

Environmental Public Health Practice and CDC's Food Safety Winnable Battle

Why Food Safety Matters

- Each year, contaminated food consumed in the U.S. results in an estimated 48 million illnesses, more than 128,000 hospitalizations, and 3,000 deaths.
- Acute foodborne illnesses cost the U.S. an estimated \$78 billion each year in healthcare, workplace, and other economic losses.

How Environmental Public Health Practice Makes a Difference

- A 2010 survey by the National Association of County and City Health Officials found that 78% of local health departments conduct restaurant inspections.
- In the United States, state and local environmental health practitioners make sure our food stays safe.
 - They issue permits and inspect restaurants and other retail food establishments.
 - They investigate outbreaks to identify their environmental causes.
 - They educate kitchen managers on how to improve their practices to prevent foodborne illness.



Did you know that every year more than 1 in 6 Americans gets foodborne illness? And that more than half of all foodborne illness outbreaks in the United States are associated with restaurants?

CDC is taking action to prevent these outbreaks by improving environmental public health practice, including foodborne outbreak response, food worker education and practices, and restaurant inspections.

CDC's National Center for Environmental Health Prevents Foodborne Illness Outbreaks by Understanding Environmental Factors that Contribute to Those Outbreaks through Surveillance, Practice-Based Research, and Evidence-Based Practice



For more information about CDC's food-related work in environmental public health practice, visit <http://www.cdc.gov/nceh/ehs/activities/food.html>

National Center for Environmental Health
Division of Emergency and Environmental Health Services





PREVENTING FOODBORNE ILLNESS OUTBREAKS

Environmental Health Specialists Network (EHS-Net)

CDC funds eight health departments to participate in EHS-Net. EHS-Net is a collaborative forum of state and local environmental health specialists whose mission is to improve environmental health practice and prevent foodborne illness outbreaks nationwide. The environmental health specialists identify food safety issues, investigate outbreaks, provide training, and collaborate with epidemiologists and laboratorians in their states and counties to identify and prevent underlying factors contributing to outbreaks (e.g., food handling practices, worker health policies, and food source of a particular outbreak or group of outbreaks).

EHS-Net brings local, state, and federal regulators (U.S. Food and Drug Administration [FDA] and U.S. Department of Agriculture [USDA]) and state disease control authorities together to actively work on a variety of food safety activities that require public health science-based inquiry.

SURVEILLANCE

CDC provides the National Environmental Assessment Reporting System (NEARS)¹ to support state and local health departments in collecting and reporting environmental assessment data during foodborne illness outbreak investigations. These data help state and local health departments in identifying underlying environmental causes of outbreaks (e.g., food handling practices, worker health policies, and food source) and can be used to prevent future outbreaks. Collection, monitoring, and analysis of these environmental assessment data at the national level can provide valuable information about the environmental causes of outbreaks and the best ways to prevent them.

NEARS provides data to help food safety programs

- Identify environmental causes of outbreaks in their jurisdiction.
- Take follow-up action to reduce or prevent future foodborne illness and outbreaks.
- Focus limited program resources on actions with the highest impact.
- Evaluate and improve their food safety program.
- NEARS is available for all local, state, territorial, and tribal food safety programs to collect and report data from foodborne illness outbreak environmental assessments.

¹Formerly known as the National Voluntary Environmental Assessment Information System (NVEAIS).

PRACTICE-BASED RESEARCH

Building the Evidence Base

Since 2000, CDC has been working with state and local health departments to identify environmental causes of foodborne outbreaks.

CDC has funded state and local health departments for more than 20 retail food safety studies, leading to 30 publications. Their findings help inform policy and practice changes that reduce the risk of foodborne illness outbreaks among restaurant customers.

Retail Food Safety Findings:

<http://www.cdc.gov/nceh/ehs/publications/topic.htm#FoodSafety>

Publications currently in development include the following:

- Retail deli cross contamination prevention practices.
- Retail deli slicer use and cleaning practices.
- Restaurant staffs' food allergen knowledge, attitudes, and practices.

For the next 5 years, CDC-funded state and local health departments are being asked to focus on the following goals, which particularly influence the spread of foodborne illnesses:

1. Improve reporting of environmental causes of foodborne illness outbreaks
2. Improve federal, state, local, and industry policies and practices in 3 priority areas:
 - Prevent restaurant workers working when ill.
 - Improve handwashing behaviors and minimize bare hand contact with food
 - Require trained, certified kitchen managers to be present during all hours of operation

EVIDENCE-BASED PRACTICE

Changing Policies

CDC practice-based research and funding have spurred the adoption of evidence-based practices. For example,

- Rhode Island's EHS-Net funded research found that Rhode Island—the only northeastern state at the time that prohibited selling undercooked ground meat to children 12 years old and under—had lower *E. coli* illness rates than other northeastern states. These findings influenced FDA to prohibit the sale of undercooked meat on children's menu items in the FDA Model Food Code, which guides state and local food codes nationally.
- An EHS-Net study found that restaurants with kitchen managers certified in food safety are less likely to have foodborne disease outbreaks than restaurants without managers certified in food safety. These findings influenced FDA to revise certification requirements in the FDA Model Food Code. Certified kitchen managers are now required in 21 states, D.C., and Puerto Rico.

- CDC and FDA have committed to working together to update FDA's Food Code with recommendations for exclusion and restriction of food workers diagnosed with foodborne illnesses.
- An EHS-Net-funded evaluation of NYC's new restaurant grading program for restaurant sanitation shows that the program improved restaurants' food safety. The proportion of restaurants scoring an "A" on their inspections increased 35%. Because of this success, CDC and FDA are partnering to create a letter-grading recommendation for the FDA Model Food Code.

Providing Technical Assistance

CDC provides guidance to support evidence-based public health practice. For example, CDC

- Developed and implemented a study to support the USDA/FDA *Listeria* risk assessment model. A manuscript based on the data is under review at the *Foodborne Pathogens and Disease* journal.
- Developed improved guidance in 2009 for the outbreak reporting form for CDC's National Outbreak Reporting System (<http://www.cdc.gov/nors>).
- Supports the enhancement of food safety as required by the Food Safety Modernization Act by funding health departments to develop training for restaurant inspectors and others responsible for food safety.

Investigating Outbreaks

CDC supports outbreak investigations in state and local health departments. For example,

- During the 2008 *Salmonella* Saintpaul outbreak, CDC shared new findings from an EHS-Net study to help FDA understand specific restaurant food-handling practices and modify its field investigation with the health departments accordingly.

Providing a Free Online Course to Improve Outbreak Response Using Environmental Assessments

In 2014, CDC launched a free online course. The e-Learning on Environmental Assessment of Foodborne Illness Outbreaks teaches state, local, territorial, and tribal environmental health specialists and food-safety program staff how to:

- Investigate foodborne illness outbreaks as part of an outbreak response team.
- Identify an outbreak's environmental causes.
- Recommend appropriate control measures.

Learners practice critical skills through simulated exercises, such as interviewing food workers and conducting an environmental assessment of a restaurant implicated in an outbreak.

