflect the state's capacity for epidemiologic investigation.

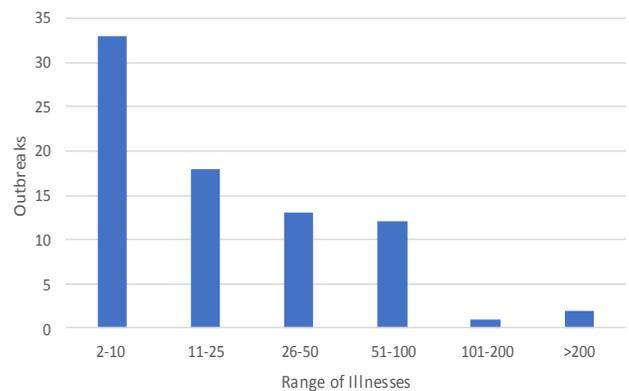
Pathogens Implicated in Solved Outbreaks (n=79)

The most common pathogen implicated in solved food-related outbreaks in Georgia was *Salmonella* (20 outbreaks, 25%), followed by Norovirus (19 outbreaks, 24%). A total of 13 pathogens were identified in the 79 solved outbreaks in the state. The number of pathogens reported indicates the state's laboratory capacity.



Size of Solved Outbreaks (n=79)

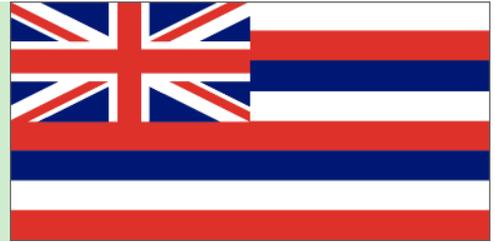
Forty-two percent of Georgia outbreaks affected between 2 and 10 people. Outbreak size can indicate the emphasis a state places on investigating smaller outbreaks, which can affect the speed with which a state identifies contaminated food and removes it from commerce. Alternately, a small outbreak might indicate a more limited food source.



Multi-State Outbreaks: 34
From 2003-2012

Georgia participates in two CDC surveillance programs: EHS-Net and PulseNet.

Outbreak Reporting from the States: Foodborne Illness Outbreaks from 2003 to 2012



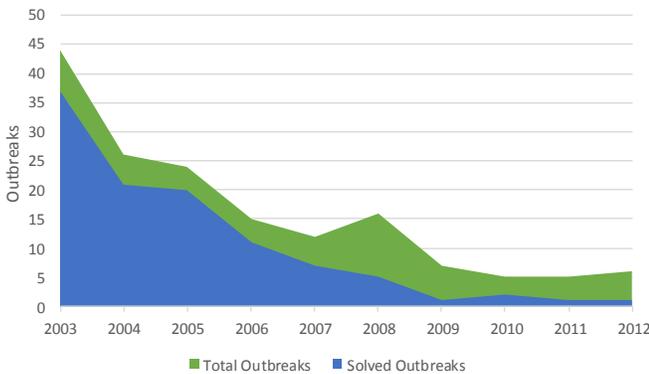
Hawaii

160 Outbreaks Reported in Hawaii

106 Outbreaks Solved in Hawaii

Over a ten-year period, Hawaii's state and local health departments reported 160 outbreaks affecting only Hawaii residents to the Centers for Disease Control and Prevention (CDC). Of the reported outbreaks, 106 were solved. "Solved" outbreaks—those where both a pathogen and a food source are identified—represent a minority of most states' reported outbreaks. Solved outbreaks are the most valuable in terms of providing information to help prevent future illnesses. Rapid identification of the contaminated food source also enables states to quickly alert consumers and implement a food recall, thereby decreasing the public health impact.

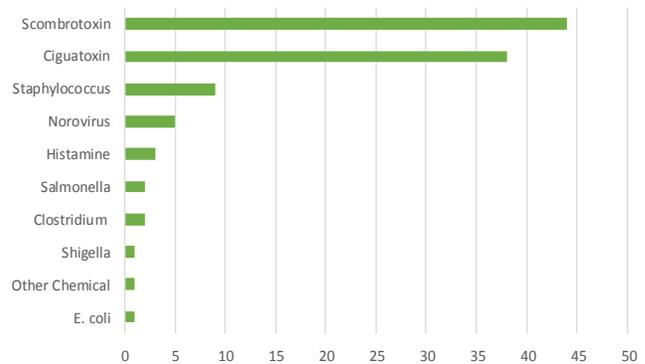
Trends in Reported and Solved Outbreaks



The median number of reported outbreaks was 13.5 per year over the ten-year period, or 11 reported outbreaks per 1 million population. The best performing states report 8 or more outbreaks per million population. Sixty-six percent of outbreaks reported in Hawaii during this period were solved. These indicators reflect the state's capacity for epidemiologic investigation.

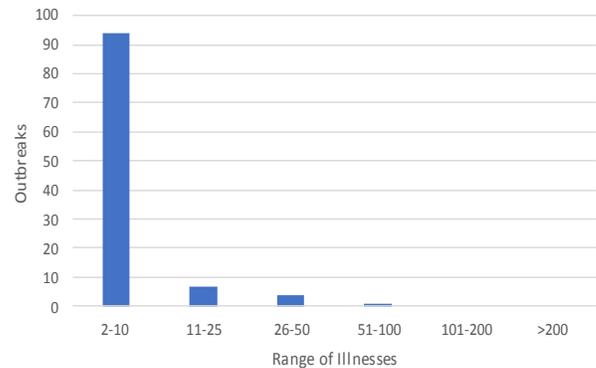
Pathogens Implicated in Solved Outbreaks (n=106)

The most common pathogen implicated in solved food-related outbreaks in Alaska was Scombrototoxin (44 outbreaks, 42%), followed by Ciguatoxin (28 outbreaks, 36%). A total of 10 pathogens were identified in the 106 solved outbreaks in the state. The number of pathogens reported indicates the state's laboratory capacity.



Size of Solved Outbreaks (n=106)

Eighty-nine percent of Hawaii outbreaks affected between 2 and 10 people. Outbreak size can indicate the emphasis a state places on investigating smaller outbreaks, which can affect the speed with which a state identifies contaminated food and removes it from commerce. Alternately, a small outbreak might indicate a more limited food source.



Multi-State Outbreaks: 7
From 2003-2012

Hawaii participates in two CDC surveillance programs: CaliciNet and PulseNet.

Outbreak Reporting from the States: Foodborne Illness Outbreaks from 2003 to 2012



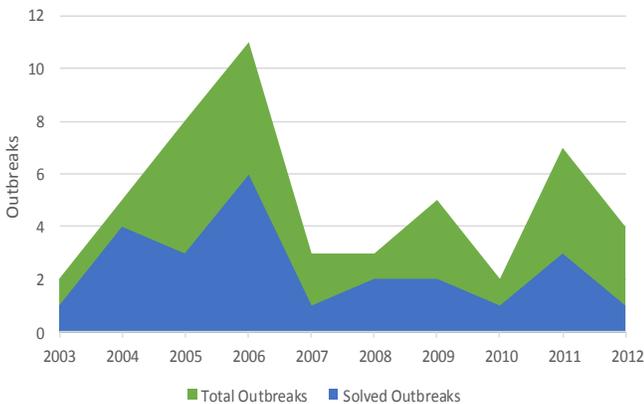
Idaho

50 Outbreaks Reported in Idaho

24 Outbreaks Solved in Idaho

Over a ten-year period, Idaho’s state and local health departments reported 50 outbreaks affecting only Idaho residents to the Centers for Disease Control and Prevention (CDC). Of the reported outbreaks, 24 were solved. “Solved” outbreaks—those where both a pathogen and a food source are identified—represent a minority of most states’ reported outbreaks. Solved outbreaks are the most valuable in terms of providing information to help prevent future illnesses. Rapid identification of the contaminated food source also enables states to quickly alert consumers and implement a food recall, thereby decreasing the public health impact.

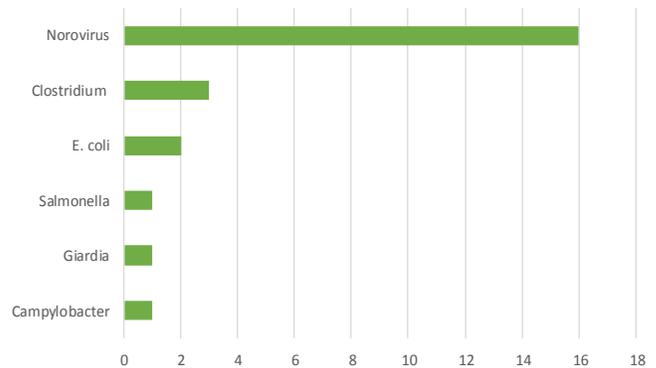
Trends in Reported and Solved Outbreaks



The median number of reported outbreaks was 4.5 per year over the ten-year period, or 3 reported outbreaks per 1 million population. The best performing states report 8 or more outbreaks per million population. Forty-eight percent of outbreaks reported in Idaho during this period were solved. These indicators reflect the state’s capacity for epidemiologic investigation.

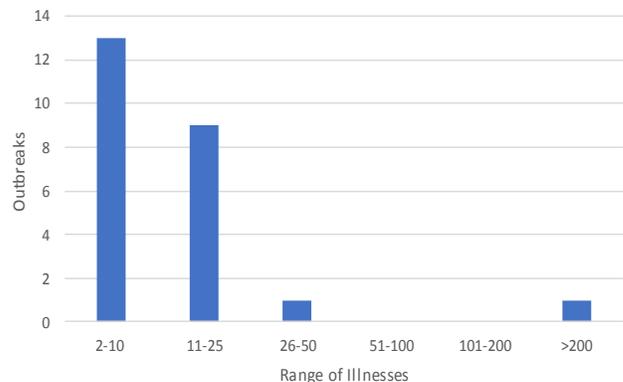
Pathogens Implicated in Solved Outbreaks (n=24)

The most common pathogen implicated in solved food-related outbreaks in Idaho was Norovirus (16 outbreaks, 67%). A total of 6 pathogens were identified in the 24 solved outbreaks in the state. The number of pathogens reported indicates the state’s laboratory capacity.



Size of Solved Outbreaks (n=24)

Fifty-four percent of Idaho outbreaks affected between 2 and 10 people. Outbreak size can indicate the emphasis a state places on investigating smaller outbreaks, which can affect the speed with which a state identifies contaminated food and removes it from commerce. Alternately, a small outbreak might indicate a more limited food source.



Multi-State Outbreaks: 18
From 2003-2012

Idaho participates in two CDC surveillance programs: CaliciNet and PulseNet.

Outbreak Reporting from the States: Foodborne Illness Outbreaks from 2003 to 2012

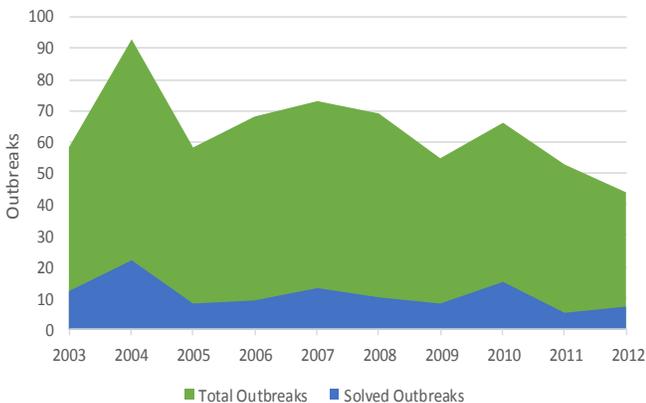
Illinois



637 Outbreaks Reported in Illinois
109 Outbreaks Solved in Illinois

Over a ten-year period, Illinois' state and local health departments reported 637 outbreaks affecting only Illinois residents to the Centers for Disease Control and Prevention (CDC). Of the reported outbreaks, 109 were solved. "Solved" outbreaks—those where both a pathogen and a food source are identified—represent a minority of most states' reported outbreaks. Solved outbreaks are the most valuable in terms of providing information to help prevent future illnesses. Rapid identification of the contaminated food source also enables states to quickly alert consumers and implement a food recall, thereby decreasing the public health impact.

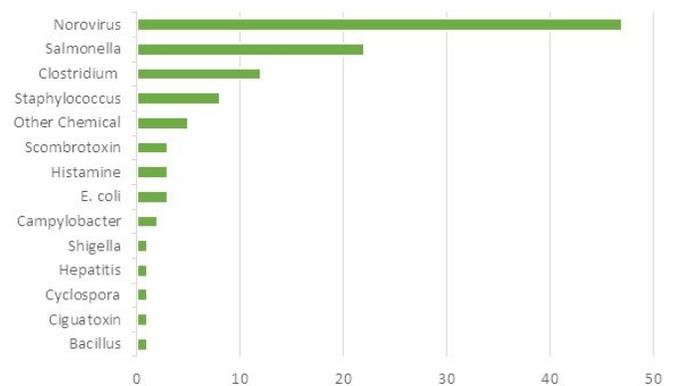
Trends in Reported and Solved Outbreaks



The median number of reported outbreaks was 62 per year over the ten-year period, or 5 reported outbreaks per 1 million population. The best performing states report 8 or more outbreaks per million population. Seventeen percent of outbreaks reported in Illinois during this period were solved. These indicators reflect the state's capacity for epidemiologic investigation.

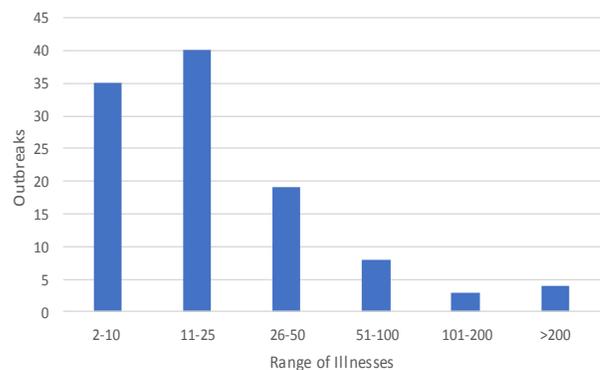
Pathogens Implicated in Solved Outbreaks (n=109)

The most common pathogen implicated in solved food-related outbreaks in Alaska was Norovirus (47 outbreaks, 43%), followed by *Salmonella* (22 outbreaks, 20%). A total of 14 pathogens were identified in the 109 solved outbreaks in the state. The number of pathogens reported indicates the state's laboratory capacity.



Size of Solved Outbreaks (n=109)

Thirty-two percent of Illinois outbreaks affected between 2 and 10 people. Outbreak size can indicate the emphasis a state places on investigating smaller outbreaks, which can affect the speed with which a state identifies contaminated food and removes it from commerce. Alternately, a small outbreak might indicate a more limited food source.



Multi-State Outbreaks: 48
From 2003-2012

Illinois participates in one CDC surveillance program: PulseNet.

Outbreak Reporting from the States: Foodborne Illness Outbreaks from 2003 to 2012



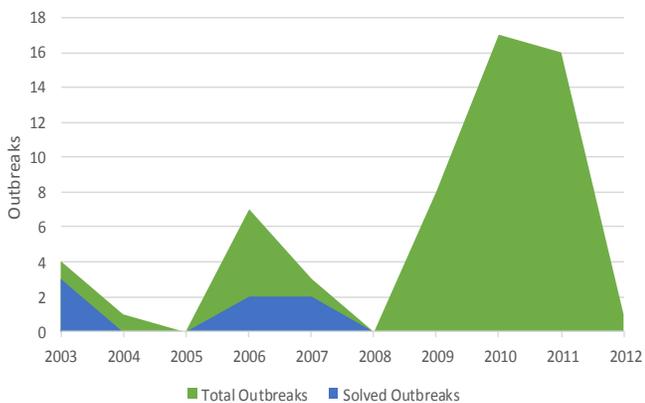
Indiana

57 Outbreaks Reported in Indiana

7 Outbreaks Solved in Indiana

Over a ten-year period, Indiana's state and local health departments reported 57 outbreaks affecting only Indiana residents to the Centers for Disease Control and Prevention (CDC). Of the reported outbreaks, 7 were solved. "Solved" outbreaks—those where both a pathogen and a food source are identified—represent a minority of most states' reported outbreaks. Solved outbreaks are the most valuable in terms of providing information to help prevent future illnesses. Rapid identification of the contaminated food source also enables states to quickly alert consumers and implement a food recall, thereby decreasing the public health impact.

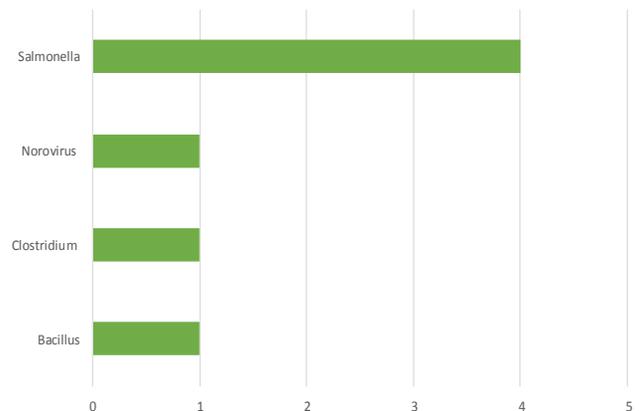
Trends in Reported and Solved Outbreaks



The median number of reported outbreaks was 3.5 per year over the ten-year period, or 1 reported outbreak per 1 million population. The best performing states report 8 or more outbreaks per million population. Twelve percent of outbreaks reported in Indiana during this period were solved. These indicators reflect the state's capacity for epidemiologic investigation.

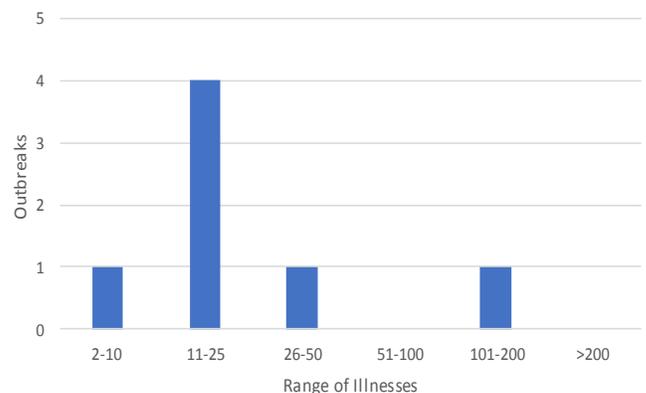
Pathogens Implicated in Solved Outbreaks (n=7)

The most common pathogen implicated in solved food-related outbreaks in Indiana was *Salmonella* (4 outbreaks, 57%). A total of 4 pathogens were identified in the 7 solved outbreaks in the state. The number of pathogens reported indicates the state's laboratory capacity.



Size of Solved Outbreaks (n=7)

Fourteen percent of Indiana outbreaks affected between 2 and 10 people. Outbreak size can indicate the emphasis a state places on investigating smaller outbreaks, which can affect the speed with which a state identifies contaminated food and removes it from commerce. Alternately, a small outbreak might indicate a more limited food source.



Multi-State Outbreaks: 30
From 2003-2012

Indiana participates in two CDC surveillance programs: CaliciNet and PulseNet.

Outbreak Reporting from the States: Foodborne Illness Outbreaks from 2003 to 2012



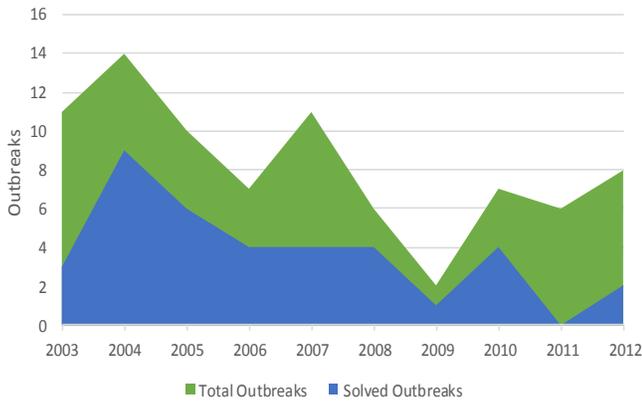
Iowa

82 Outbreaks Reported in Iowa

37 Outbreaks Solved in Iowa

Over a ten-year period, Iowa's state and local health departments reported 82 outbreaks affecting only Iowa residents to the Centers for Disease Control and Prevention (CDC). Of the reported outbreaks, 37 were solved. "Solved" outbreaks—those where both a pathogen and a food source are identified—represent a minority of most states' reported outbreaks. Solved outbreaks are the most valuable in terms of providing information to help prevent future illnesses. Rapid identification of the contaminated food source also enables states to quickly alert consumers and implement a food recall, thereby decreasing the public health impact.

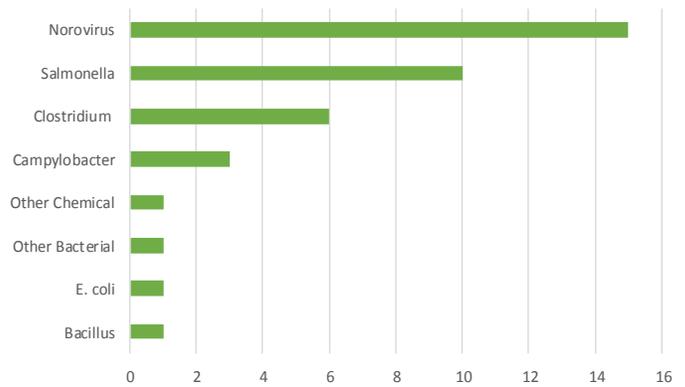
Trends in Reported and Solved Outbreaks



The median number of reported outbreaks was 7.5 per year over the ten-year period, or 3 reported outbreaks per 1 million population. The best performing states report 8 or more outbreaks per million population. Forty-five percent of outbreaks reported in Iowa during this period were solved. These indicators reflect the state's capacity for epidemiologic investigation.

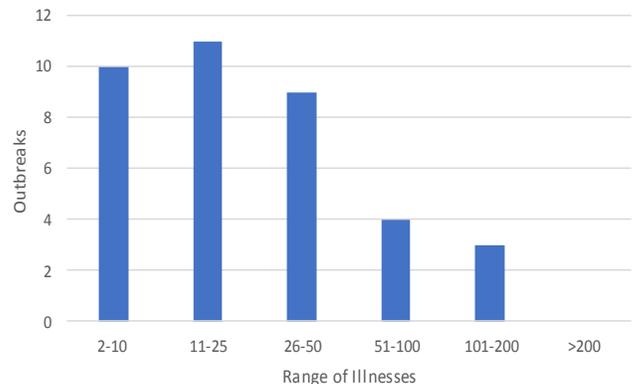
Pathogens Implicated in Solved Outbreaks (n=37)

The most common pathogen implicated in solved food-related outbreaks in Iowa was Norovirus (15 outbreaks, 41%), followed by *Salmonella* (10 outbreaks, 24%). A total of 8 pathogens were identified in the 37 solved outbreaks in the state. The number of pathogens reported indicates the state's laboratory capacity.



Size of Solved Outbreaks (n=37)

Twenty-seven percent of Iowa outbreaks affected between 2 and 10 people. Outbreak size can indicate the emphasis a state places on investigating smaller outbreaks, which can affect the speed with which a state identifies contaminated food and removes it from commerce. Alternately, a small outbreak might indicate a more limited food source.



Multi-State Outbreaks: 26
From 2003-2012

Iowa participates in two CDC surveillance programs: EHS-Net and PulseNet.

Outbreak Reporting from the States: Foodborne Illness Outbreaks from 2003 to 2012



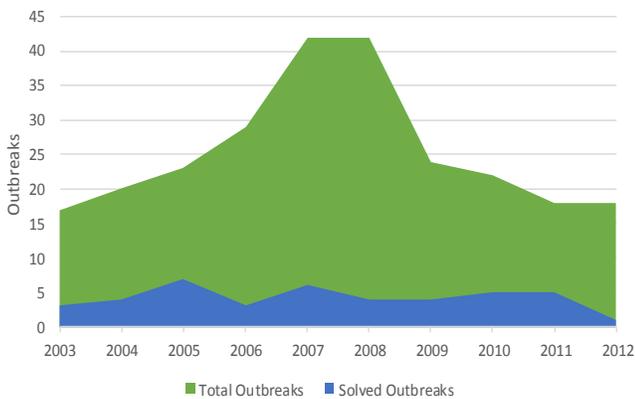
Kansas

255 Outbreaks Reported in Kansas

42 Outbreaks Solved in Kansas

Over a ten-year period, Kansas' state and local health departments reported 255 outbreaks affecting only Kansas residents to the Centers for Disease Control and Prevention (CDC). Of the reported outbreaks, 42 were solved. "Solved" outbreaks—those where both a pathogen and a food source are identified—represent a minority of most states' reported outbreaks. Solved outbreaks are the most valuable in terms of providing information to help prevent future illnesses. Rapid identification of the contaminated food source also enables states to quickly alert consumers and implement a food recall, thereby decreasing the public health impact.

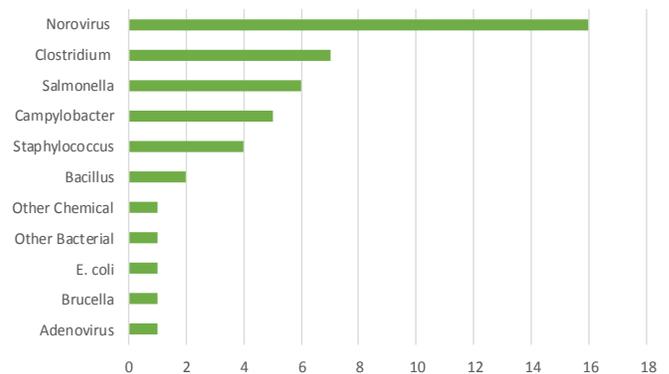
Trends in Reported and Solved Outbreaks



The median number of reported outbreaks was 22.5 per year over the ten-year period, or 8 reported outbreaks per 1 million population. The best performing states report 8 or more outbreaks per million population. Sixteen percent of outbreaks reported in Kansas during this period were solved. These indicators reflect the state's capacity for epidemiologic investigation.

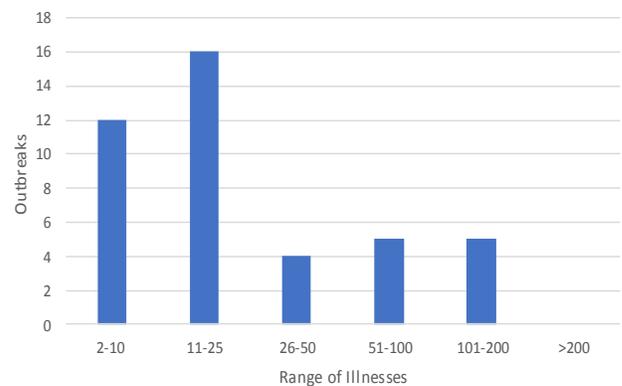
Pathogens Implicated in Solved Outbreaks (n=42)

The most common pathogen implicated in solved food-related outbreaks in Kansas was Norovirus (16 outbreaks, 38%). A total of 11 pathogens were identified in the 42 solved outbreaks in the state. The number of pathogens reported indicates the state's laboratory capacity.



Size of Solved Outbreaks (n=42)

Twenty-nine percent of Kansas outbreaks affected between 2 and 10 people. Outbreak size can indicate the emphasis a state places on investigating smaller outbreaks, which can affect the speed with which a state identifies contaminated food and removes it from commerce. Alternately, a small outbreak might indicate a more limited food source.



Multi-State Outbreaks: 21
From 2003-2012

Kansas participates in one CDC surveillance program: PulseNet.

Outbreak Reporting from the States: Foodborne Illness Outbreaks from 2003 to 2012 Kentucky

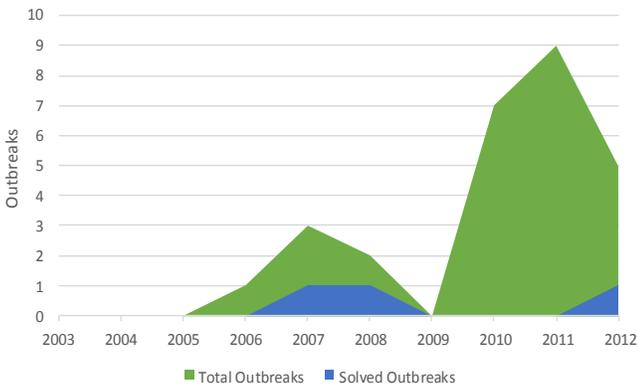


27 Outbreaks Reported in Kentucky

3 Outbreaks Solved in Kentucky

Over a ten-year period, Kentucky's state and local health departments reported 27 outbreaks affecting only Kentucky residents to the Centers for Disease Control and Prevention (CDC). Of the reported outbreaks, 3 were solved. "Solved" outbreaks—those where both a pathogen and a food source are identified—represent a minority of most states' reported outbreaks. Solved outbreaks are the most valuable in terms of providing information to help prevent future illnesses. Rapid identification of the contaminated food source also enables states to quickly alert consumers and implement a food recall, thereby decreasing the public health impact.

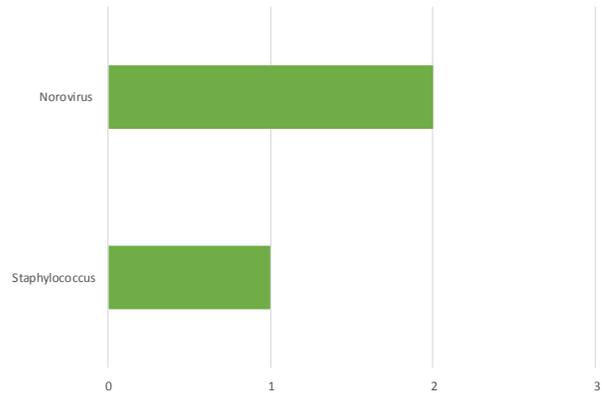
Trends in Reported and Solved Outbreaks



The median number of reported outbreaks was 1.5 per year over the ten-year period, or less than 1 reported outbreak per 1 million population. The best performing states report 8 or more outbreaks per million population. Eleven percent of outbreaks reported in Kentucky during this period were solved. These indicators reflect the state's capacity for epidemiologic investigation.

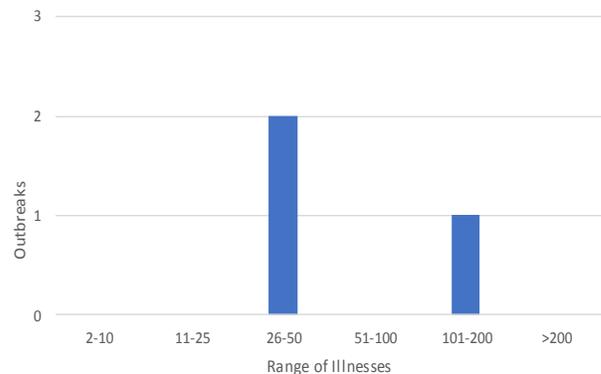
Pathogens Implicated in Solved Outbreaks (n=3)

Two pathogens were implicated in the 3 solved outbreaks in Kentucky: Norovirus (2 outbreaks, 67%) and *Staphylococcus* (1 outbreak, 33%). The number of pathogens reported indicates the state's laboratory capacity.



Size of Solved Outbreaks (n=3)

The three solved Kentucky outbreaks affected 27, 37, and 142 people. Outbreak size can indicate the emphasis a state places on investigating smaller outbreaks, which can affect the speed with which a state identifies contaminated food and removes it from commerce. Alternately, a small outbreak might indicate a more limited food source.



Multi-State Outbreaks: 27
From 2003-2012

Kentucky participates in two CDC surveillance programs: CaliciNet and PulseNet.

Outbreak Reporting from the States: Foodborne Illness Outbreaks from 2003 to 2012



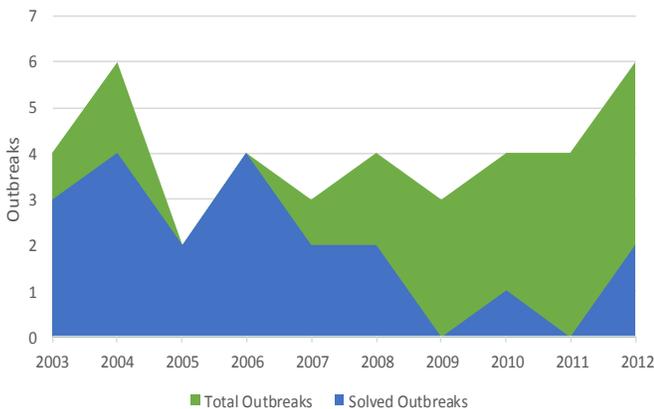
Louisiana

40 Outbreaks Reported in Louisiana

20 Outbreaks Solved in Louisiana

Over a ten-year period, Louisiana’s state and local health departments reported 40 outbreaks affecting only Louisiana residents to the Centers for Disease Control and Prevention (CDC). Of the reported outbreaks, 20 were solved. “Solved” outbreaks—those where both a pathogen and a food source are identified—represent a minority of most states’ reported outbreaks. Solved outbreaks are the most valuable in terms of providing information to help prevent future illnesses. Rapid identification of the contaminated food source also enables states to quickly alert consumers and implement a food recall, thereby decreasing the public health impact.

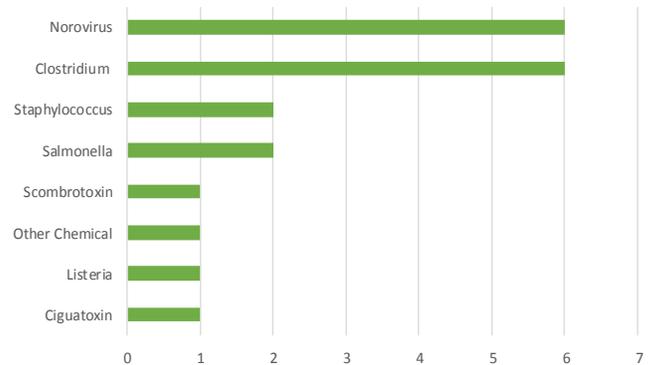
Trends in Reported and Solved Outbreaks



The median number of reported outbreaks was 4 per year over the ten-year period, or 1 reported outbreak per 1 million population. The best performing states report 8 or more outbreaks per million population. Fifty percent of outbreaks reported in Louisiana during this period were solved. These indicators reflect the state’s capacity for epidemiologic investigation.

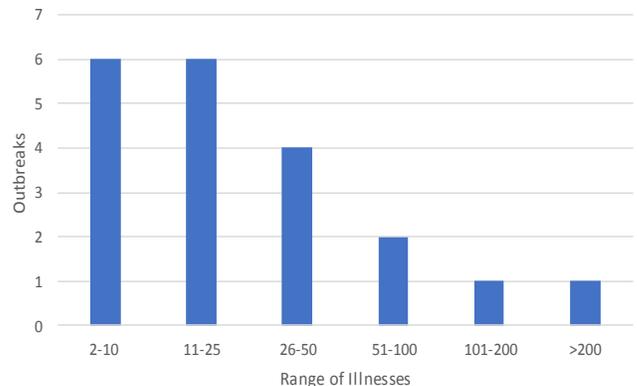
Pathogens Implicated in Solved Outbreaks (n=20)

The most common pathogens implicated in solved food-related outbreaks in Louisiana were Norovirus and *Clostridium* (6 outbreaks, 30%). A total of 8 pathogens were identified in the 20 solved outbreaks in the state. The number of pathogens reported indicates the state’s laboratory capacity.



Size of Solved Outbreaks (n=20)

Thirty percent of Louisiana outbreaks affected between 2 and 10 people. Outbreak size can indicate the emphasis a state places on investigating smaller outbreaks, which can affect the speed with which a state identifies contaminated food and removes it from commerce. Alternately, a small outbreak might indicate a more limited food source.



Multi-State Outbreaks: 15
From 2003-2012

Louisiana participates in one CDC surveillance program: PulseNet.

Outbreak Reporting from the States: Foodborne Illness Outbreaks from 2003 to 2012



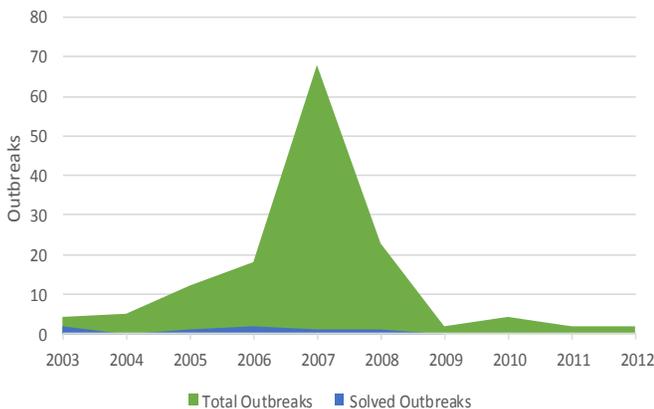
Maine

140 Outbreaks Reported in Maine

7 Outbreaks Solved in Maine

Over a ten-year period, Maine’s state and local health departments reported 140 outbreaks affecting only Maine residents to the Centers for Disease Control and Prevention (CDC). Of the reported outbreaks, 7 were solved. “Solved” outbreaks—those where both a pathogen and a food source are identified—represent a minority of most states’ reported outbreaks. Solved outbreaks are the most valuable in terms of providing information to help prevent future illnesses. Rapid identification of the contaminated food source also enables states to quickly alert consumers and implement a food recall, thereby decreasing the public health impact.

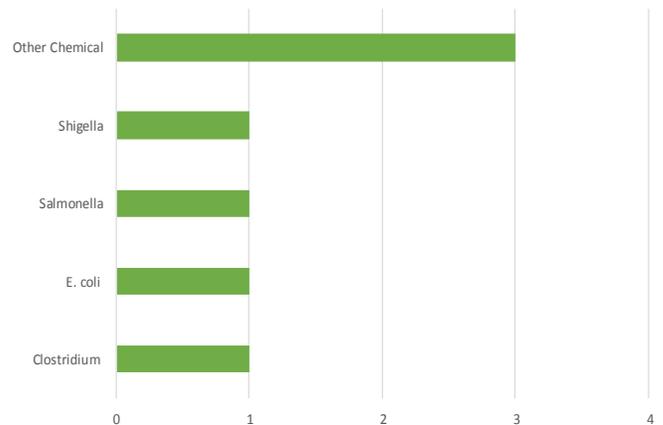
Trends in Reported and Solved Outbreaks



The median number of reported outbreaks was 4.5 per year over the ten-year period, or 3 reported outbreaks per 1 million population. The best performing states report 8 or more outbreaks per million population. Five percent of outbreaks reported in Maine during this period were solved. These indicators reflect the state’s capacity for epidemiologic investigation.

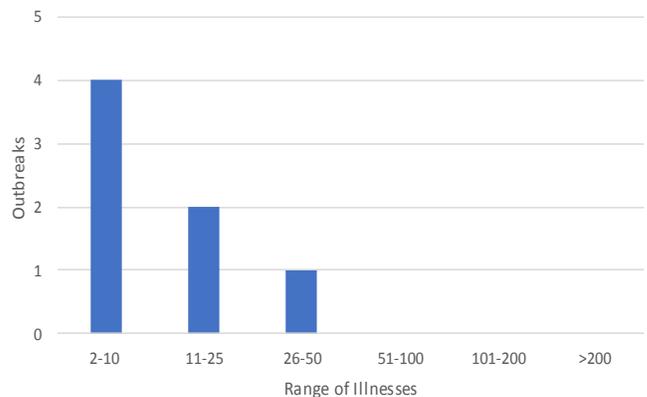
Pathogens Implicated in Solved Outbreaks (n=7)

The most common pathogens implicated in solved food-related outbreaks in Maine were chemical contaminants (3 outbreaks, 43%). A total of 5 pathogens were identified in the 7 solved outbreaks in the state. The number of pathogens reported indicates the state’s laboratory capacity.



Size of Solved Outbreaks (n=7)

Fifty-seven percent of Maine outbreaks affected between 2 and 10 people. Outbreak size can indicate the emphasis a state places on investigating smaller outbreaks, which can affect the speed with which a state identifies contaminated food and removes it from commerce. Alternately, a small outbreak might indicate a more limited food source.



Multi-State Outbreaks: 26
From 2003-2012

Maine participates in one CDC surveillance program: PulseNet.

Outbreak Reporting from the States: Foodborne Illness Outbreaks from 2003 to 2012 Maryland

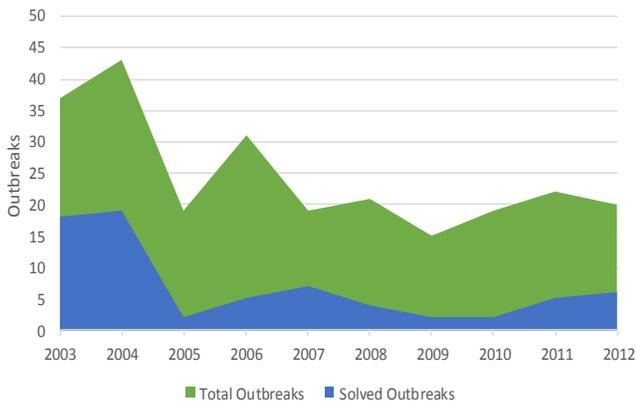


246 Outbreaks Reported in Maryland

70 Outbreaks Solved in Maryland

Over a ten-year period, Maryland’s state and local health departments reported 246 outbreaks affecting only Maryland residents to the Centers for Disease Control and Prevention (CDC). Of the reported outbreaks, 70 were solved. “Solved” outbreaks—those where both a pathogen and a food source are identified—represent a minority of most states’ reported outbreaks. Solved outbreaks are the most valuable in terms of providing information to help prevent future illnesses. Rapid identification of the contaminated food source also enables states to quickly alert consumers and implement a food recall, thereby decreasing the public health impact.

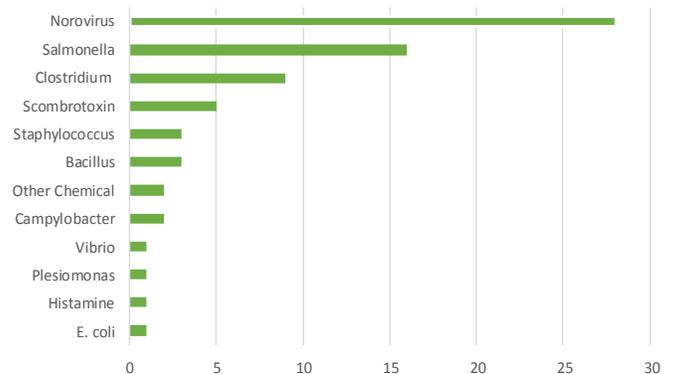
Trends in Reported and Solved Outbreaks



The median number of reported outbreaks was 20.5 per year over the ten-year period, or 4 reported outbreaks per 1 million population. The best performing states report 8 or more outbreaks per million population. Twenty-eight percent of outbreaks reported in Maryland during this period were solved. These indicators reflect the state’s capacity for epidemiologic investigation.

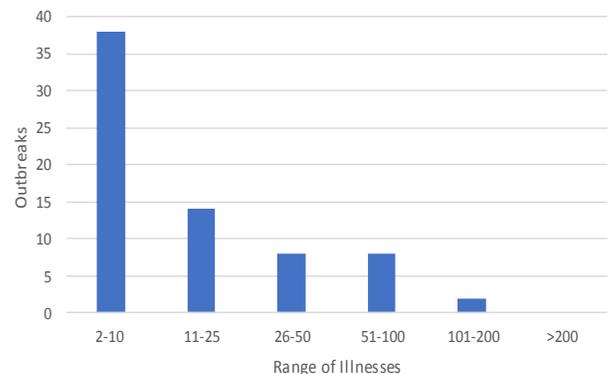
Pathogens Implicated in Solved Outbreaks (n=70)

The most common pathogen implicated in solved food-related outbreaks in Maryland was Norovirus (28 outbreaks, 40%), followed by *Salmonella* (16 outbreaks, 23%). A total of 12 pathogens were identified in the 70 solved outbreaks in the state. The number of pathogens reported indicates the state’s laboratory capacity.



Size of Solved Outbreaks (n=70)

Fifty-four percent of Maryland outbreaks affected between 2 and 10 people. Outbreak size can indicate the emphasis a state places on investigating smaller outbreaks, which can affect the speed with which a state identifies contaminated food and removes it from commerce. Alternately, a small outbreak might indicate a more limited food source.



Multi-State Outbreaks: 39
From 2003-2012

Maryland participates in two CDC surveillance programs: FoodNet and PulseNet.

Outbreak Reporting from the States: Foodborne Illness Outbreaks from 2003 to 2012

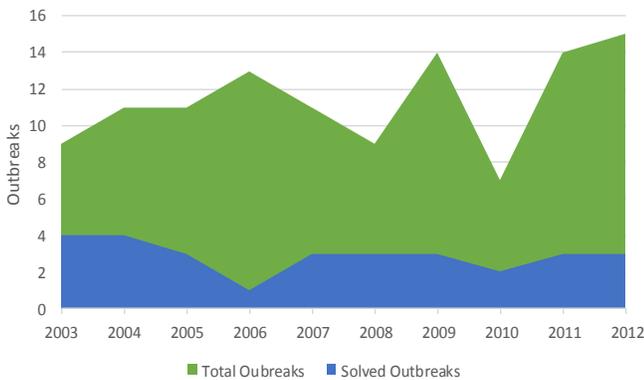


Massachusetts

114 Outbreaks Reported in Massachusetts
29 Outbreaks Solved in Massachusetts

Over a ten-year period, Massachusetts' state and local health departments reported 114 outbreaks affecting only Massachusetts residents to the Centers for Disease Control and Prevention (CDC). Of the reported outbreaks, 29 were solved. "Solved" outbreaks—those where both a pathogen and a food source are identified—represent a minority of most states' reported outbreaks. Solved outbreaks are the most valuable in terms of providing information to help prevent future illnesses. Rapid identification of the contaminated food source also enables states to quickly alert consumers and implement a food recall, thereby decreasing the public health impact.

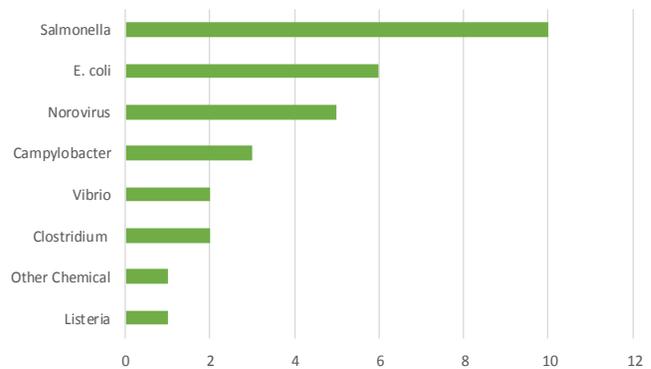
Trends in Reported and Solved Outbreaks



The median number of reported outbreaks was 11 per year over the ten-year period, or 2 reported outbreaks per 1 million population. The best performing states report 8 or more outbreaks per million population. Twenty-five percent of outbreaks reported in Massachusetts during this period were solved. These indicators reflect the state's capacity for epidemiologic investigation.

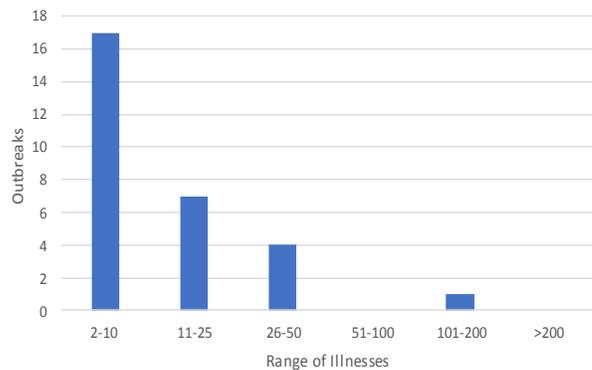
Pathogens Implicated in Solved Outbreaks (n=29)

The most common pathogen implicated in solved food-related outbreaks in Massachusetts was *Salmonella* (10 outbreaks, 34%), followed by *E. coli* (6 outbreaks, 21%). A total of 8 pathogens were identified in the 29 solved outbreaks in the state. The number of pathogens reported indicates the state's laboratory capacity.



Size of Solved Outbreaks (n=29)

Fifty-nine percent of Massachusetts outbreaks affected between 2 and 10 people. Outbreak size can indicate the emphasis a state places on investigating smaller outbreaks, which can affect the speed with which a state identifies contaminated food and removes it from commerce. Alternately, a small outbreak might indicate a more limited food source.



Multi-State Outbreaks: 41
From 2003-2012

Massachusetts participates in two CDC surveillance programs: CaliciNet and Pulse-Net.

Outbreak Reporting from the States: Foodborne Illness Outbreaks from 2003 to 2012 Michigan

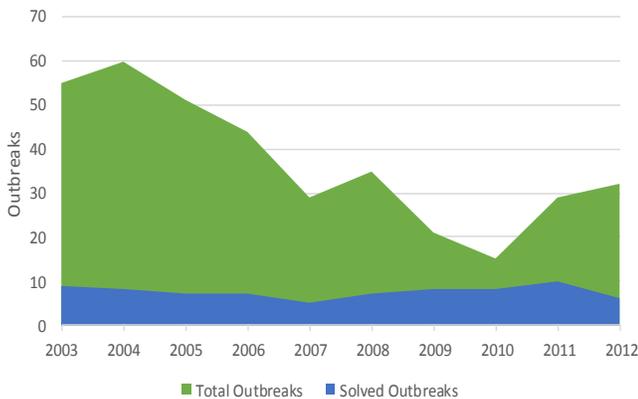


371 Outbreaks Reported in Michigan

75 Outbreaks Solved in Michigan

Over a ten-year period, Michigan's state and local health departments reported 371 outbreaks affecting only Michigan residents to the Centers for Disease Control and Prevention (CDC). Of the reported outbreaks, 75 were solved. "Solved" outbreaks—those where both a pathogen and a food source are identified—represent a minority of most states' reported outbreaks. Solved outbreaks are the most valuable in terms of providing information to help prevent future illnesses. Rapid identification of the contaminated food source also enables states to quickly alert consumers and implement a food recall, thereby decreasing the public health impact.

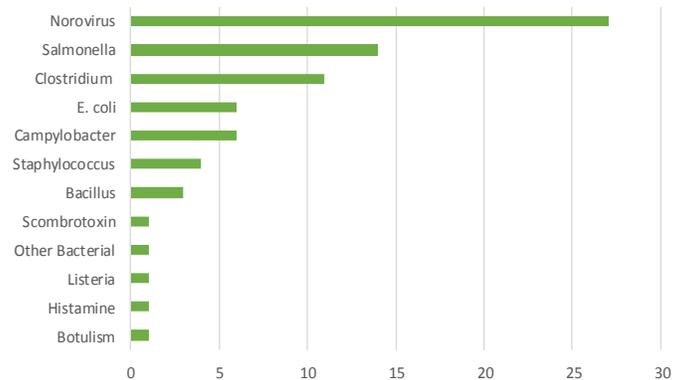
Trends in Reported and Solved Outbreaks



The median number of reported outbreaks was 33.5 per year over the ten-year period, or 3 reported outbreaks per 1 million population. The best performing states report 8 or more outbreaks per million population. Twenty percent of outbreaks reported in Michigan during this period were solved. These indicators reflect the state's capacity for epidemiologic investigation.

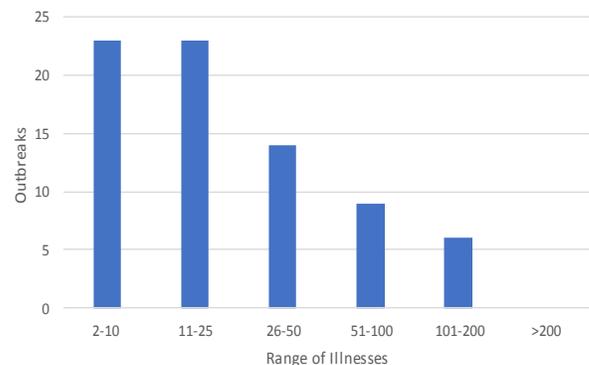
Pathogens Implicated in Solved Outbreaks (n=75)

The most common pathogen implicated in solved food-related outbreaks in Michigan was Norovirus (27 outbreaks, 36%). A total of 12 pathogens were identified in the 75 solved outbreaks in the state. The number of pathogens reported indicates the state's laboratory capacity.



Size of Solved Outbreaks (n=75)

Thirty-one percent of Michigan outbreaks affecting affected between 2 and 10 people. Outbreak size can indicate the emphasis a state places on investigating smaller outbreaks, which can affect the speed with which a state identifies contaminated food and removes it from commerce. Alternately, a small outbreak might indicate a more limited food source.



Multi-State Outbreaks: 45
From 2003-2012

Michigan participates in two CDC surveillance programs: CaliciNet and PulseNet.

Outbreak Reporting from the States: Foodborne Illness Outbreaks from 2003 to 2012

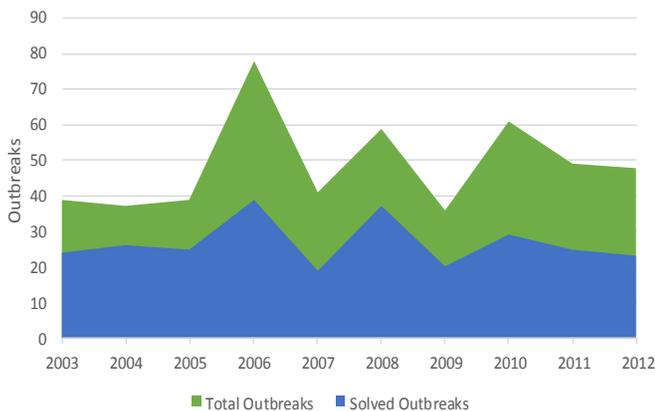
Minnesota



487 Outbreaks Reported in Minnesota
267 Outbreaks Solved in Minnesota

Over a ten-year period, Minnesota’s state and local health departments reported 487 outbreaks affecting only Minnesota residents to the Centers for Disease Control and Prevention (CDC). Of the reported outbreaks, 267 were solved. “Solved” outbreaks—those where both a pathogen and a food source are identified—represent a minority of most states’ reported outbreaks. Solved outbreaks are the most valuable in terms of providing information to help prevent future illnesses. Rapid identification of the contaminated food source also enables states to quickly alert consumers and implement a food recall, thereby decreasing the public health impact.

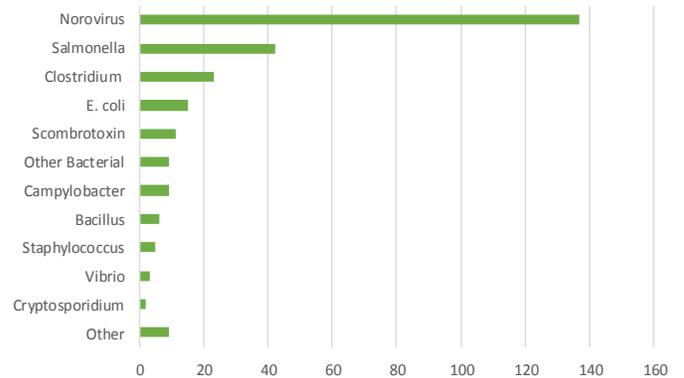
Trends in Reported and Solved Outbreaks



The median number of reported outbreaks was 44.5 per year over the ten-year period, or 9 reported outbreaks per 1 million population. The best performing states report 8 or more outbreaks per million population. Fifty-five percent of outbreaks reported in Minnesota during this period were solved. These indicators reflect the state’s capacity for epidemiologic investigation.

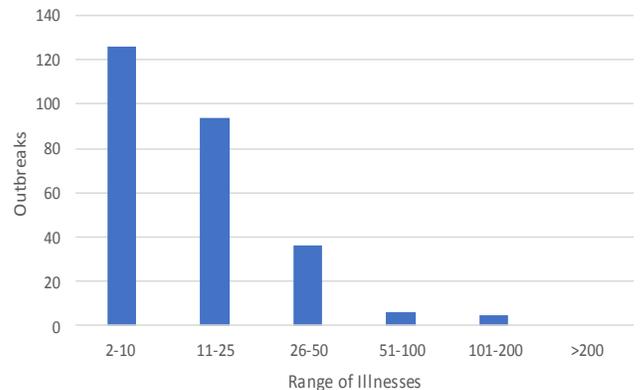
Pathogens Implicated in Solved Outbreaks (n=267)

The most common pathogen implicated in solved food-related outbreaks in Minnesota was Norovirus (137 outbreaks, 51%). A total of 20 pathogens were identified in the 267 solved outbreaks in the state. The number of pathogens reported indicates the state’s laboratory capacity.



Size of Solved Outbreaks (n=267)

Forty-seven percent of Minnesota outbreaks affected between 2 and 10 people. Outbreak size can indicate the emphasis a state places on investigating smaller outbreaks, which can affect the speed with which a state identifies contaminated food and removes it from commerce. Alternately, a small outbreak might indicate a more limited food source.



Multi-State Outbreaks: 48
From 2003-2012

Minnesota participates in six CDC surveillance programs: FoodNet, CaliciNet, Noro-STAT, Integrated Food Safety Centers for Excellence, EHS-Net and PulseNet.

Outbreak Reporting from the States: Foodborne Illness Outbreaks from 2003 to 2012 Mississippi

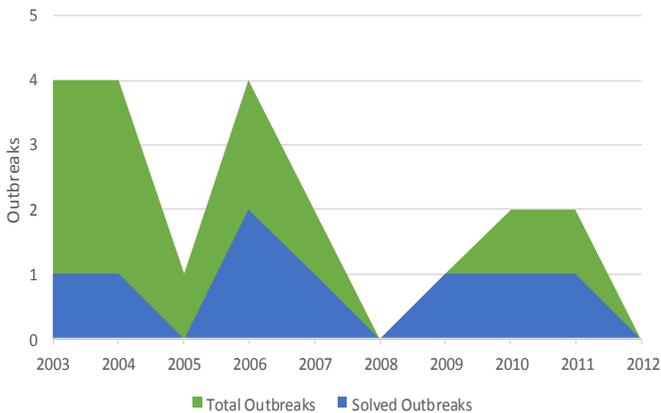


20 Outbreaks Reported in Mississippi

8 Outbreaks Solved in Mississippi

Over a ten-year period, Mississippi's state and local health departments reported 20 outbreaks affecting only Mississippi residents to the Centers for Disease Control and Prevention (CDC). Of the reported outbreaks, 8 were solved. "Solved" outbreaks—those where both a pathogen and a food source are identified—represent a minority of most states' reported outbreaks. Solved outbreaks are the most valuable in terms of providing information to help prevent future illnesses. Rapid identification of the contaminated food source also enables states to quickly alert consumers and implement a food recall, thereby decreasing the public health impact.

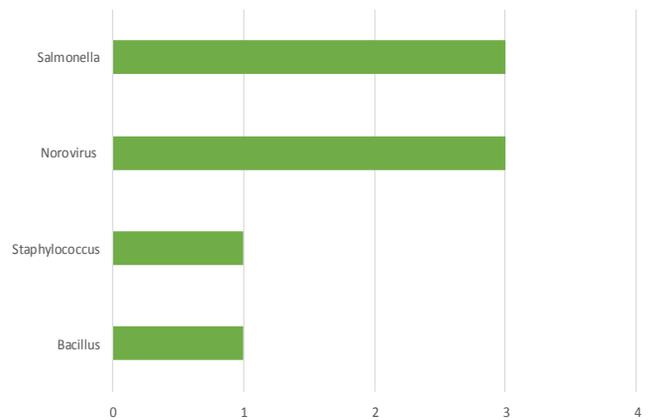
Trends in Reported and Solved Outbreaks



The median number of reported outbreaks was 2 per year over the ten-year period, or 1 reported outbreak per 1 million population. The best performing states report 8 or more outbreaks per million population. Forty percent of outbreaks reported in Mississippi during this period were solved. These indicators reflect the state's capacity for epidemiologic investigation.

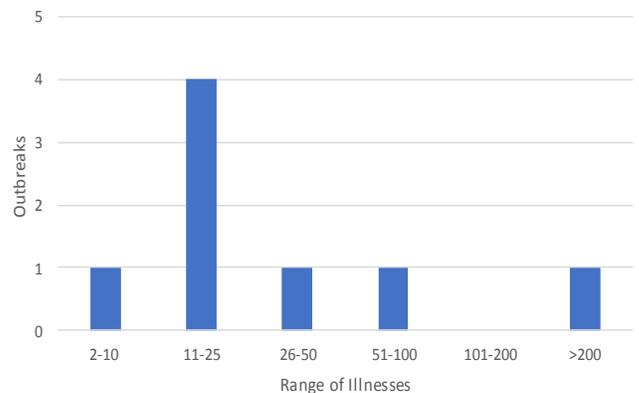
Pathogens Implicated in Solved Outbreaks (n=8)

The most common pathogens implicated in solved food-related outbreaks in Mississippi were *Salmonella* and Norovirus (3 outbreaks, 38%). A total of 4 pathogens were identified in the 8 solved outbreaks in the state. The number of pathogens reported indicates the state's laboratory capacity.



Size of Solved Outbreaks (n=8)

Thirteen percent of Mississippi outbreaks affected between 2 and 10 people. Outbreak size can indicate the emphasis a state places on investigating smaller outbreaks, which can affect the speed with which a state identifies contaminated food and removes it from commerce. Alternately, a small outbreak might indicate a more limited food source.



Multi-State Outbreaks: 11
From 2003-2012

Mississippi participates in one CDC surveillance program: PulseNet.

Outbreak Reporting from the States: Foodborne Illness Outbreaks from 2003 to 2012



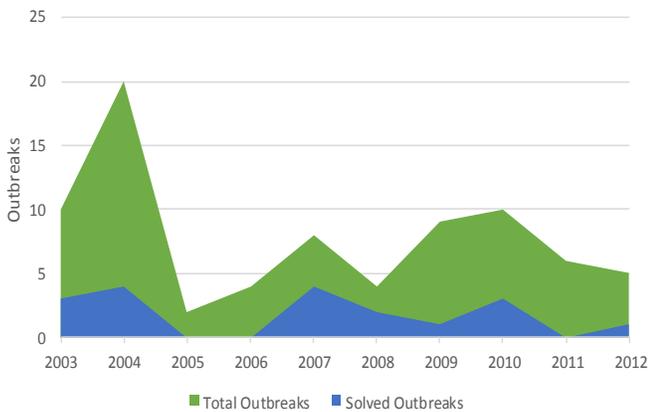
Missouri

78 Outbreaks Reported in Missouri

18 Outbreaks Solved in Missouri

Over a ten-year period, Missouri’s state and local health departments reported 78 outbreaks affecting only Missouri residents to the Centers for Disease Control and Prevention (CDC). Of the reported outbreaks, 18 were solved. “Solved” outbreaks—those where both a pathogen and a food source are identified—represent a minority of most states’ reported outbreaks. Solved outbreaks are the most valuable in terms of providing information to help prevent future illnesses. Rapid identification of the contaminated food source also enables states to quickly alert consumers and implement a food recall, thereby decreasing the public health impact.

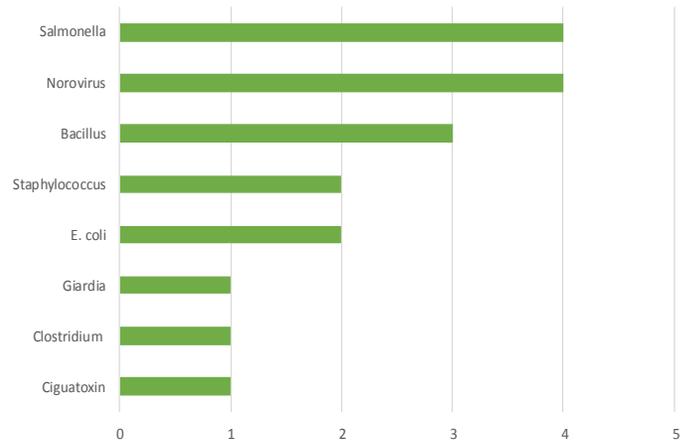
Trends in Reported and Solved Outbreaks



The median number of reported outbreaks was 7 per year over the ten-year period, or 1 reported outbreak per 1 million population. The best performing states report 8 or more outbreaks per million population. Twenty-three percent of outbreaks reported in Missouri during this period were solved. These indicators reflect the state’s capacity for epidemiologic investigation.

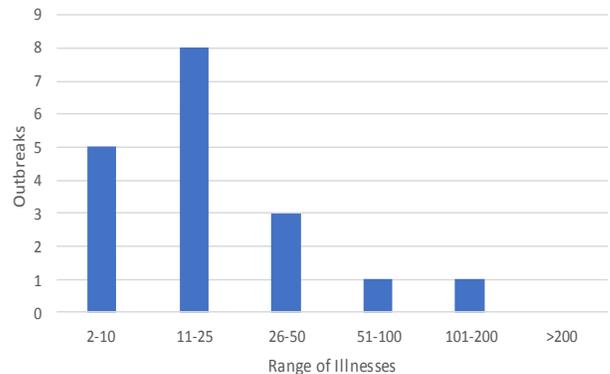
Pathogens Implicated in Solved Outbreaks (n=18)

The most common pathogens implicated in solved food-related outbreaks in Missouri were *Salmonella* and Norovirus (4 outbreaks, 22%). A total of 8 pathogens were identified in the 18 solved outbreaks in the state. The number of pathogens reported indicates the state’s laboratory capacity.



Size of Solved Outbreaks (n=18)

Twenty-eight percent of Missouri outbreaks affected between 2 and 10 people. Outbreak size can indicate the emphasis a state places on investigating smaller outbreaks, which can affect the speed with which a state identifies contaminated food and removes it from commerce. Alternately, a small outbreak might indicate a more limited food source.



Multi-State Outbreaks: 42
From 2003-2012

Missouri participates in one CDC surveillance program: PulseNet.

Outbreak Reporting from the States: Foodborne Illness Outbreaks from 2003 to 2012

MONTANA



Montana

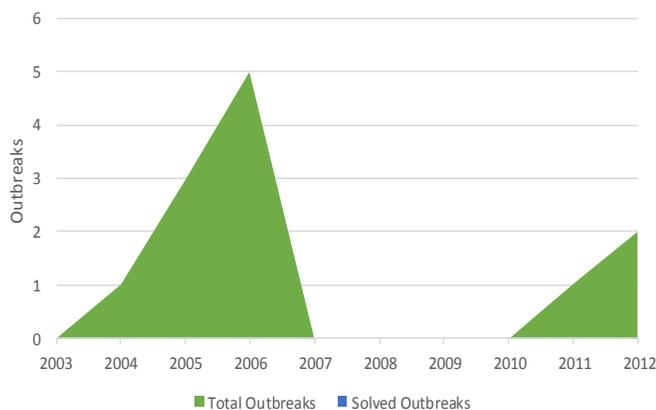
12 Outbreaks Reported in Montana

0 Outbreaks Solved in Montana

Over a ten-year period, Montana's state and local health departments reported 12 outbreaks affecting only Montana residents to the Centers for Disease Control and Prevention (CDC). Of the reported outbreaks, none were solved. "Solved" outbreaks—those where both a pathogen and a food source are identified—represent a minority of most states' reported outbreaks. Solved outbreaks are the most valuable in terms of providing information to help prevent future illnesses. Rapid identification of the contaminated food source also enables states to quickly alert consumers and implement a food recall, thereby decreasing the public health impact.

An analysis was not completed because there were no solved outbreaks during this ten-year period that affected only Montana residents.

Trends in Reported and Solved Outbreaks



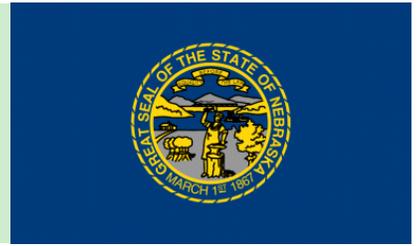
The median number of reported outbreaks was 0.5 per year over the ten-year period, or 1 reported outbreak per 1 million population. The best performing states report 8 or more outbreaks per million population. None of the outbreaks reported in Montana during this period were solved. These indicators reflect the state's capacity for epidemiologic investigation.

Multi-State Outbreaks: 8
From 2003-2012

Montana participates in one CDC surveillance program: PulseNet.

Outbreak Reporting from the States: Foodborne Illness Outbreaks from 2003 to 2012

Nebraska

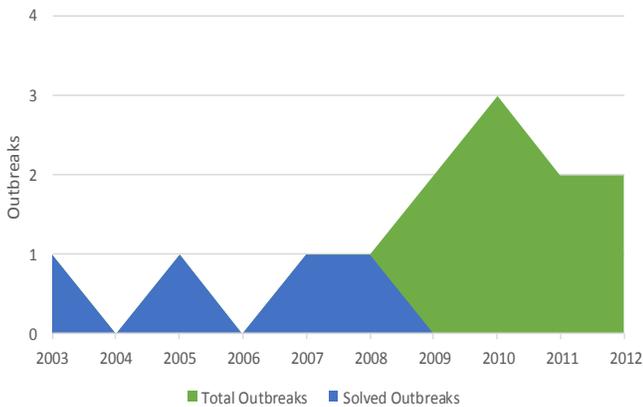


13 Outbreaks Reported in Nebraska

4 Outbreaks Solved in Nebraska

Over a ten-year period, Nebraska’s state and local health departments reported 13 outbreaks affecting only Nebraska residents to the Centers for Disease Control and Prevention (CDC). Of the reported outbreaks, 4 were solved. “Solved” outbreaks—those where both a pathogen and a food source are identified—represent a minority of most states’ reported outbreaks. Solved outbreaks are the most valuable in terms of providing information to help prevent future illnesses. Rapid identification of the contaminated food source also enables states to quickly alert consumers and implement a food recall, thereby decreasing the public health impact.

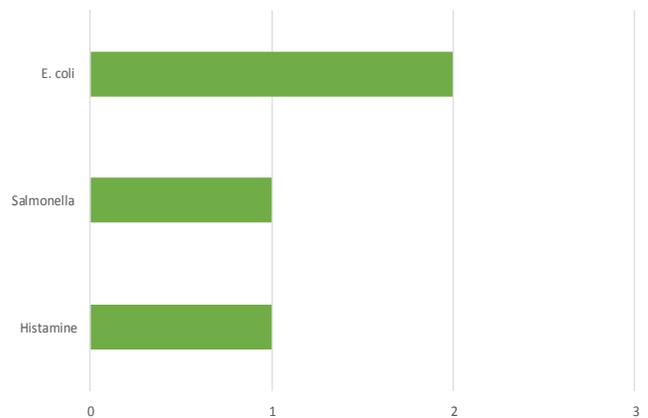
Trends in Reported and Solved Outbreaks



The median number of reported outbreaks was 1 per year over the ten-year period, or 1 reported outbreak per 1 million population. The best performing states report 8 or more outbreaks per million population. Thirty-one percent of outbreaks reported in Nebraska during this period were solved. These indicators reflect the state’s capacity for epidemiologic investigation.

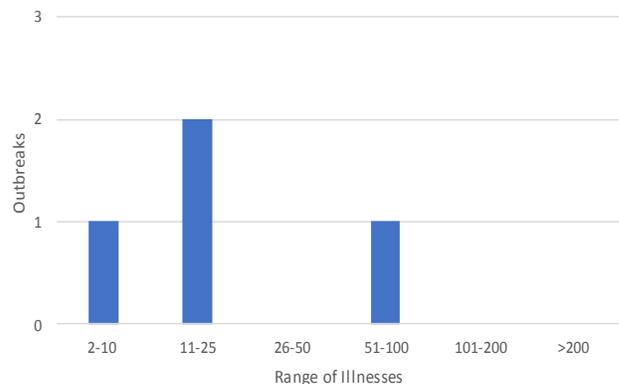
Pathogens Implicated in Solved Outbreaks (n=4)

The most common pathogen implicated in solved food-related outbreaks in Nebraska was *E. coli* (2 outbreaks, 50%). A total of 3 pathogens were identified in the 4 solved outbreaks in the state. The number of pathogens reported indicates the state’s laboratory capacity.



Size of Solved Outbreaks (n=4)

Twenty-five percent of Nebraska outbreaks affected between 2 and 10 people. Outbreak size can indicate the emphasis a state places on investigating smaller outbreaks, which can affect the speed with which a state identifies contaminated food and removes it from commerce. Alternately, a small outbreak might indicate a more limited food source.



Multi-State Outbreaks: 17
From 2003-2012

Nebraska participates in one CDC surveillance program: PulseNet.

Outbreak Reporting from the States: Foodborne Illness Outbreaks from 2003 to 2012



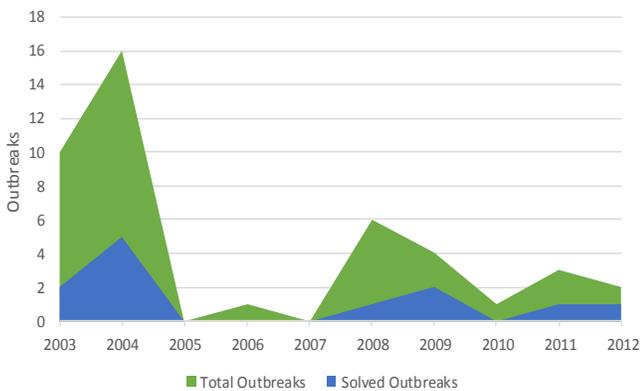
Nevada

43 Outbreaks Reported in Nevada

12 Outbreaks Solved in Nevada

Over a ten-year period, Nevada’s state and local health departments reported 43 outbreaks affecting only Nevada residents to the Centers for Disease Control and Prevention (CDC). Of the reported outbreaks, 12 were solved. “Solved” outbreaks—those where both a pathogen and a food source are identified—represent a minority of most states’ reported outbreaks. Solved outbreaks are the most valuable in terms of providing information to help prevent future illnesses. Rapid identification of the contaminated food source also enables states to quickly alert consumers and implement a food recall, thereby decreasing the public health impact.

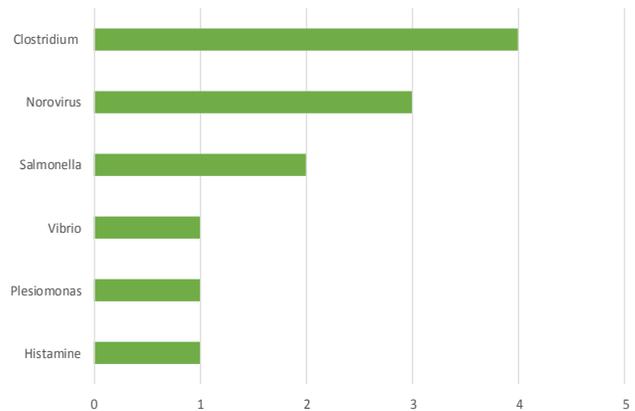
Trends in Reported and Solved Outbreaks



The median number of reported outbreaks was 2.5 per year over the ten-year period, or 1 reported outbreak per 1 million population. The best performing states report 8 or more outbreaks per million population. Twenty-eight percent of outbreaks reported in Nevada during this period were solved. These indicators reflect the state’s capacity for epidemiologic investigation.

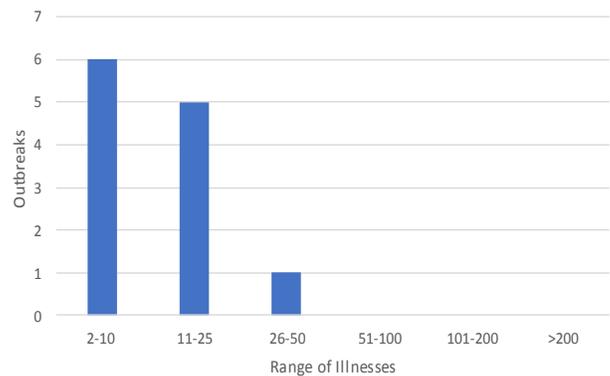
Pathogens Implicated in Solved Outbreaks (n=12)

The most common pathogen implicated in solved food-related outbreaks in Nevada was *Clostridium* (4 outbreaks, 33%), followed by Norovirus (3 outbreaks, 25%). A total of 6 pathogens were identified in the 12 solved outbreaks in the state. The number of pathogens reported indicates the state’s laboratory capacity.



Size of Solved Outbreaks (n=12)

Fifty percent of Nevada outbreaks affected between 2 and 10 people. Outbreak size can indicate the emphasis a state places on investigating smaller outbreaks, which can affect the speed with which a state identifies contaminated food and removes it from commerce. Alternately, a small outbreak might indicate a more limited food source.



Multi-State Outbreaks: 19
From 2003-2012

Nevada participates in two CDC surveillance programs: CaliciNet and PulseNet.

Outbreak Reporting from the States: Foodborne Illness Outbreaks from 2003 to 2012 New Hampshire

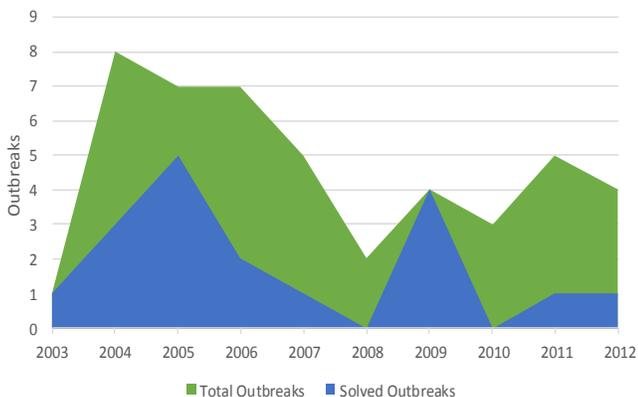


46 Outbreaks Reported in New Hampshire

18 Outbreaks Solved in New Hampshire

Over a ten-year period, New Hampshire’s state and local health departments reported 46 outbreaks affecting only New Hampshire residents to the Centers for Disease Control and Prevention (CDC). Of the reported outbreaks, 18 were solved. “Solved” outbreaks—those where both a pathogen and a food source are identified—represent a minority of most states’ reported outbreaks. Solved outbreaks are the most valuable in terms of providing information to help prevent future illnesses. Rapid identification of the contaminated food source also enables states to quickly alert consumers and implement a food recall, thereby decreasing the public health impact.

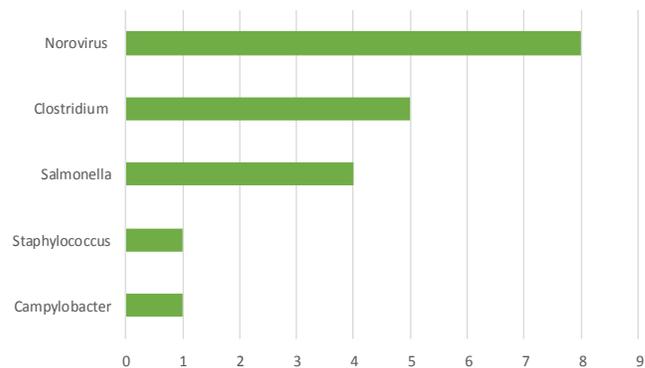
Trends in Reported and Solved Outbreaks



The median number of reported outbreaks was 4.5 per year over the ten-year period, or 3 reported outbreaks per 1 million population. The best performing states report 8 or more outbreaks per million population. Thirty-nine percent of outbreaks reported in New Hampshire during this period were solved. These indicators reflect the state’s capacity for epidemiologic investigation.

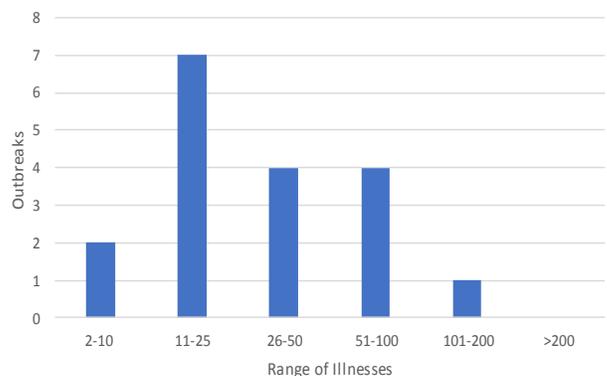
Pathogens Implicated in Solved Outbreaks (n=18)

The most common pathogen implicated in solved food-related outbreaks in New Hampshire was Norovirus (8 outbreaks, 44%). A total of 5 pathogens were identified in the 18 solved outbreaks in the state. The number of pathogens reported indicates the state’s laboratory capacity.



Size of Solved Outbreaks (n=18)

Eleven percent of New Hampshire outbreaks affected between 2 and 10 people. Outbreak size can indicate the emphasis a state places on investigating smaller outbreaks, which can affect the speed with which a state identifies contaminated food and removes it from commerce. Alternately, a small outbreak might indicate a more limited food source.



Multi-State Outbreaks: 25
From 2003-2012

New Hampshire participates in two CDC surveillance programs: CaliciNet and PulseNet.

Outbreak Reporting from the States: Foodborne Illness Outbreaks from 2003 to 2012



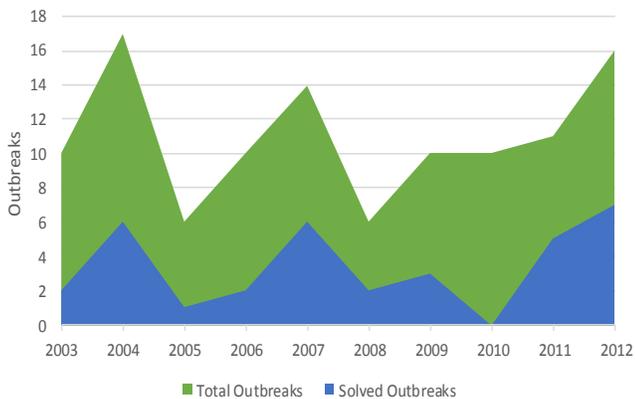
New Jersey

110 Outbreaks Reported in New Jersey

34 Outbreaks Solved in New Jersey

Over a ten-year period, New Jersey's state and local health departments reported 110 outbreaks affecting only New Jersey residents to the Centers for Disease Control and Prevention (CDC). Of the reported outbreaks, 34 were solved. "Solved" outbreaks—those where both a pathogen and a food source are identified—represent a minority of most states' reported outbreaks. Solved outbreaks are the most valuable in terms of providing information to help prevent future illnesses. Rapid identification of the contaminated food source also enables states to quickly alert consumers and implement a food recall, thereby decreasing the public health impact.

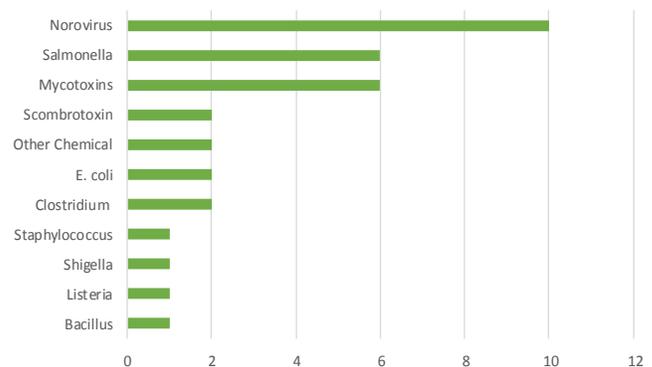
Trends in Reported and Solved Outbreaks



The median number of reported outbreaks was 10 per year over the ten-year period, or 1 reported outbreak per 1 million population. The best performing states report 8 or more outbreaks per million population. Thirty-one percent of outbreaks reported in New Jersey during this period were solved. These indicators reflect the state's capacity for epidemiologic investigation.

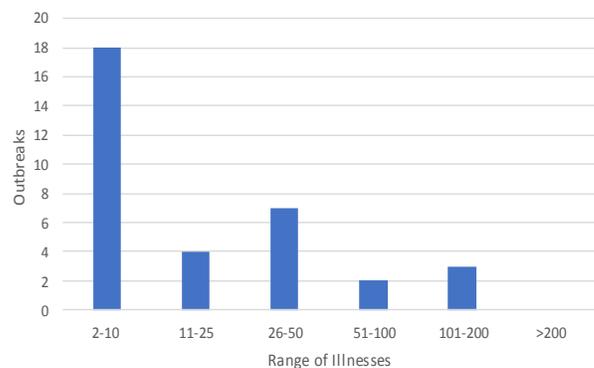
Pathogens Implicated in Solved Outbreaks (n=34)

The most common pathogen implicated in solved food-related outbreaks in New Jersey was Norovirus (10 outbreaks, 29%). A total of 11 pathogens were identified in the 34 solved outbreaks in the state. The number of pathogens reported indicates the state's laboratory capacity.



Size of Solved Outbreaks (n=34)

Fifty-three percent of New Jersey outbreaks affected between 2 and 10 people. Outbreak size can indicate the emphasis a state places on investigating smaller outbreaks, which can affect the speed with which a state identifies contaminated food and removes it from commerce. Alternately, a small outbreak might indicate a more limited food source.



Multi-State Outbreaks: 43
From 2003-2012

New Jersey participates in one CDC surveillance program: PulseNet.

Outbreak Reporting from the States: Foodborne Illness Outbreaks from 2003 to 2012



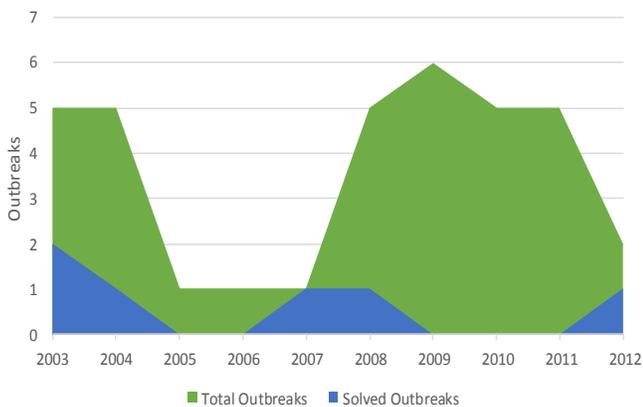
New Mexico

36 Outbreaks Reported in New Mexico

6 Outbreaks Solved in New Mexico

Over a ten-year period, New Mexico's state and local health departments reported 36 outbreaks affecting only New Mexico residents to the Centers for Disease Control and Prevention (CDC). Of the reported outbreaks, 6 were solved. "Solved" outbreaks—those where both a pathogen and a food source are identified—represent a minority of most states' reported outbreaks. Solved outbreaks are the most valuable in terms of providing information to help prevent future illnesses. Rapid identification of the contaminated food source also enables states to quickly alert consumers and implement a food recall, thereby decreasing the public health impact.

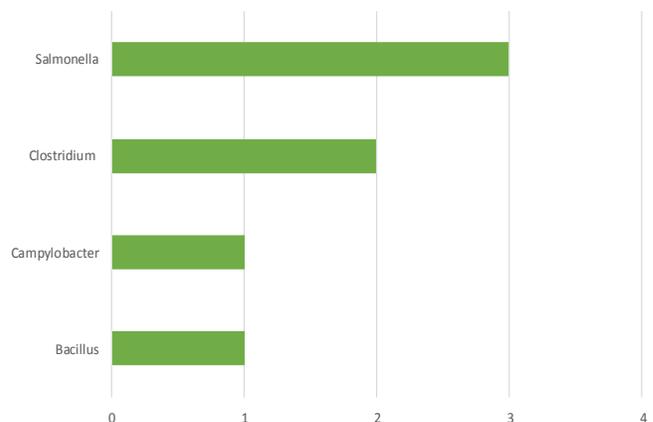
Trends in Reported and Solved Outbreaks



The median number of reported outbreaks was 5 per year over the ten-year period, or 3 reported outbreaks per 1 million population. The best performing states report 8 or more outbreaks per million population. Seventeen percent of outbreaks reported in New Mexico during this period were solved. These indicators reflect the state's capacity for epidemiologic investigation.

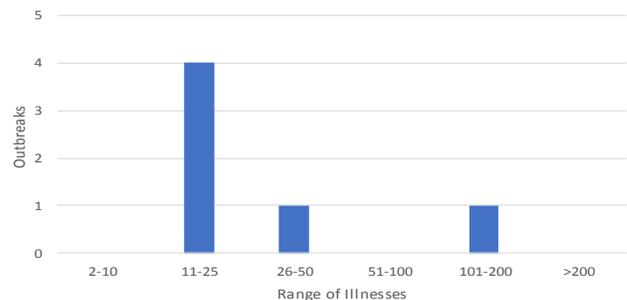
Pathogens Implicated in Solved Outbreaks (n=6)

The most common pathogen implicated in solved food-related outbreaks in New Mexico was *Salmonella* (3 outbreaks, 50%), followed by *Clostridium* (2 outbreaks, 33%). A total of 14 pathogens were identified in the 6 solved outbreaks in the state. The number of pathogens reported indicates the state's laboratory capacity.



Size of Solved Outbreaks (n=6)

None of New Mexico outbreaks affected between 2 and 10 people. Outbreak size can indicate the emphasis a state places on investigating smaller outbreaks, which can affect the speed with which a state identifies contaminated food and removes it from commerce. Alternately, a small outbreak might indicate a more limited food source.



Multi-State Outbreaks: 21
From 2003-2012

New Mexico participates in three CDC surveillance programs: FoodNet, CaliciNet and PulseNet.

Outbreak Reporting from the States: Foodborne Illness Outbreaks from 2003 to 2012

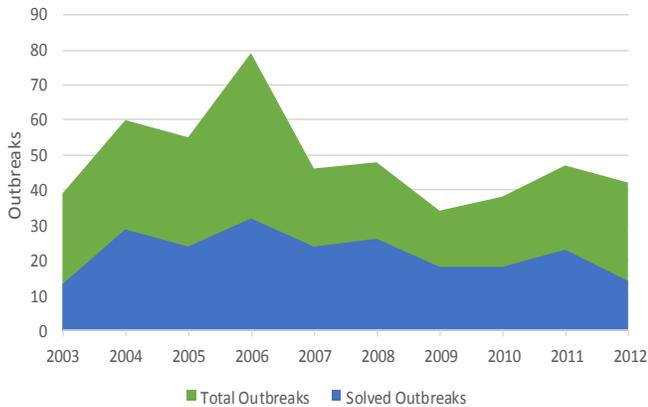
New York



488 Outbreaks Reported in New York
221 Outbreaks Solved in New York

Over a ten-year period, New York's state and local health departments reported 488 outbreaks affecting only New York residents to the Centers for Disease Control and Prevention (CDC). Of the reported outbreaks, 221 were solved. "Solved" outbreaks—those where both a pathogen and a food source are identified—represent a minority of most states' reported outbreaks. Solved outbreaks are the most valuable in terms of providing information to help prevent future illnesses. Rapid identification of the contaminated food source also enables states to quickly alert consumers and implement a food recall, thereby decreasing the public health impact.

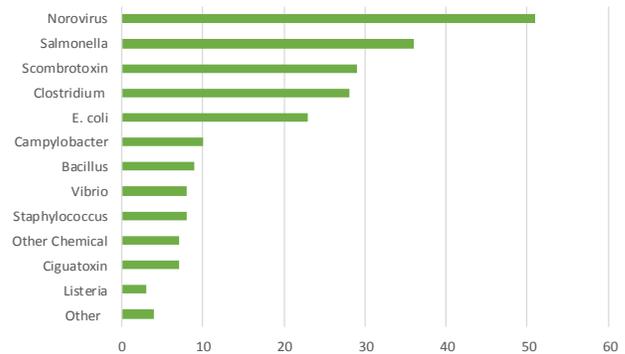
Trends in Reported and Solved Outbreaks



The median number of reported outbreaks was 46.5 per year over the ten-year period, or 2 reported outbreaks per 1 million population. The best performing states report 8 or more outbreaks per million population. Forty-five percent of outbreaks reported in New York during this period were solved. These indicators reflect the state's capacity for epidemiologic investigation.

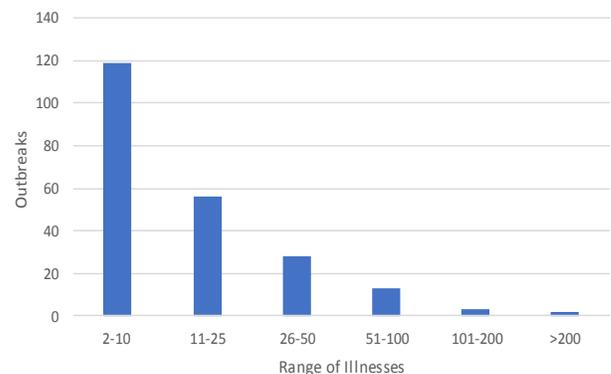
Pathogens Implicated in Solved Outbreaks (n=221)

The most common pathogen implicated in solved food-related outbreaks in New York was Norovirus (51 outbreaks, 23%), followed by *Salmonella* (36 outbreaks, 16%). A total of 16 pathogens were identified in the 221 solved outbreaks in the state. The number of pathogens reported indicates the state's laboratory capacity.



Size of Solved Outbreaks (n=221)

Fifty-four percent of New York outbreaks affected between 2 and 10 people. Outbreak size can indicate the emphasis a state places on investigating smaller outbreaks, which can affect the speed with which a state identifies contaminated food and removes it from commerce. Alternately, a small outbreak might indicate a more limited food source.



Multi-State Outbreaks: 68
From 2003-2012

New York participates in five CDC surveillance programs: FoodCORE, FoodNet, CaliciNet, EHS-Net and PulseNet.

Outbreak Reporting from the States: Foodborne Illness Outbreaks from 2003 to 2012



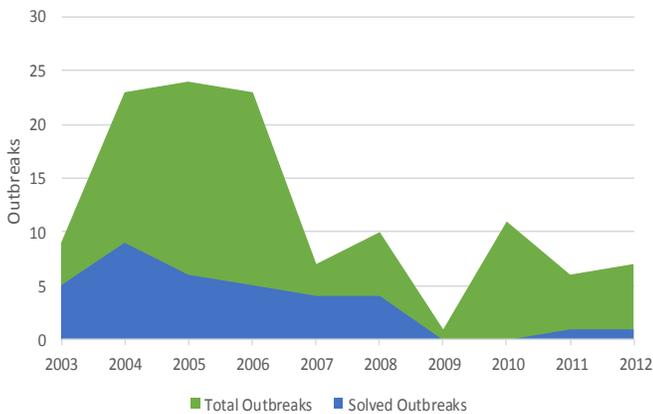
North Carolina

121 Outbreaks Reported in North Carolina

35 Outbreaks Solved in North Carolina

Over a ten-year period, North Carolina’s state and local health departments reported 121 outbreaks affecting only North Carolina residents to the Centers for Disease Control and Prevention (CDC). Of the reported outbreaks, 35 were solved. “Solved” outbreaks—those where both a pathogen and a food source are identified—represent a minority of most states’ reported outbreaks. Solved outbreaks are the most valuable in terms of providing information to help prevent future illnesses. Rapid identification of the contaminated food source also enables states to quickly alert consumers and implement a food recall, thereby decreasing the public health impact.

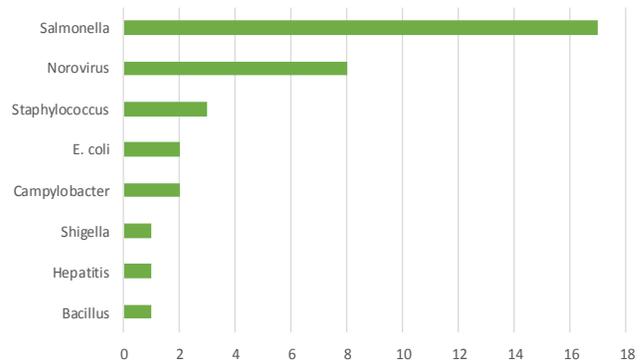
Trends in Reported and Solved Outbreaks



The median number of reported outbreaks was 9.5 per year over the ten-year period, or 1 reported outbreak per 1 million population. The best performing states report 8 or more outbreaks per million population. Twenty-nine percent of outbreaks reported in North Carolina during this period were solved. These indicators reflect the state’s capacity for epidemiologic investigation.

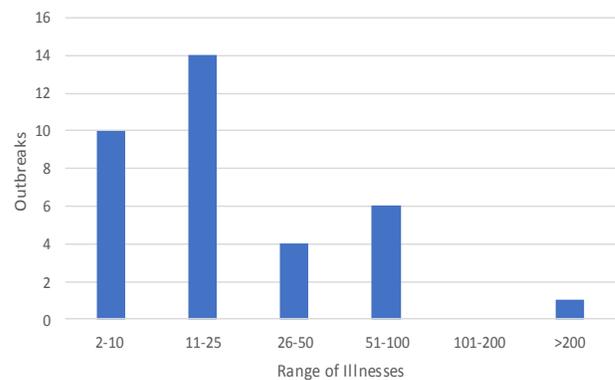
Pathogens Implicated in Solved Outbreaks (n=35)

The most common pathogen implicated in solved food-related outbreaks in North Carolina was *Salmonella* (17 outbreaks, 49%), followed by Norovirus (8 outbreaks, 23%). A total of 8 pathogens were identified in the 35 solved outbreaks in the state. The number of pathogens reported indicates the state’s laboratory capacity.



Size of Solved Outbreaks (n=35)

Twenty-nine percent of North Carolina outbreaks affected between 2 and 10 people. Outbreak size can indicate the emphasis a state places on investigating smaller outbreaks, which can affect the speed with which a state identifies contaminated food and removes it from commerce. Alternately, a small outbreak might indicate a more limited food source.



Multi-State Outbreaks: 33
From 2003-2012

North Carolina participates in two CDC surveillance programs: CaliciNet and PulseNet.

Outbreak Reporting from the States: Foodborne Illness Outbreaks from 2003 to 2012



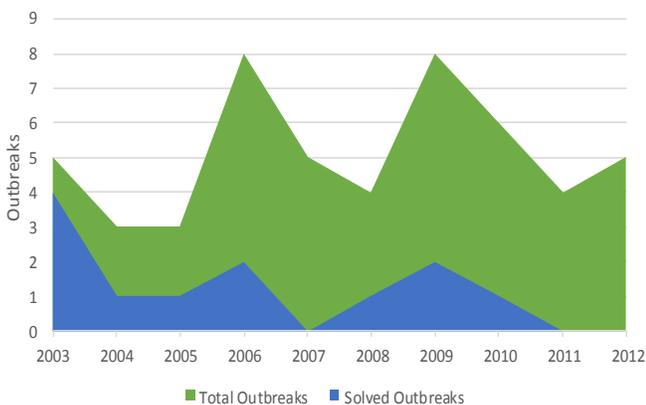
North Dakota

51 Outbreaks Reported in North Dakota

12 Outbreaks Solved in North Dakota

Over a ten-year period, North Dakota's state and local health departments reported 51 outbreaks affecting only North Dakota residents to the Centers for Disease Control and Prevention (CDC). Of the reported outbreaks, 12 were solved. "Solved" outbreaks—those where both a pathogen and a food source are identified—represent a minority of most states' reported outbreaks. Solved outbreaks are the most valuable in terms of providing information to help prevent future illnesses. Rapid identification of the contaminated food source also enables states to quickly alert consumers and implement a food recall, thereby decreasing the public health impact.

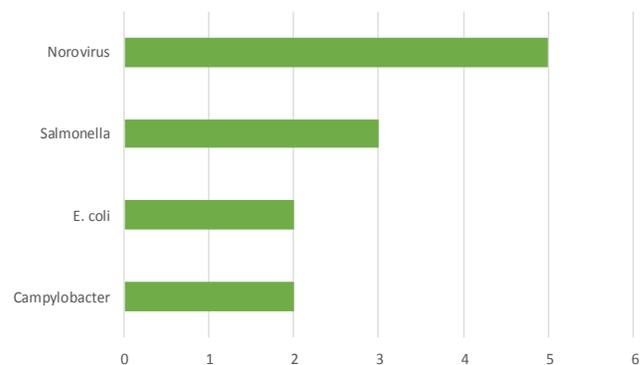
Trends in Reported and Solved Outbreaks



The median number of reported outbreaks was 5 per year over the ten-year period, or 8 reported outbreaks per 1 million population. The best performing states report 8 or more outbreaks per million population. Twenty-four percent of outbreaks reported in North Dakota during this period were solved. These indicators reflect the state's capacity for epidemiologic investigation.

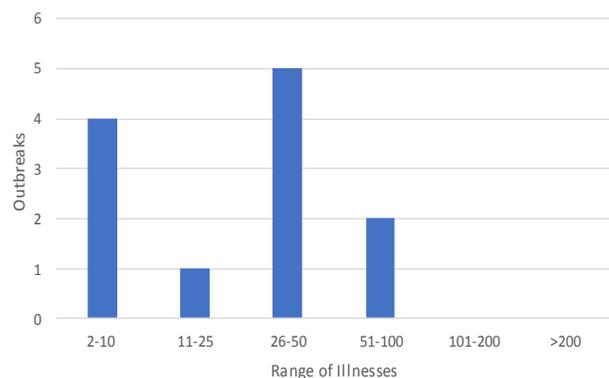
Pathogens Implicated in Solved Outbreaks (n=12)

The most common pathogen implicated in solved food-related outbreaks in North Dakota was Norovirus (5 outbreaks, 42%), followed by *Salmonella* (3 outbreaks, 25%). A total of 4 pathogens were identified in the 12 solved outbreaks in the state. The number of pathogens reported indicates the state's laboratory capacity.



Size of Solved Outbreaks (n=12)

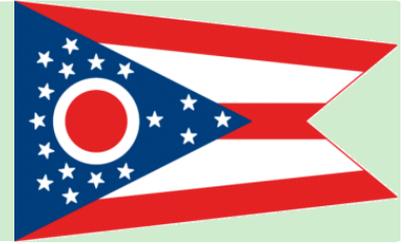
Thirty-three percent of North Dakota outbreaks affected between 2 and 10 people. Outbreak size can indicate the emphasis a state places on investigating smaller outbreaks, which can affect the speed with which a state identifies contaminated food and removes it from commerce. Alternately, a small outbreak might indicate a more limited food source.



Multi-State Outbreaks: 11
From 2003-2012

North Dakota participates in one CDC surveillance program: PulseNet.

Outbreak Reporting from the States: Foodborne Illness Outbreaks from 2003 to 2012



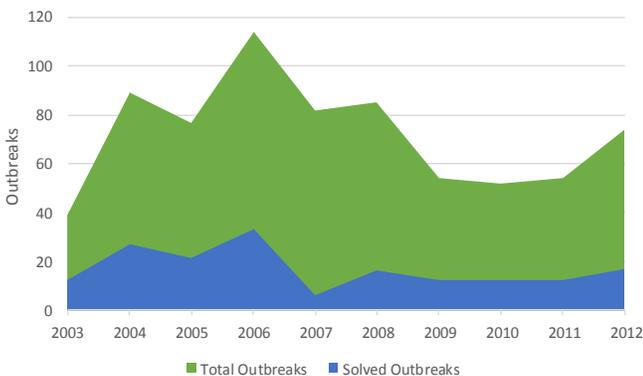
Ohio

720 Outbreaks Reported in Ohio

168 Outbreaks Solved in Ohio

Over a ten-year period, Ohio's state and local health departments reported 720 outbreaks affecting only Ohio residents to the Centers for Disease Control and Prevention (CDC). Of the reported outbreaks, 168 were solved. "Solved" outbreaks—those where both a pathogen and a food source are identified—represent a minority of most states' reported outbreaks. Solved outbreaks are the most valuable in terms of providing information to help prevent future illnesses. Rapid identification of the contaminated food source also enables states to quickly alert consumers and implement a food recall, thereby decreasing the public health impact.

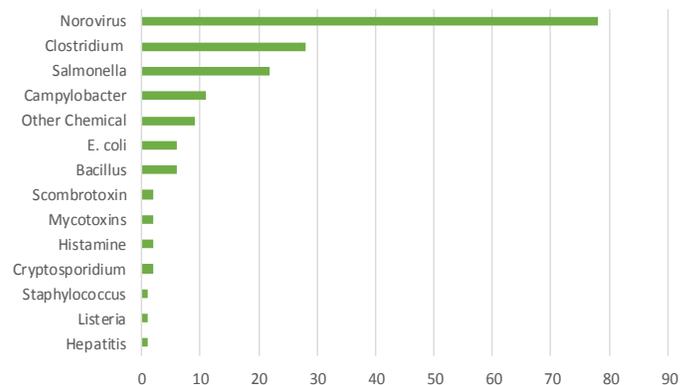
Trends in Reported and Solved Outbreaks



The median number of reported outbreaks was 75.5 per year over the ten-year period, or 7 reported outbreaks per 1 million population. The best performing states report 8 or more outbreaks per million population. Twenty-three percent of outbreaks reported in Ohio during this period were solved. These indicators reflect the state's capacity for epidemiologic investigation.

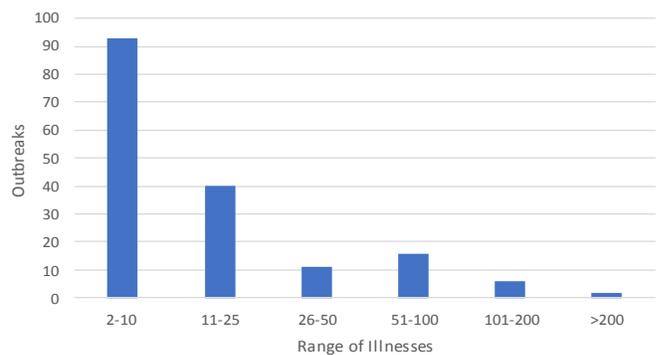
Pathogens Implicated in Solved Outbreaks (n=168)

The most common pathogen implicated in solved food-related outbreaks in Ohio was Norovirus (78 outbreaks, 46%). A total of 14 pathogens were identified in the 168 solved outbreaks in the state. The number of pathogens reported indicates the state's laboratory capacity.



Size of Solved Outbreaks (n=168)

Fifty-five percent of Ohio outbreaks affected between 2 and 10 people. Outbreak size can indicate the emphasis a state places on investigating smaller outbreaks, which can affect the speed with which a state identifies contaminated food and removes it from commerce. Alternately, a small outbreak might indicate a more limited food source.



Multi-State Outbreaks: 47
From 2003-2012

Ohio participates in four CDC surveillance programs: FoodCORE, CaliciNet, NoroSTAT and PulseNet.

Outbreak Reporting from the States: Foodborne Illness Outbreaks from 2003 to 2012



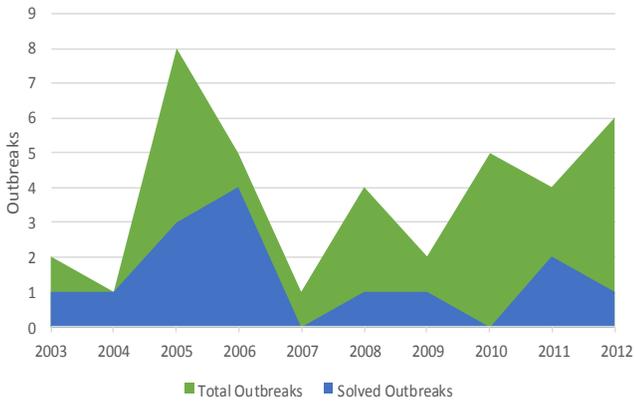
Oklahoma

38 Outbreaks Reported in Oklahoma

14 Outbreaks Solved in Oklahoma

Over a ten-year period, Oklahoma’s state and local health departments reported 38 outbreaks affecting only Oklahoma residents to the Centers for Disease Control and Prevention (CDC). Of the reported outbreaks, 14 were solved. “Solved” outbreaks—those where both a pathogen and a food source are identified—represent a minority of most states’ reported outbreaks. Solved outbreaks are the most valuable in terms of providing information to help prevent future illnesses. Rapid identification of the contaminated food source also enables states to quickly alert consumers and implement a food recall, thereby decreasing the public health impact.

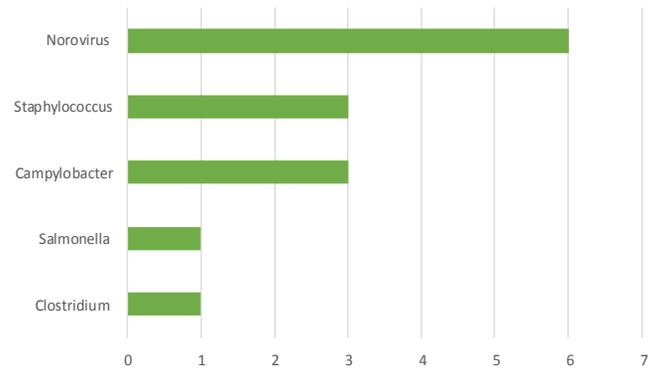
Trends in Reported and Solved Outbreaks



The median number of reported outbreaks was 4 per year over the ten-year period, or 1 reported outbreak per 1 million population. The best performing states report 8 or more outbreaks per million population. Thirty-seven percent of outbreaks reported in Oklahoma during this period were solved. These indicators reflect the state’s capacity for epidemiologic investigation.

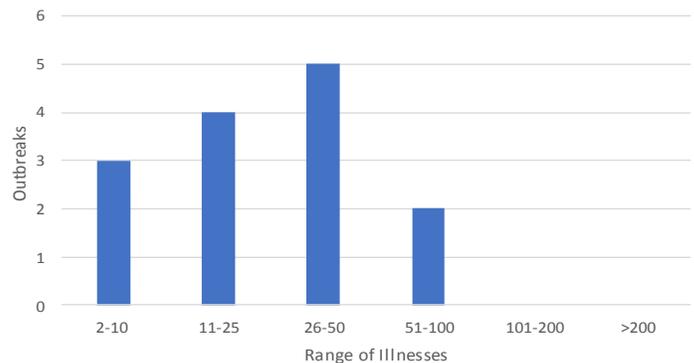
Pathogens Implicated in Solved Outbreaks (n=14)

The most common pathogen implicated in solved food-related outbreaks in Oklahoma was Norovirus (6 outbreaks, 43%). A total of 5 pathogens were identified in the 14 solved outbreaks in the state. The number of pathogens reported indicates the state’s laboratory capacity.



Size of Solved Outbreaks (n=14)

Twenty-one percent of Oklahoma outbreaks affected between 2 and 10 people. Outbreak size can indicate the emphasis a state places on investigating smaller outbreaks, which can affect the speed with which a state identifies contaminated food and removes it from commerce. Alternately, a small outbreak might indicate a more limited food source.



Multi-State Outbreaks: 21
From 2003-2012

Oklahoma participates in one CDC surveillance program: PulseNet.

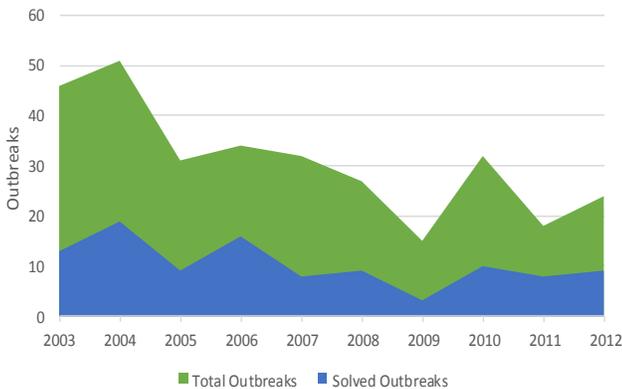
Outbreak Reporting from the States: Foodborne Illness Outbreaks from 2003 to 2012 Oregon



310 Outbreaks Reported in Oregon
104 Outbreaks Solved in Oregon

Over a ten-year period, Oregon’s state and local health departments reported 310 outbreaks affecting only Oregon residents to the Centers for Disease Control and Prevention (CDC). Of the reported outbreaks, 104 were solved. “Solved” outbreaks—those where both a pathogen and a food source are identified—represent a minority of most states’ reported outbreaks. Solved outbreaks are the most valuable in terms of providing information to help prevent future illnesses. Rapid identification of the contaminated food source also enables states to quickly alert consumers and implement a food recall, thereby decreasing the public health impact.

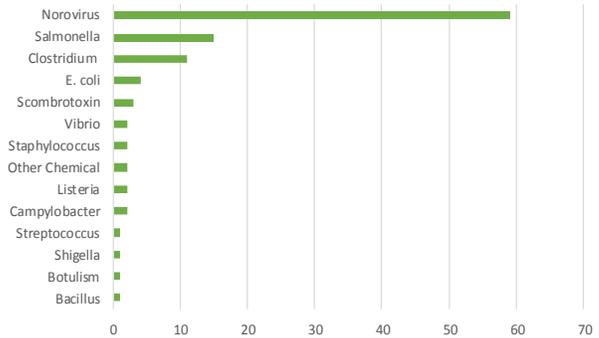
Trends in Reported and Solved Outbreaks



The median number of reported outbreaks was 31.5 per year over the ten-year period, or 8 reported outbreaks per 1 million population. The best performing states report 8 or more outbreaks per million population. Thirty-four percent of outbreaks reported in Oregon during this period were solved. These indicators reflect the state’s capacity for epidemiologic investigation.

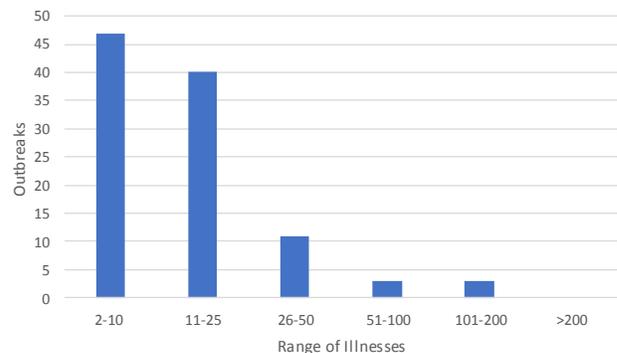
Pathogens Implicated in Solved Outbreaks (n=104)

The most common pathogen implicated in solved food-related outbreaks in Oregon was Norovirus (59 outbreaks, 57%). A total of 14 pathogens were identified in the 104 solved outbreaks in the state. The number of pathogens reported indicates the state’s laboratory capacity.



Size of Solved Outbreaks (n=104)

Forty-five percent of Oregon outbreaks affected between 2 and 10 people. Outbreak size can indicate the emphasis a state places on investigating smaller outbreaks, which can affect the speed with which a state identifies contaminated food and removes it from commerce. Alternately, a small outbreak might indicate a more limited food source.



Multi-State Outbreaks: 41
From 2003-2012

Oregon participates in six CDC surveillance programs: FoodNet, CaliciNet, NoroSTAT, Integrated Food Safety Centers for Excellence and PulseNet.

Outbreak Reporting from the States: Foodborne Illness Outbreaks from 2003 to 2012



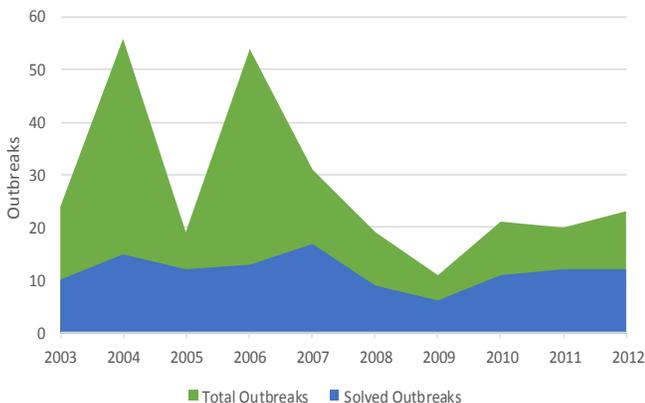
Pennsylvania

278 Outbreaks Reported in Pennsylvania

117 Outbreaks Solved in Pennsylvania

Over a ten-year period, Pennsylvania's state and local health departments reported 278 outbreaks affecting only Pennsylvania residents to the Centers for Disease Control and Prevention (CDC). Of the reported outbreaks, 117 were solved. "Solved" outbreaks—those where both a pathogen and a food source are identified—represent a minority of most states' reported outbreaks. Solved outbreaks are the most valuable in terms of providing information to help prevent future illnesses. Rapid identification of the contaminated food source also enables states to quickly alert consumers and implement a food recall, thereby decreasing the public health impact.

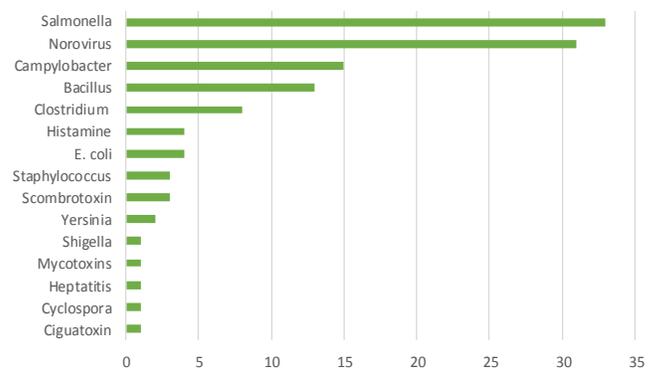
Trends in Reported and Solved Outbreaks



The median number of reported outbreaks was 22 per year over the ten-year period, or 2 reported outbreaks per 1 million population. The best performing states report 8 or more outbreaks per million population. Forty-two percent of outbreaks reported in Pennsylvania during this period were solved. These indicators reflect the state's capacity for epidemiologic investigation.

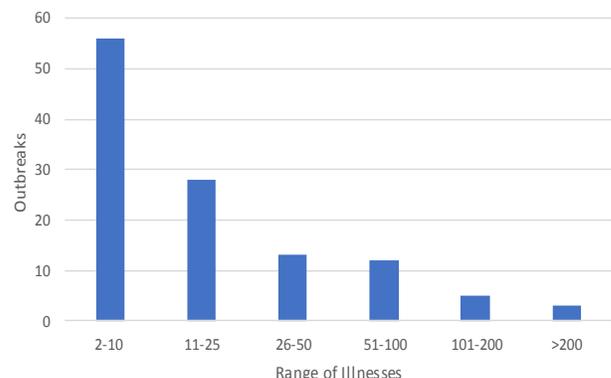
Pathogens Implicated in Solved Outbreaks (n=117)

The most common pathogen implicated in solved food-related outbreaks in Pennsylvania was *Salmonella* (33 outbreaks, 28%), followed by Norovirus (31 outbreaks, 26%). A total of 15 pathogens were identified in the 117 solved outbreaks in the state. The number of pathogens reported indicates the state's laboratory capacity.



Size of Solved Outbreaks (n=117)

Forty-eight percent of Pennsylvania outbreaks affected between 2 and 10 people. Outbreak size can indicate the emphasis a state places on investigating smaller outbreaks, which can affect the speed with which a state identifies contaminated food and removes it from commerce. Alternately, a small outbreak might indicate a more limited food source.



Multi-State Outbreaks: 53
From 2003-2012

Pennsylvania participates in one CDC surveillance program: PulseNet.

Outbreak Reporting from the States: Foodborne Illness Outbreaks from 2003 to 2012

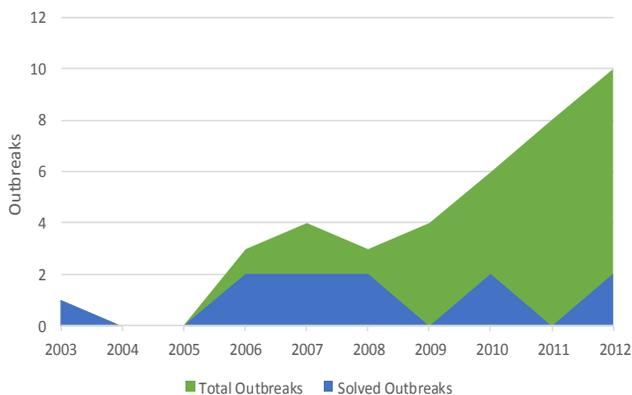
Rhode Island



39 Outbreaks Reported in Rhode Island
11 Outbreaks Solved in Rhode Island

Over a ten-year period, Rhode Island’s state and local health departments reported 39 outbreaks affecting only Rhode Island residents to the Centers for Disease Control and Prevention (CDC). Of the reported outbreaks, 11 were solved. “Solved” outbreaks—those where both a pathogen and a food source are identified—represent a minority of most states’ reported outbreaks. Solved outbreaks are the most valuable in terms of providing information to help prevent future illnesses. Rapid identification of the contaminated food source also enables states to quickly alert consumers and implement a food recall, thereby decreasing the public health impact.

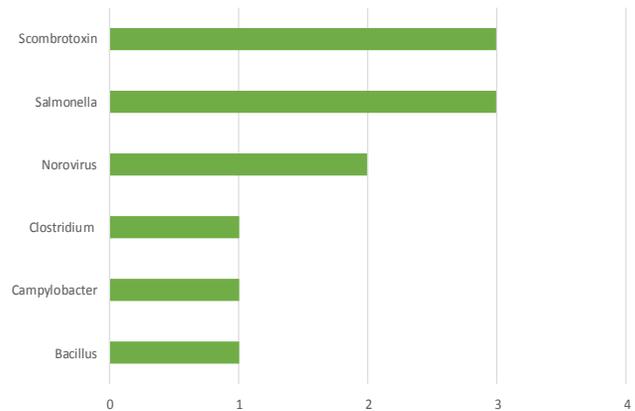
Trends in Reported and Solved Outbreaks



The median number of reported outbreaks was 3.5 per year over the ten-year period, or 3 reported outbreaks per 1 million population. The best performing states report 8 or more outbreaks per million population. Twenty-eight percent of outbreaks reported in Rhode Island during this period were solved. These indicators reflect the state’s capacity for epidemiologic investigation.

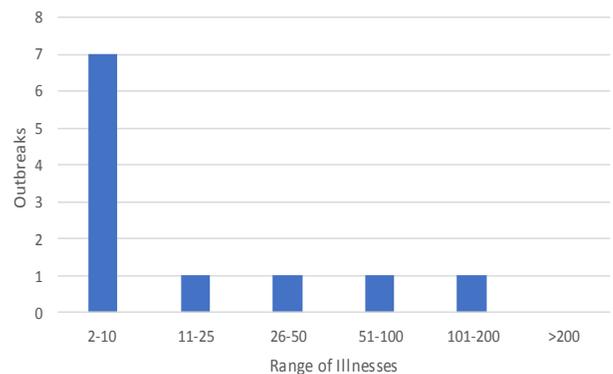
Pathogens Implicated in Solved Outbreaks (n=11)

The most common pathogens implicated in solved food-related outbreaks in Rhode Island were Scombrototoxin and *Salmonella* (3 outbreaks, 27%). A total of 6 pathogens were identified in the 11 solved outbreaks in the state. The number of pathogens reported indicates the state’s laboratory capacity.



Size of Solved Outbreaks (n=11)

Sixty-four percent of Rhode Island outbreaks affected between 2 and 10 people. Outbreak size can indicate the emphasis a state places on investigating smaller outbreaks, which can affect the speed with which a state identifies contaminated food and removes it from commerce. Alternately, a small outbreak might indicate a more limited food source.



Multi-State Outbreaks: 17
From 2003-2012

Rhode Island participates in two CDC surveillance programs: EHS-Net and PulseNet.

Outbreak Reporting from the States: Foodborne Illness Outbreaks from 2003 to 2012



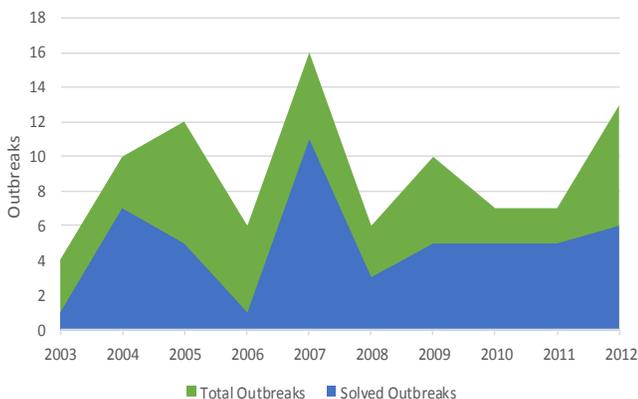
South Carolina

91 Outbreaks Reported in South Carolina

49 Outbreaks Solved in South Carolina

Over a ten-year period, South Carolina's state and local health departments reported 91 outbreaks affecting only South Carolina residents to the Centers for Disease Control and Prevention (CDC). Of the reported outbreaks, 49 were solved. "Solved" outbreaks—those where both a pathogen and a food source are identified—represent a minority of most states' reported outbreaks. Solved outbreaks are the most valuable in terms of providing information to help prevent future illnesses. Rapid identification of the contaminated food source also enables states to quickly alert consumers and implement a food recall, thereby decreasing the public health impact.

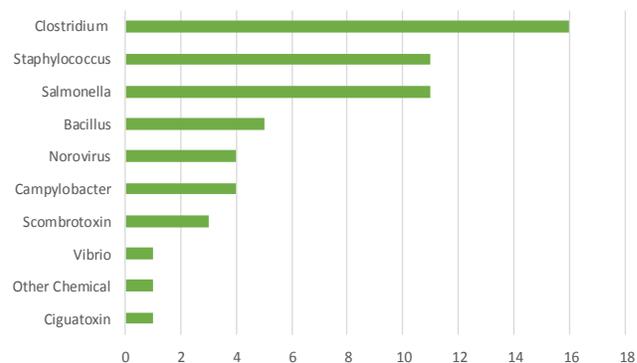
Trends in Reported and Solved Outbreaks



The median number of reported outbreaks was 8.5 per year over the ten-year period, or 2 reported outbreaks per 1 million population. The best performing states report 8 or more outbreaks per million population. Fifty-four percent of outbreaks reported in South Carolina during this period were solved. These indicators reflect the state's capacity for epidemiologic investigation.

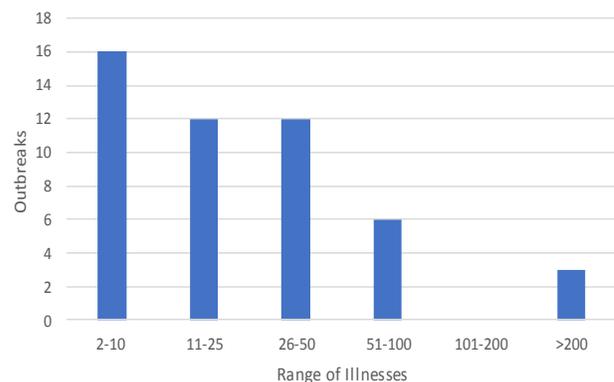
Pathogens Implicated in Solved Outbreaks (n=49)

The most common pathogen implicated in solved food-related outbreaks in South Carolina was *Clostridium* (16 outbreaks, 33%), followed by *Salmonella* and *Staphylococcus* (11 outbreaks, 22%). A total of 10 pathogens were identified in the 49 solved outbreaks in the state. The number of pathogens reported indicates the state's laboratory capacity.



Size of Solved Outbreaks (n=49)

Thirty-three percent of South Carolina outbreaks affected between 2 and 10 people. Outbreak size can indicate the emphasis a state places on investigating smaller outbreaks, which can affect the speed with which a state identifies contaminated food and removes it from commerce. Alternately, a small outbreak might indicate a more limited food source.



Multi-State Outbreaks: 19
From 2003-2012

South Carolina participates in three CDC surveillance programs: FoodCORE, CaliciNet and PulseNet.

Outbreak Reporting from the States: Foodborne Illness Outbreaks from 2003 to 2012



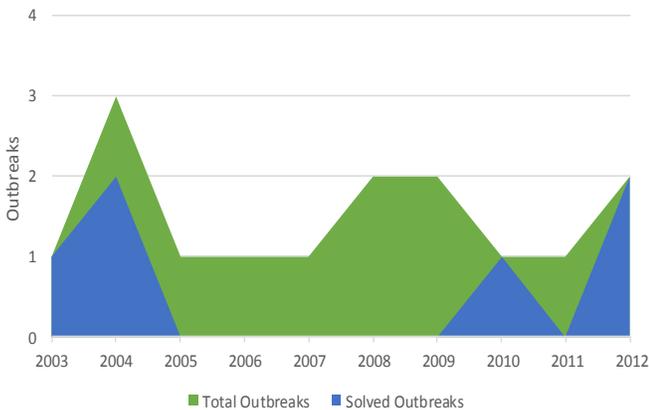
South Dakota

15 Outbreaks Reported in South Dakota

6 Outbreaks Solved in South Dakota

Over a ten-year period, South Dakota's state and local health departments reported 15 outbreaks affecting only South Dakota residents to the Centers for Disease Control and Prevention (CDC). Of the reported outbreaks, 6 were solved. "Solved" outbreaks—those where both a pathogen and a food source are identified—represent a minority of most states' reported outbreaks. Solved outbreaks are the most valuable in terms of providing information to help prevent future illnesses. Rapid identification of the contaminated food source also enables states to quickly alert consumers and implement a food recall, thereby decreasing the public health impact.

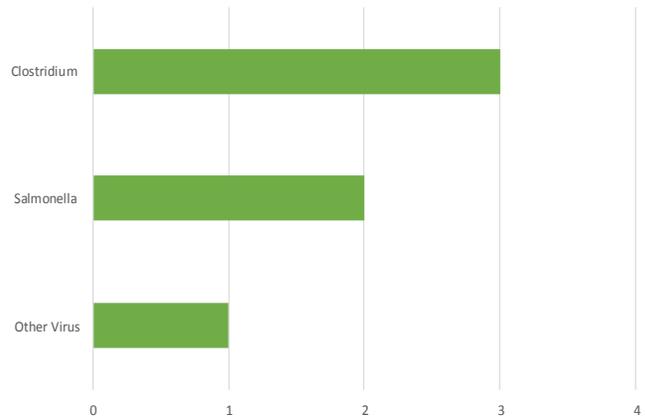
Trends in Reported and Solved Outbreaks



The median number of reported outbreaks was 1 per year over the ten-year period, or 1 reported outbreak per 1 million population. The best performing states report 8 or more outbreaks per million population. Forty percent of outbreaks reported in South Dakota during this period were solved. These indicators reflect the state's capacity for epidemiologic investigation.

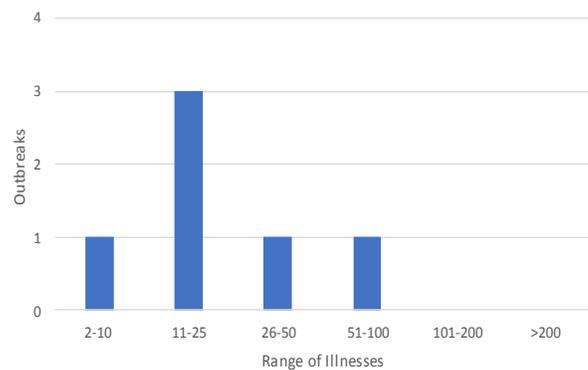
Pathogens Implicated in Solved Outbreaks (n=6)

The most common pathogen implicated in solved food-related outbreaks in South Dakota was *Clostridium* (3 outbreaks, 50%). A total of 3 pathogens were identified in the 6 solved outbreaks in the state. The number of pathogens reported indicates the state's laboratory capacity.



Size of Solved Outbreaks (n=6)

Seventeen percent of South Dakota outbreaks affected between 2 and 10 people. Outbreak size can indicate the emphasis a state places on investigating smaller outbreaks, which can affect the speed with which a state identifies contaminated food and removes it from commerce. Alternately, a small outbreak might indicate a more limited food source.



Multi-State Outbreaks: 15
From 2003-2012

South Dakota participates in one CDC surveillance program: PulseNet.

Outbreak Reporting from the States: Foodborne Illness Outbreaks from 2003 to 2012



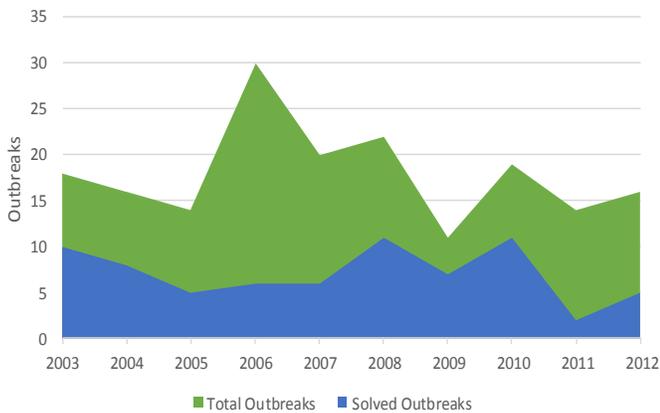
Tennessee

180 Outbreaks Reported in Tennessee

71 Outbreaks Solved in Tennessee

Over a ten-year period, Tennessee’s state and local health departments reported 180 outbreaks affecting only Tennessee residents to the Centers for Disease Control and Prevention (CDC). Of the reported outbreaks, 71 were solved. “Solved” outbreaks—those where both a pathogen and a food source are identified—represent a minority of most states’ reported outbreaks. Solved outbreaks are the most valuable in terms of providing information to help prevent future illnesses. Rapid identification of the contaminated food source also enables states to quickly alert consumers and implement a food recall, thereby decreasing the public health impact.

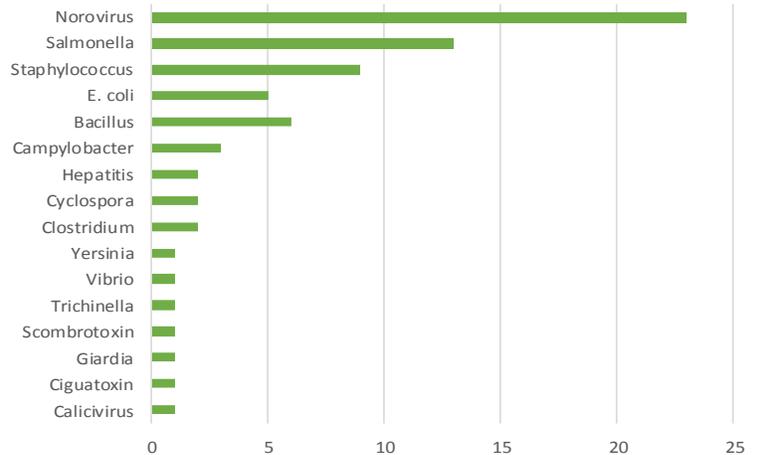
Trends in Reported and Solved Outbreaks



The median number of reported outbreaks was 17 per year over the ten-year period, or 3 reported outbreaks per 1 million population. The best performing states report 8 or more outbreaks per million population. Thirty-nine percent of outbreaks reported in Tennessee during this period were solved. These indicators reflect the state’s capacity for epidemiologic investigation.

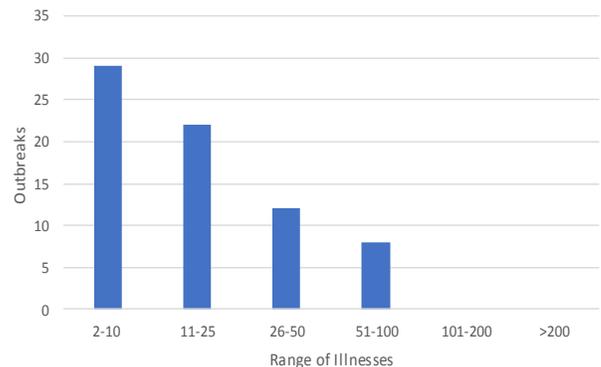
Pathogens Implicated in Solved Outbreaks (n=71)

The most common pathogen implicated in solved food-related outbreaks in Tennessee was Norovirus (23 outbreaks, 32%). A total of 16 pathogens were identified in the 71 solved outbreaks in the state. The number of pathogens reported indicates the state’s laboratory capacity.



Size of Solved Outbreaks (n=71)

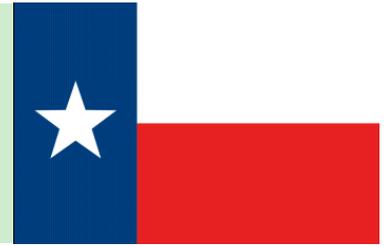
Forty-one percent of Tennessee outbreaks affected between 2 and 10 people. Outbreak size can indicate the emphasis a state places on investigating smaller outbreaks, which can affect the speed with which a state identifies contaminated food and removes it from commerce. Alternately, a small outbreak might indicate a more limited food source.



Multi-State Outbreaks: 40
From 2003-2012

Tennessee participates in seven CDC surveillance programs: FoodCORE, FoodNet, CaliciNet, NoroSTAT, Integrated Food Safety Centers for Excellence, EHC-Net and PulseNet.

Outbreak Reporting from the States: Foodborne Illness Outbreaks from 2003 to 2012



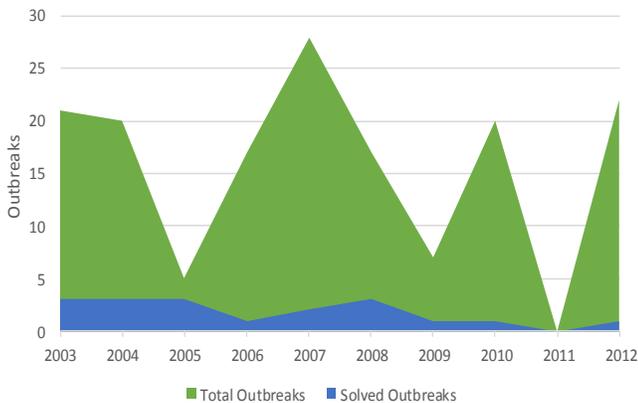
Texas

157 Outbreaks Reported in Texas

18 Outbreaks Solved in Texas

Over a ten-year period, Texas' state and local health departments reported 157 outbreaks affecting only Texas residents to the Centers for Disease Control and Prevention (CDC). Of the reported outbreaks, 18 were solved. "Solved" outbreaks—those where both a pathogen and a food source are identified—represent a minority of most states' reported outbreaks. Solved outbreaks are the most valuable in terms of providing information to help prevent future illnesses. Rapid identification of the contaminated food source also enables states to quickly alert consumers and implement a food recall, thereby decreasing the public health impact.

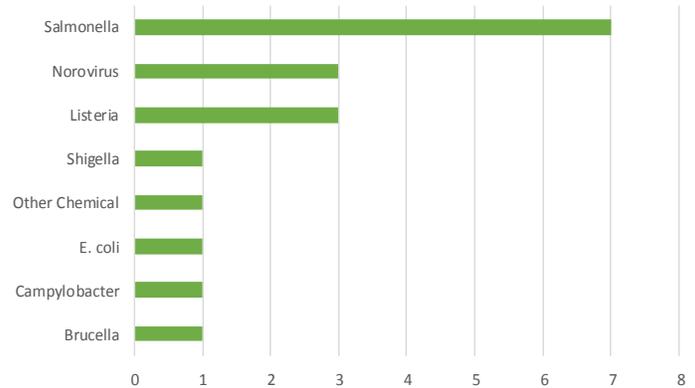
Trends in Reported and Solved Outbreaks



The median number of reported outbreaks was 18.5 per year over the ten-year period, or 1 reported outbreak per 1 million population. The best performing states report 8 or more outbreaks per million population. Eleven percent of outbreaks reported in Texas during this period were solved. These indicators reflect the state's capacity for epidemiologic investigation.

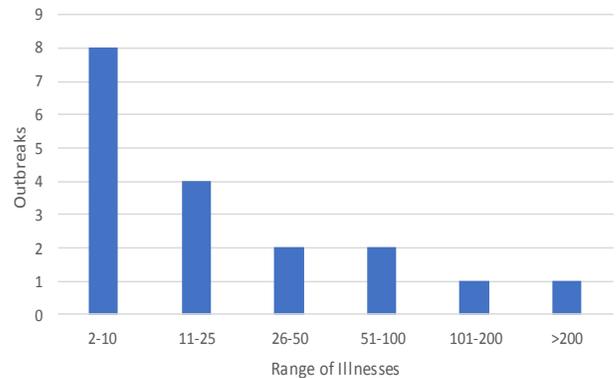
Pathogens Implicated in Solved Outbreaks (n=18)

The most common pathogen implicated in solved food-related outbreaks in Texas was *Salmonella* (7 outbreaks, 39%). A total of 8 pathogens were identified in the 18 solved outbreaks in the state. The number of pathogens reported indicates the state's laboratory capacity.



Size of Solved Outbreaks (n=18)

Forty-four percent of Texas outbreaks affected between 2 and 10 people. Outbreak size can indicate the emphasis a state places on investigating smaller outbreaks, which can affect the speed with which a state identifies contaminated food and removes it from commerce. Alternately, a small outbreak might indicate a more limited food source.



Multi-State Outbreaks: 27
From 2003-2012

Texas participates in two CDC surveillance programs: CaliciNet and PulseNet.

Outbreak Reporting from the States: Foodborne Illness Outbreaks from 2003 to 2012



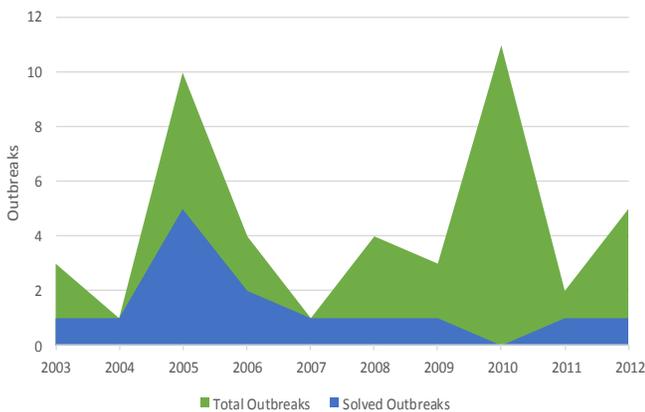
Utah

44 Outbreaks Reported in Utah

14 Outbreaks Solved in Utah

Over a ten-year period, Utah's state and local health departments reported 44 outbreaks affecting only Utah residents to the Centers for Disease Control and Prevention (CDC). Of the reported outbreaks, 14 were solved. "Solved" outbreaks—those where both a pathogen and a food source are identified—represent a minority of most states' reported outbreaks. Solved outbreaks are the most valuable in terms of providing information to help prevent future illnesses. Rapid identification of the contaminated food source also enables states to quickly alert consumers and implement a food recall, thereby decreasing the public health impact.

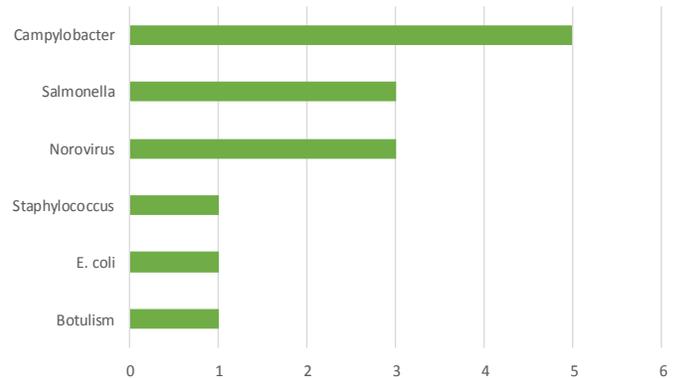
Trends in Reported and Solved Outbreaks



The median number of reported outbreaks was 3.5 per year over the ten-year period, or 1 reported outbreak per 1 million population. The best performing states report 8 or more outbreaks per million population. Thirty-two percent of outbreaks reported in Utah during this period were solved. These indicators reflect the state's capacity for epidemiologic investigation.

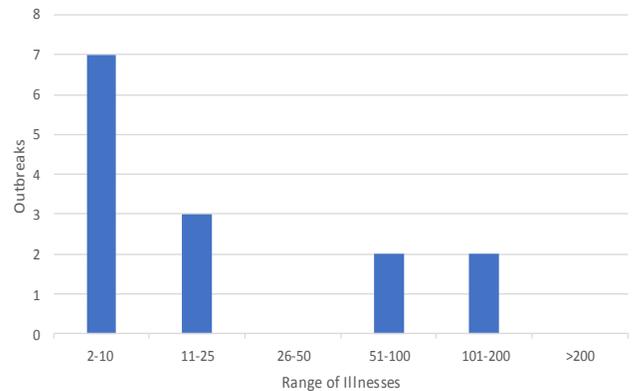
Pathogens Implicated in Solved Outbreaks (n=14)

The most common pathogen implicated in solved food-related outbreaks in Utah was *Campylobacter* (5 outbreaks, 38%). A total of 6 pathogens were identified in the 14 solved outbreaks in the state. The number of pathogens reported indicates the state's laboratory capacity.



Size of Solved Outbreaks (n=14)

Fifty percent of Utah outbreaks affected between 2 and 10 people. Outbreak size can indicate the emphasis a state places on investigating smaller outbreaks, which can affect the speed with which a state identifies contaminated food and removes it from commerce. Alternately, a small outbreak might indicate a more limited food source.



Multi-State Outbreaks: 25
From 2003-2012

Utah participates in two CDC surveillance programs: FoodCORE and PulseNet.

Outbreak Reporting from the States: Foodborne Illness Outbreaks from 2003 to 2012



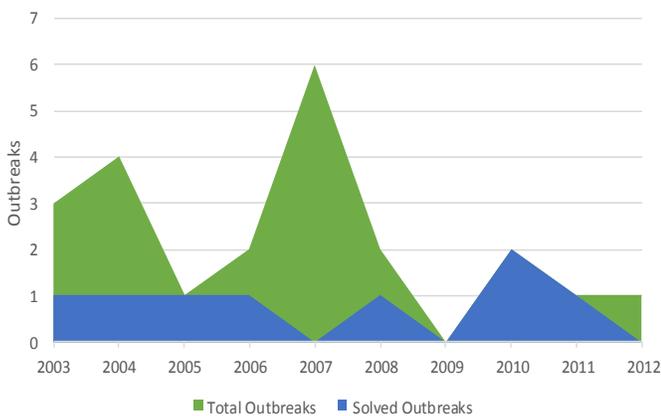
Vermont

22 Outbreaks Reported in Vermont

8 Outbreaks Solved in Vermont

Over a ten-year period, Vermont's state and local health departments reported 22 outbreaks affecting only Vermont residents to the Centers for Disease Control and Prevention (CDC). Of the reported outbreaks, 8 were solved. "Solved" outbreaks—those where both a pathogen and a food source are identified—represent a minority of most states' reported outbreaks. Solved outbreaks are the most valuable in terms of providing information to help prevent future illnesses. Rapid identification of the contaminated food source also enables states to quickly alert consumers and implement a food recall, thereby decreasing the public health impact.

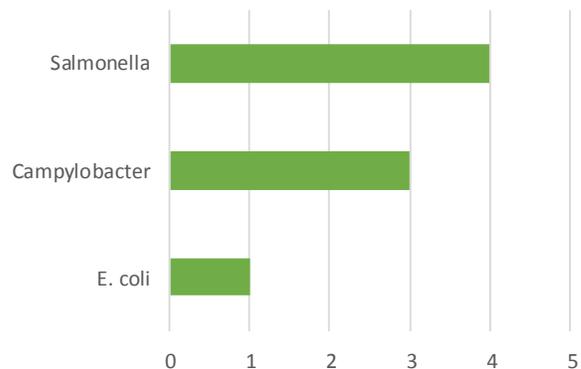
Trends in Reported and Solved Outbreaks



The median number of reported outbreaks was 2 per year over the ten-year period, or 3 reported outbreaks per 1 million population. The best performing states report 8 or more outbreaks per million population. Thirty-six percent of outbreaks reported in Vermont during this period were solved. These indicators reflect the state's capacity for epidemiologic investigation.

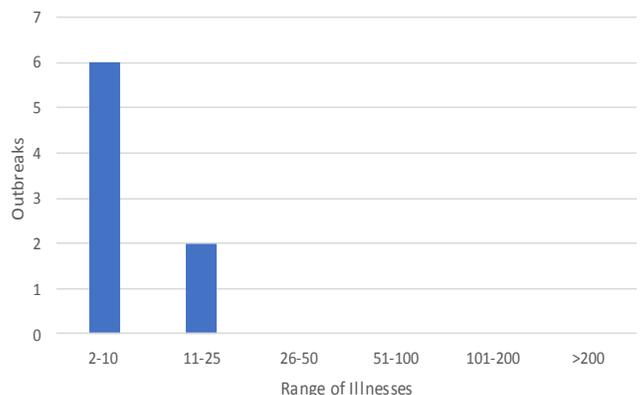
Pathogens Implicated in Solved Outbreaks (n=8)

The most common pathogen implicated in solved food-related outbreaks in Vermont was *Salmonella* (4 outbreaks, 50%), followed by *Campylobacter* (3 outbreaks, 38%). A total of 3 pathogens were identified in the 8 solved outbreaks in the state. The number of pathogens reported indicates the state's laboratory capacity.



Size of Solved Outbreaks (n=8)

Seventy-five percent of Vermont outbreaks affected between 2 and 10 people. Outbreak size can indicate the emphasis a state places on investigating smaller outbreaks, which can affect the speed with which a state identifies contaminated food and removes it from commerce. Alternately, a small outbreak might indicate a more limited food source.



Multi-State Outbreaks: 22
From 2003-2012

Vermont participates in two CDC surveillance programs: CaliciNet and PulseNet.

Outbreak Reporting from the States: Foodborne Illness Outbreaks from 2003 to 2012



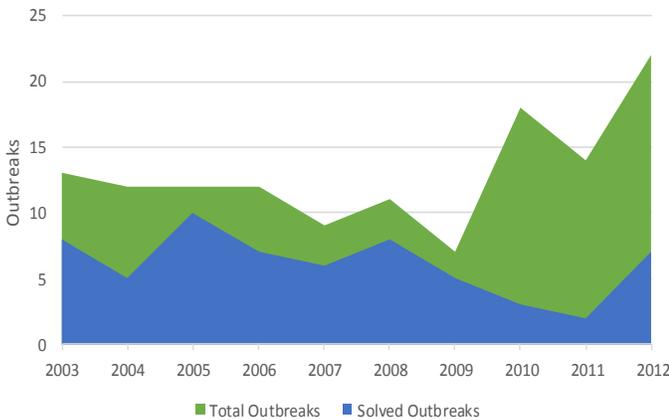
Virginia

130 Outbreaks Reported in Virginia

61 Outbreaks Solved in Virginia

Over a ten-year period, Virginia's state and local health departments reported 130 outbreaks affecting only Virginia residents to the Centers for Disease Control and Prevention (CDC). Of the reported outbreaks, 61 were solved. "Solved" outbreaks—those where both a pathogen and a food source are identified—represent a minority of most states' reported outbreaks. Solved outbreaks are the most valuable in terms of providing information to help prevent future illnesses. Rapid identification of the contaminated food source also enables states to quickly alert consumers and implement a food recall, thereby decreasing the public health impact.

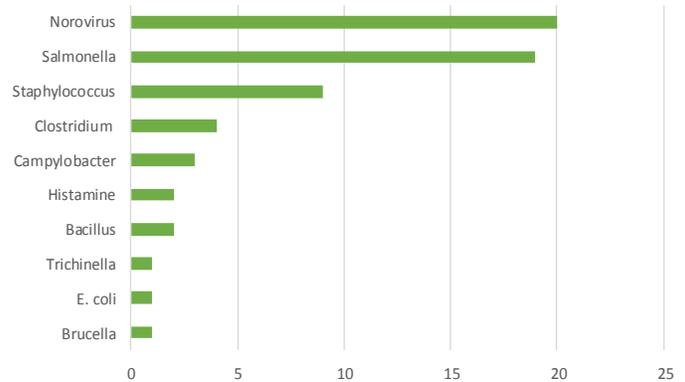
Trends in Reported and Solved Outbreaks



The median number of reported outbreaks was 12 per year over the ten-year period, or 2 reported outbreaks per 1 million population. The best performing states report 8 or more outbreaks per million population. Forty-seven percent of outbreaks reported in Virginia during this period were solved. These indicators reflect the state's capacity for epidemiologic investigation.

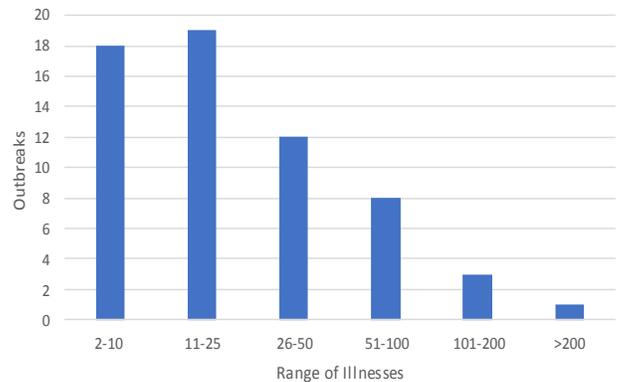
Pathogens Implicated in Solved Outbreaks (n=61)

The most common pathogen implicated in solved food-related outbreaks in Virginia was Norovirus (20 outbreaks, 33%), followed by *Salmonella* (19 outbreaks, 31%). A total of 10 pathogens were identified in the 61 solved outbreaks in the state. The number of pathogens reported indicates the state's laboratory capacity.



Size of Solved Outbreaks (n=61)

Thirty percent of Virginia outbreaks affected between 2 and 10 people. Outbreak size can indicate the emphasis a state places on investigating smaller outbreaks, which can affect the speed with which a state identifies contaminated food and removes it from commerce. Alternately, a small outbreak might indicate a more limited food source.



Multi-State Outbreaks: 35
From 2003-2012

Virginia participates in two CDC surveillance programs: CaliciNet and PulseNet.

Outbreak Reporting from the States: Foodborne Illness Outbreaks from 2003 to 2012



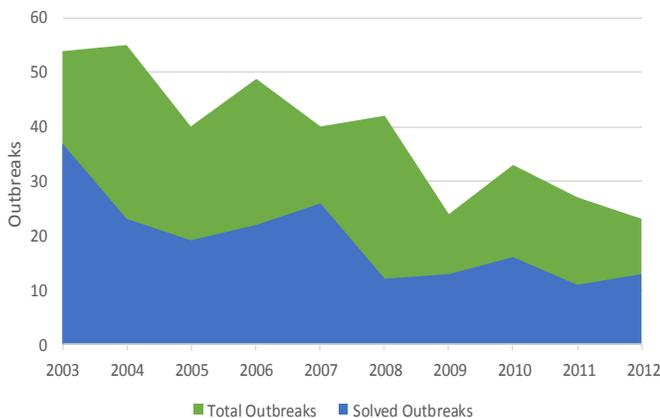
Washington

387 Outbreaks Reported in Washington

192 Outbreaks Solved in Washington

Over a ten-year period, Washington's state and local health departments reported 387 outbreaks affecting only Washington residents to the Centers for Disease Control and Prevention (CDC). Of the reported outbreaks, 192 were solved. "Solved" outbreaks—those where both a pathogen and a food source are identified—represent a minority of most states' reported outbreaks. Solved outbreaks are the most valuable in terms of providing information to help prevent future illnesses. Rapid identification of the contaminated food source also enables states to quickly alert consumers and implement a food recall, thereby decreasing the public health impact.

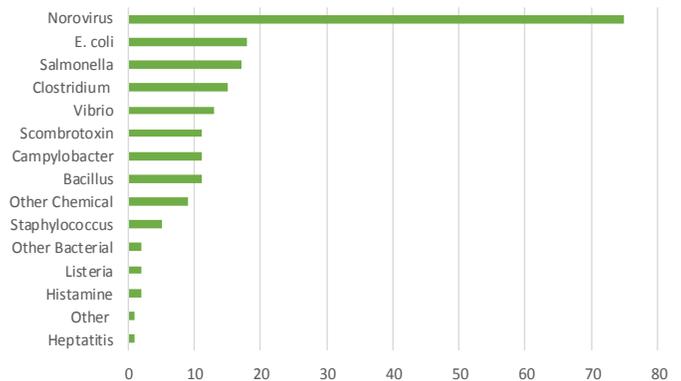
Trends in Reported and Solved Outbreaks



The median number of reported outbreaks was 40 per year over the ten-year period, or 6 reported outbreaks per 1 million population. The best performing states report 8 or more outbreaks per million population. Fifty percent of outbreaks reported in Washington during this period were solved. These indicators reflect the state's capacity for epidemiologic investigation.

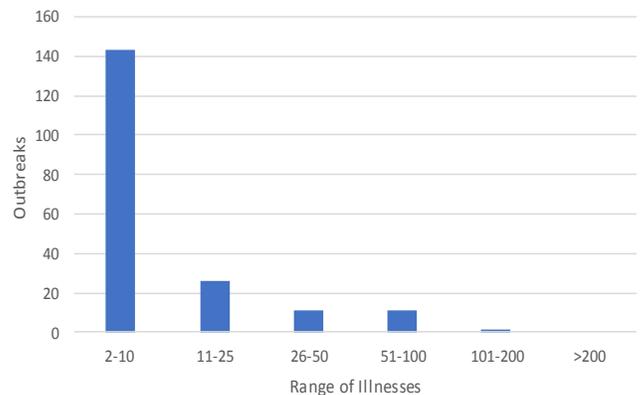
Pathogens Implicated in Solved Outbreaks (n=192)

The most common pathogen implicated in solved food-related outbreaks in Washington was Norovirus (75 outbreaks, 39%). A total of 15 pathogens were identified in the 192 solved outbreaks in the state. The number of pathogens reported indicates the state's laboratory capacity.



Size of Solved Outbreaks (n=192)

Seventy-four percent of Washington outbreaks affected between 2 and 10 people. Outbreak size can indicate the emphasis a state places on investigating smaller outbreaks, which can affect the speed with which a state identifies contaminated food and removes it from commerce. Alternately, a small outbreak might indicate a more limited food source.



Multi-State Outbreaks: 41
From 2003-2012

Washington participates in one CDC surveillance program: PulseNet.

Outbreak Reporting from the States: Foodborne Illness Outbreaks from 2003 to 2012



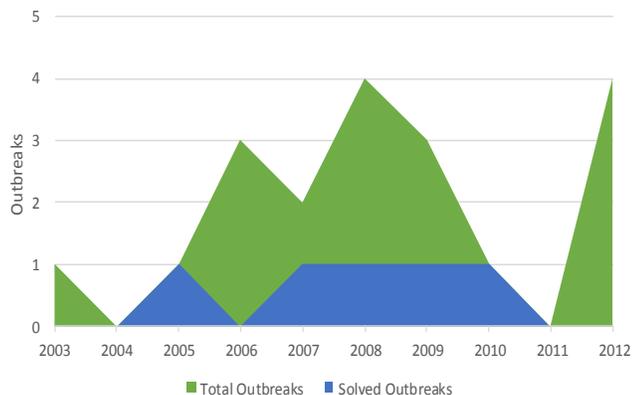
West Virginia

19 Outbreaks Reported in West Virginia

5 Outbreaks Solved in West Virginia

Over a ten-year period, West Virginia’s state and local health departments reported 19 outbreaks affecting only West Virginia residents to the Centers for Disease Control and Prevention (CDC). Of the reported outbreaks, 5 were solved. “Solved” outbreaks—those where both a pathogen and a food source are identified—represent a minority of most states’ reported outbreaks. Solved outbreaks are the most valuable in terms of providing information to help prevent future illnesses. Rapid identification of the contaminated food source also enables states to quickly alert consumers and implement a food recall, thereby decreasing the public health impact.

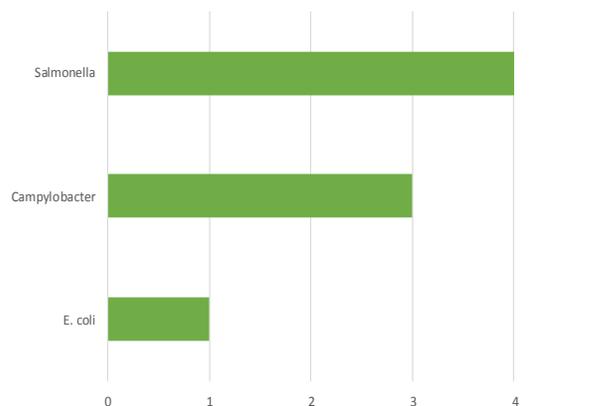
Trends in Reported and Solved Outbreaks



The median number of reported outbreaks was 1.5 per year over the ten-year period, or 1 reported outbreak per 1 million population. The best performing states report 8 or more outbreaks per million population. Twenty-six percent of outbreaks reported in West Virginia during this period were solved. These indicators reflect the state’s capacity for epidemiologic investigation.

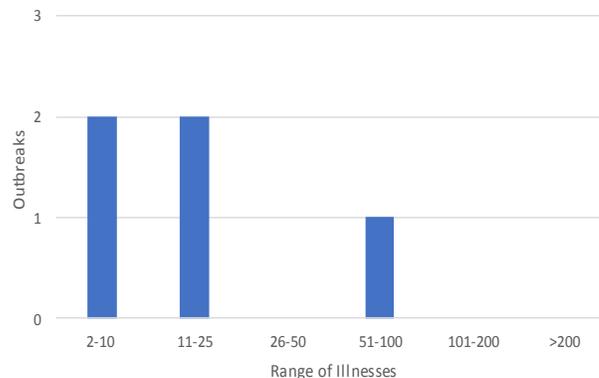
Pathogens Implicated in Solved Outbreaks (n=5)

The most common pathogen implicated in solved food-related outbreaks in West Virginia was *Salmonella* (2 outbreaks, 40%). A total of 4 pathogens were identified in the 5 solved outbreaks in the state. The number of pathogens reported indicates the state’s laboratory capacity.



Size of Solved Outbreaks (n=5)

Forty percent of West Virginia outbreaks affected between 2 and 10 people. Outbreak size can indicate the emphasis a state places on investigating smaller outbreaks, which can affect the speed with which a state identifies contaminated food and removes it from commerce. Alternately, a small outbreak might indicate a more limited food source.



Multi-State Outbreaks: 15
From 2003-2012

West Virginia participates in one CDC surveillance program: PulseNet.

Outbreak Reporting from the States: Foodborne Illness Outbreaks from 2003 to 2012

WISCONSIN



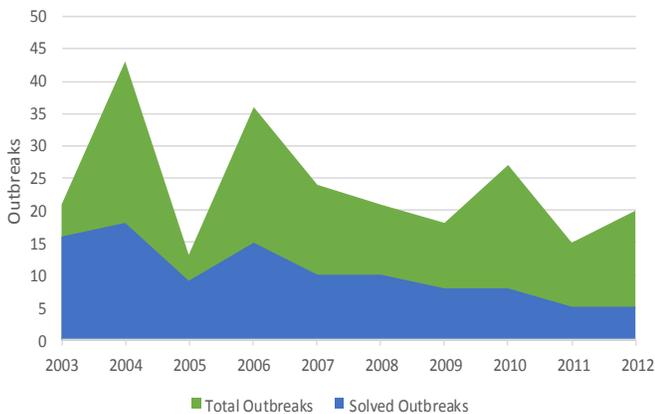
1848

238 Outbreaks Reported in Wisconsin

104 Outbreaks Solved in Wisconsin

Over a ten-year period, Wisconsin’s state and local health departments reported 238 outbreaks affecting only Wisconsin residents to the Centers for Disease Control and Prevention (CDC). Of the reported outbreaks, 104 were solved. “Solved” outbreaks—those where both a pathogen and a food source are identified—represent a minority of most states’ reported outbreaks. Solved outbreaks are the most valuable in terms of providing information to help prevent future illnesses. Rapid identification of the contaminated food source also enables states to quickly alert consumers and implement a food recall, thereby decreasing the public health impact.

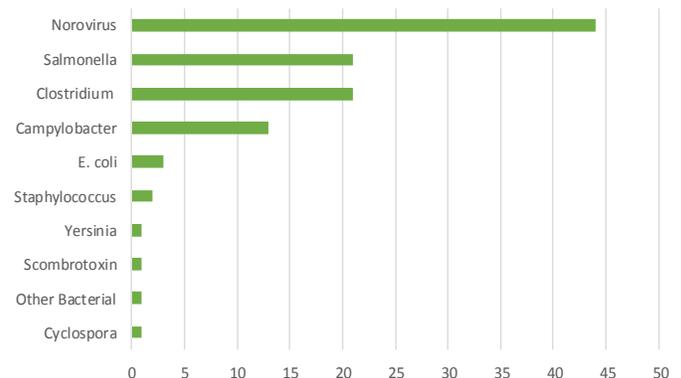
Trends in Reported and Solved Outbreaks



The median number of reported outbreaks was 21 per year over the ten-year period, or 4 reported outbreaks per 1 million population. The best performing states report 8 or more outbreaks per million population. Forty-four percent of outbreaks reported in Wisconsin during this period were solved. These indicators reflect the state’s capacity for epidemiologic investigation.

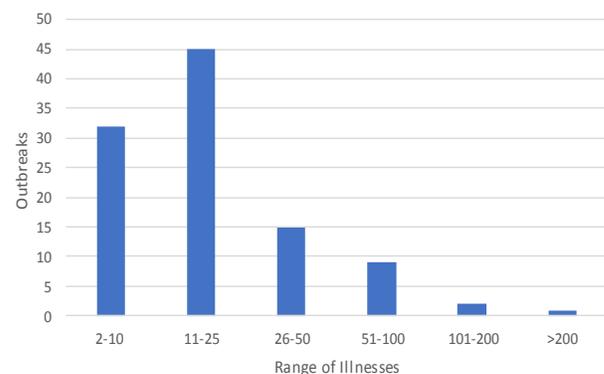
Pathogens Implicated in Solved Outbreaks (n=104)

The most common pathogen implicated in solved food-related outbreaks in Wisconsin was Norovirus (44 outbreaks, 42%). A total of 10 pathogens were identified in the 104 solved outbreaks in the state. The number of pathogens reported indicates the state’s laboratory capacity.



Size of Solved Outbreaks (n=104)

Thirty-one percent of Wisconsin outbreaks affected between 2 and 10 people. Outbreak size can indicate the emphasis a state places on investigating smaller outbreaks, which can affect the speed with which a state identifies contaminated food and removes it from commerce. Alternately, a small outbreak might indicate a more limited food source.



Multi-State Outbreaks: 13
From 2003-2012

Wisconsin participates in four CDC surveillance programs: FoodCORE, CaliciNet, NoroSTAT and PulseNet.

Outbreak Reporting from the States:

Foodborne Illness Outbreaks from 2003 to 2012

Wyoming

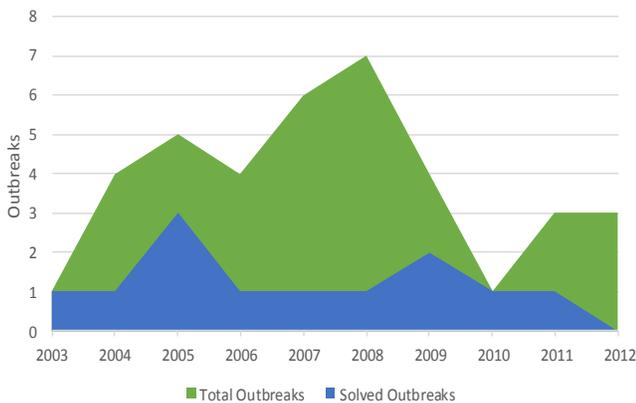


38 Outbreaks Reported in Wyoming

12 Outbreaks Solved in Wyoming

Over a ten-year period, Wyoming's state and local health departments reported 38 outbreaks affecting only Wyoming residents to the Centers for Disease Control and Prevention (CDC). Of the reported outbreaks, 12 were solved. "Solved" outbreaks—those where both a pathogen and a food source are identified—represent a minority of most states' reported outbreaks. Solved outbreaks are the most valuable in terms of providing information to help prevent future illnesses. Rapid identification of the contaminated food source also enables states to quickly alert consumers and implement a food recall, thereby decreasing the public health impact.

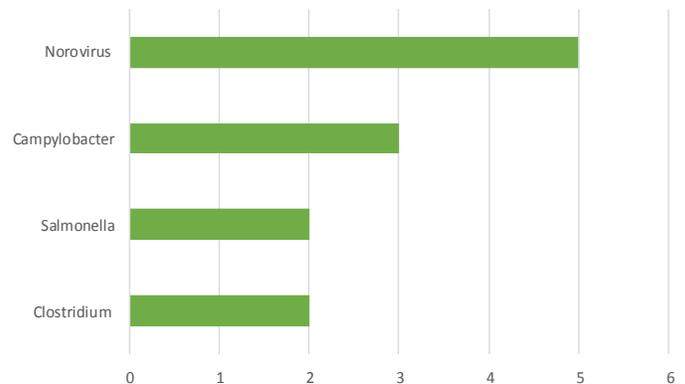
Trends in Reported and Solved Outbreaks



The median number of reported outbreaks was 4 per year over the ten-year period, or 8 reported outbreaks per 1 million population. The best performing states report 8 or more outbreaks per million population. Thirty-two percent of outbreaks reported in Wyoming during this period were solved. These indicators reflect the state's capacity for epidemiologic investigation.

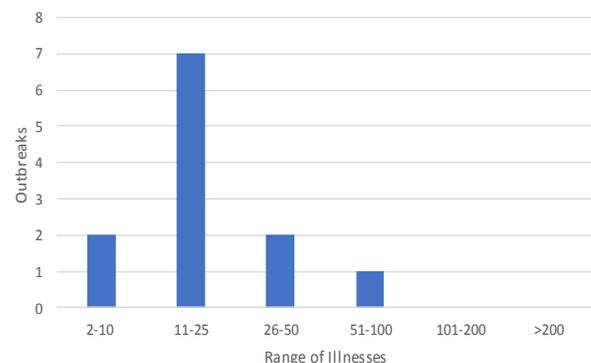
Pathogens Implicated in Solved Outbreaks (n=12)

The most common pathogen implicated in solved food-related outbreaks in Wyoming was Norovirus (5 outbreaks, 42%), followed by *Campylobacter* (3 outbreaks, 25%). A total of 4 pathogens were identified in the 12 solved outbreaks in the state. The number of pathogens reported indicates the state's laboratory capacity.



Size of Solved Outbreaks (n=12)

Seventeen percent of Wyoming outbreaks affected between 2 and 10 people. Outbreak size can indicate the emphasis a state places on investigating smaller outbreaks, which can affect the speed with which a state identifies contaminated food and removes it from commerce. Alternately, a small outbreak might indicate a more limited food source.



Multi-State Outbreaks: 13
From 2003-2012

Wyoming participates in two CDC surveillance programs: CaliciNet and PulseNet.

Endnotes

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Appendix A

Table 1: Median Outbreaks per Million Population (2003-2012)	
8 or more outbreaks per million <i>* Benchmark States</i>	Hawaii (10), Kansas (8), Minnesota* (9), North Dakota (8), Oregon* (8) Wyoming (8)
6-7 outbreaks per million	Colorado (6), Ohio (7), Washington (6)
4-5 outbreaks per million	Alaska (5), Arizona (4), California (4), Connecticut (4), Florida (5), Illinois (5), Maryland (4), Wisconsin (4)
2-3 outbreaks per million	Georgia (2), Idaho (3), Iowa (3), Maine (3), Massachusetts (2), Michigan (3), New Hampshire (3), New Mexico (3), New York (2), Pennsylvania (2), Rhode Island (3), South Carolina (2), Tennessee (3), Vermont (3), Virginia (2)
1 or <1 outbreaks per million	Alabama (1), Arkansas (1), Delaware (1), District of Columbia (1), Indiana (1), Kentucky (<1), Louisiana (1), Mississippi (1), Missouri (1), Montana (1), Nebraska (1), Nevada (1), New Jersey (1), North Carolina (1), Oklahoma (1), South Dakota (1), Texas (1), Utah (1), West Virginia (1)

*Benchmark states for this report were Minnesota and Oregon, for their reputable public health departments and histories of strong foodborne outbreak reporting.

Appendix B

Federal Foodborne Disease Surveillance Systems

CDC sponsors several programs that enhance food safety surveillance and outbreak response in the states.

PulseNet

Founded in 1996, PulseNet is a national laboratory network that links cases of foodborne illnesses to outbreaks. Each state has at least one participating public health laboratory that tracks and responds to a wide range of biological threats. Disease-causing pathogens are identified through a standardized DNA fingerprinting technique (pulse-field gel electrophoresis) and those data are stored in a database that is accessible to all 87 participating laboratories in the United States. The database enables federal, state, and local health departments to identify pathogens, trace their evolution, and detect relationships between clusters of illness beyond state boundaries. PulseNet also collaborates with PulseNet International which has over 120 laboratories in Africa, Asia Pacific, Canada, Europe, Latin America, the Caribbean, and the Middle East.

FoodNet

Founded in 1995, FoodNet is a population-based surveillance system that covers 15 percent of the United States population in 10 states: Connecticut, Georgia, Maryland, Minnesota, New Mexico, Oregon, Tennessee and certain counties in California, Colorado, and New York. FoodNet reports the burden of foodborne pathogens in the United States and determines trends in foodborne-diseases. FoodNet specifically tracks illnesses caused by *Campylobacter*, *Cryptosporidium*, *Cyclospora*, *Listeria*, *Salmonella*, Shiga toxin-producing *Escherichia coli* (STEC) O157 and non-O157, *Shigella*, *Vibrio*, and *Yersinia*.

FoodCORE

Started in 2009, FoodCORE (Foodborne-diseases Centers for Outbreak Response Enhancement) covers 18 percent of the United States population. FoodCORE's focus includes improved surveillance methods of foodborne disease, epidemiologic interviews, environmental health assessments, and promoting sound practices for detection, investigation, response, and control. FoodCORE centers operate in Colorado, Connecticut, Minnesota, New York City, Ohio, Oregon, South Carolina, Tennessee, Utah, and Wisconsin. FoodCORE specifically reports on outbreaks caused by *Salmonella*, Shiga toxin-producing *E. coli*, and *Listeria*. FoodCORE collaborates with the Association of Public Health Laboratories, USDA-FSIS, and the FDA Rapid Response Teams.

In a few states, the contribution of FoodNet and FoodCORE have led to collaborative efforts that improve outbreak reporting. In Connecticut, FoodCORE and FoodNet are run with the assistance of local university students who have proven to be strong resources for surveillance work, especially for interviewing patients and health departments in order to solve outbreaks. Quyen Phan, an epidemiologist with the Connecticut Department of Public Health (DPH), mentioned in a recent CDC report, "[T]he existing partnership between DPH and Yale paved the way for the rapid formation of a student interview team composed of Yale public health students. After our first year, we have seen over 80 percent of *Salmonella* cases interviewed compared with about 50 percent of them in previous years." (CDC, 2013)

CaliciNet National Norovirus Outbreak Network

CaliciNet was launched in 2009 as a norovirus surveillance network of federal, state, and local public health laboratories to help the CDC identify a common outbreak source, improve the monitoring of current outbreaks, and identify emerging strains. CaliciNet collects genetic and epidemiological information on norovirus strains that cause gastroenteritis and other foodborne illnesses from 27 states and the District of Columbia. This information is available to participating states that submit laboratory data to the CaliciNet Database – Alabama, Arkansas, California, Colorado, Delaware, the District of Columbia, Florida, Hawaii, Idaho, Indiana, Kentucky, Massachusetts, Michigan, Minnesota, Nevada, New Hampshire, New Mexico, New York, North Carolina, Ohio, Oregon, South Carolina, Tennessee, Texas, Vermont, Virginia, Wisconsin, and Wyoming.

NoroSTAT

NoroSTAT was launched in 2012 as a collaborative network of five state health departments to establish and maintain standard practices for norovirus reporting. This data is used to monitor current norovirus outbreak activity, and to note differences in severity from previous years compared to emerging strains. The NoroSTAT surveillance system involves Minnesota, Ohio, Oregon, Tennessee, and Wisconsin. NoroSTAT sends epidemiologic data to the National Outbreak Reporting System (NORS) and laboratory data to CaliciNet within seven days of confirmed or suspected norovirus illness.

Integrated Food Safety Centers of Excellence

Located in Colorado, Florida, Minnesota, Oregon, and Tennessee, the Integrated Food Safety Centers of Excellence provides regional training for public health professionals and technical help during outbreak investigations. The Centers also evaluate individual state performance in related areas, including surveillance, outbreak response, and food safety education for outbreak prevention.

EHS-Net

EHS-Net is a network of environmental health professionals, epidemiologists, and laboratory professionals working to understand factors that cause food- and water-borne outbreaks. EHS-Net considers factors from all points in the farm to fork continuum, from food source, to processing/manufacturing, to distribution, and to point of final service. It also focuses on outbreak prevention and offers training opportunities for future environmental health specialists. EHS-Net partners with the states of California, Minnesota, New York, Rhode Island, Tennessee, Iowa, Connecticut, Georgia, and Oregon, and New York City.