

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 \$152 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 restaurants on how to improve their practices and prevent outbreaks.



Did you know 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 environmental assessments, food worker education and practices, and restaurant inspections.

SURVEILLANCE

CDC provides the National Voluntary Environmental Assessment Information System (NVEAIS) to help state and local health departments figure out what underlying environmental factors (e.g., food handling practices, worker health policies, and food source attribution) caused a foodborne outbreak so they can prevent the next one from happening.



PRACTICE-BASED RESEARCH

Since 2000, CDC has been working with state and local health departments to identify environmental causes of foodborne outbreaks. Their research findings help inform policy and practice changes that reduce the risk of foodborne disease outbreaks and illnesses among restaurant customers.



EVIDENCE-BASED PRACTICE

CDC has a free new e-learning course to help state and local environmental health professionals conduct systematic restaurant inspections and improve their practices to prevent outbreaks.



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

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





ENVIRONMENTAL PUBLIC HEALTH PRACTICE AND CDC'S FOOD SAFETY WINNABLE BATTLE

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 and waterborne illness outbreaks nationwide. The environmental health specialists identify 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- and water-safety activities that require public health science-based inquiry.

SURVEILLANCE

New Surveillance System Will Help Prevent Outbreaks

The purpose of CDC's National Voluntary Environmental Assessment Information System (NVEAIS) is to identify factors that can be routinely monitored by food-safety programs to prevent or reduce the risk for foodborne illness outbreaks associated with restaurants and other food service establishments.

NVEAIS will provide data to help food-safety programs

- Identify and monitor underlying environmental factors.
- Establish the basis for generating hypotheses about factors that may lead to foodborne outbreaks.
- Guide planning, implementation, and evaluation.

NVEAIS will be available for all local, state, territorial and tribal food-safety programs to collect and report data from foodborne illness outbreak environmental assessments.

PRACTICE-BASED RESEARCH

Building the Evidence Base

Since 2000, CDC and its EHS-Net funded partners have published 14 articles highlighting study findings and evidence-based environmental health practices to reduce the risk of foodborne disease outbreaks and illnesses among restaurant customers, including the following:

- [Food Worker Hand Washing Practices: An EHS-Net Observation Study](#). J Food Prot. 2006; 69(10):2417-23.
- [Systematic Environmental Evaluations to Identify Food Safety Differences Between Outbreak and Nonoutbreak Restaurants](#). J Food Prot. 2006;69(11):2697-702.
- [Factors Related to Food Worker Hand Hygiene Practices](#). J Food Prot. 2007;70(3):661-6.
- [Certified Kitchen Managers: Do They Improve Restaurant Inspection Outcomes?](#) J Food Prot. 2009;72(2):384-91.
- [Tomato Handling Practices In Restaurants](#). J Food Prot. 2009;72(8):1692-8.
- [Factors Associated with Food Workers Working While Experiencing Vomiting or Diarrhea](#). J Food Prot. 2011;74(2):215-20.

Publishing New Articles on Food Handling Practices

CDC and its EHS-Net funded partners will publish four new articles on retail food-safety studies in the Journal of Food Protection in December 2013:

- [Food Workers' Experiences With and Beliefs about Working While Ill](#). J Food Prot. 2013;76(12):2146-54.
- [Frequency of Inadequate Chicken Cross-Contamination Prevention and Cooking Practices in Restaurants](#). J Food Prot. 2013;76(12):2141-45.
- [Ground Beef Handling and Cooking Practices in Restaurants in Eight States](#). J Food Prot. 2013;76(12):2132-40.
- [Handling Practices of Fresh Leafy Greens in Restaurants: Receiving and Training](#). J Food Prot. 2013;76(12):2126-31.



EVIDENCE-BASED PRACTICE

Changing Policies

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

- Findings from an EHS-Net study contributed to FDA amending its Food Code in 2009 to include a ban on the sale of undercooked ground beef in retail food establishments that offer children's menu items.
- A 2006 EHS-Net study found that restaurants with managers certified in food safety are less likely to be involved in foodborne disease outbreaks than restaurants without managers certified in food safety. In a letter to the Conference for Food Protection, CDC endorsed certification of food-safety kitchen managers.
- In 2012, the Conference for Food Protection recommended FDA include nontyphoidal *Salmonella* as a reportable disease for restaurant managers.
- 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.

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. Data collection was completed in August 2013.
- Developed a new contributing factor list and 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 new 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 accordingly.

Providing a New E-Learning Training Program

CDC's new e-learning tool will teach state, local, territorial, and tribal environmental health professionals and food-safety officials how to:

- Investigate foodborne illness outbreaks as part of an outbreak response team.
- Identify contributing and underlying factors.
- Recommend appropriate control measures.

They will learn basic skills required to conduct foodborne-illness-outbreak environmental assessments. These include effective interviewing, observation and record review, sampling, critical thinking, and organizing assessment information.

The e-learning is free and consists of self-paced, interactive multimedia instruction delivered over the Internet. Continuing education credits are available. The training launched in 2014.

