

CDC and Food Safety

Foodborne illness is a common, costly--yet preventable--public health problem. Each year, one in six Americans get sick from contaminated foods or beverages; 3,000 die. *Salmonella*, a bacteria that commonly causes foodborne illnesses, results in more hospitalizations and deaths than any other bacteria found in food and incurs \$365 million in direct medical costs annually.

Reducing foodborne illness by 10% would keep five million Americans from getting sick each year.

What is CDC's role in food safety?

Food safety depends on strong partnerships. CDC, the U.S. Food and Drug Administration (FDA), and the U.S. Department of Agriculture's (USDA) Food Safety Inspection Service collaborate at the federal level to promote food safety. State and local health departments and food industries also play critical roles in all aspects of food safety.

CDC provides the vital link between illness in people and the food safety systems of government agencies and food producers.



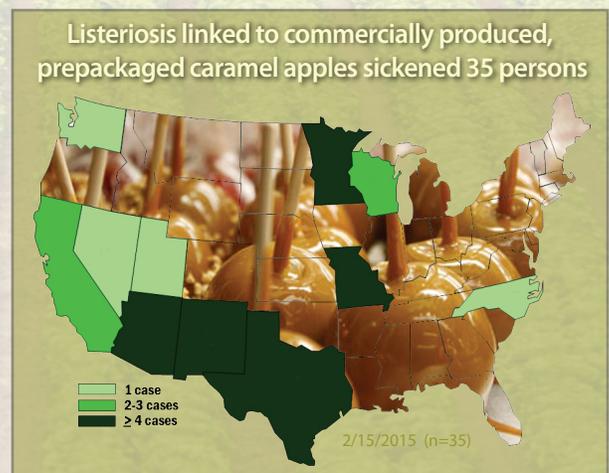
CDC takes action by:

- Tracking the occurrence of foodborne illnesses
- Monitoring antibiotic resistant infections
- Defining the public health burden of foodborne illness
- Attributing illnesses to specific foods and settings
- Investigating outbreaks and sporadic cases (Managing the DNA "fingerprinting" network for foodborne illness-causing bacteria in all states to detect outbreaks.)
- Funding state and local health departments
- Targeting prevention measures to meet food safety goals
- Informing food safety action and policy (The Food Safety Modernization Act and the egg safety regulation were driven in part by CDC data and findings.)

Stopping an outbreak with whole genome sequencing

CDC scientists have started using whole genome sequencing (WGS) to see the "DNA fingerprint" of bacteria and distinguish one type from another.

You don't normally think of caramel apples as deadly. But, in a multi-state outbreak of listeriosis (infections caused by the germ, *Listeria*) that killed seven people and hospitalized 34, scientists used WGS to help identify an unlikely source: commercially produced, prepackaged caramel apples. Because the WGS results were available, scientists began investigating a cluster of cases one week earlier than if they had used only the traditional technique of pulsed-field gel electrophoresis (PFGE). The product was recalled, which likely prevented illnesses and saved lives.

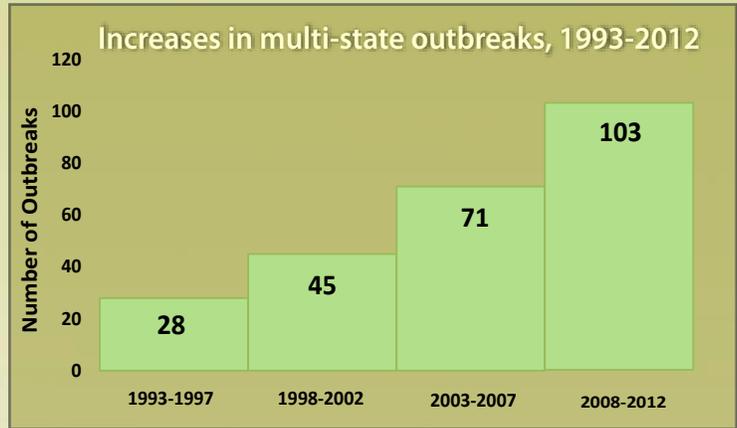


Challenges to America's Food Safety

Sometimes foods we love and count on for good health are contaminated with bacteria that cause illness and can be deadly for certain people. More progress is needed to protect people and reduce foodborne illnesses in America.

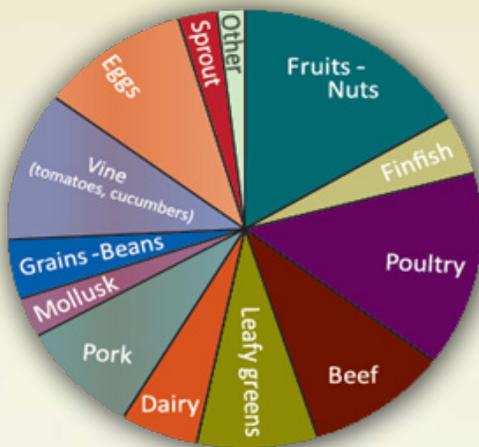
Challenges to food safety will continue to arise in unpredictable ways, largely due to:

- Changes in our food production and supply, including more imported foods
- Changes in the environment leading to food contamination
- Rising number of multistate outbreaks
- New and emerging bacteria, toxins, and antibiotic resistance
- New and different contaminated foods, such as organic sprouted chia powder and prepackaged caramel apples, causing illnesses



Source: CDC's Foodborne Disease Outbreak Surveillance System, 1993-2012

Foods that sickened people in 915 outbreaks (2008-2012)



Source: CDC's National Outbreak Reporting System, 2008-2012

The threat of antibiotic resistance

Antibiotic resistance in foodborne bacteria is a growing food safety challenge that is made worse by overuse of antibiotics in humans and food animals. Every year, over 400,000 people in the United States are sickened with resistant *Salmonella* or *Campylobacter*.

The National Antimicrobial Resistance Monitoring System (NARMS), a partnership of CDC, FDA, and USDA, will play an expanded role under the President's initiative for Combating Antimicrobial-Resistant Bacteria (CARB) by:

- Increasing the number of *Salmonella* bacteria samples tested for antibiotic resistance from 5% to 100%
- Increasing the number of isolates of other foodborne bacteria, including *Campylobacter*
- Expanding data collection (e.g. patient history, food exposure, travel history, etc.) to better understand why people get sick from resistance infections

The future of food safety depends on:

- Supporting Centers of Excellence that are faster at responding to foodborne outbreaks
- Developing and sharing next generation DNA sequencing technology with all states
- Improving integration of foodborne illness surveillance systems and expanded data sharing as required by the Food Safety Modernization Act