CDC Update

Conference for Food Protection, Orlando, Florida May 3, 2014

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Providing the Vital Link

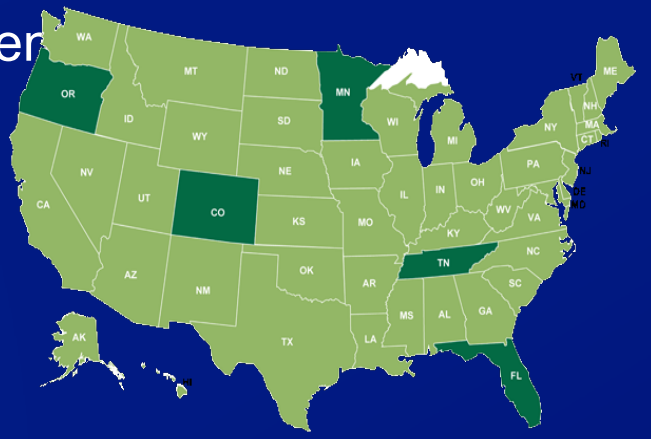
CDC provides the vital link between illness in people and the food safety systems of government agencies and food producers

Food Safety

- **Food safety is part of one of the six winnable battles as identified by CDC's Director, Dr. Thomas Frieden**
- **Three Focus Areas**
  - Discovery – Tracking trends and risk factors, defining the burden, finding new pathogens and drug resistance, and attributing illness to specific foods
  - Innovation – Developing new tools, methods, and analytics in epidemiology, laboratory science, and environmental health
  - Implementation – Sharing new technology and information with local, state, and federal partners; improving communications; and targeting information to guide policy
- **Website**
  - http://www.cdc.gov/WinnableBattles/FoodSafety/index.html

Integrated Food Safety Centers of Excellence

- **Food Safety Modernization Act (2011) required CDC to designate five centers (CO, FL, MN, OR, TN)**
  - No appropriation until FY 2014: CDC gave $200K per center per year in FYs 2012 and 2013
  - Goal: to serve as resources for federal, state, and local public health professionals to respond to foodborne illness outbreaks
  - Unique aspect of centers: activities focus on assisting other states
  - Training, process evaluation/improvemer information systems
  - Academic courses and research: insufficient funds thus far

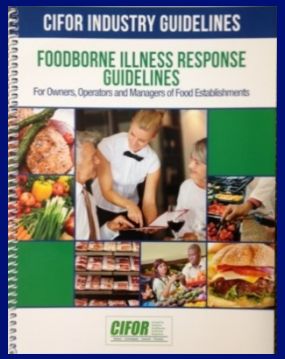


Integrated Food Safety Centers of Excellence

- **Accomplishments**
  - Training needs assessments conducted
  - Online training course (almost completed)
  - Food source information wiki on CO website
  - Just-in-time environmental health training course under development
  - Assessments of detection/response capacity
  - All sites have active websites
- **Future Activities**
  - Improved complaint and information systems
  - Training
  - Academic courses

CIFOR: Council to Improve Foodborne Illness Outbreak Response

- **CIFOR in 2013**
  - Law project: state analysis, handbook, menu
  - CIFOR industry guidelines: *Foodborne Illness Response Guidelines for Owners, Operators, and Managers of Food Establishments*
    - Produced by industry and public health
    - 14 tools and guidelines
  - Lab-epi reporting software



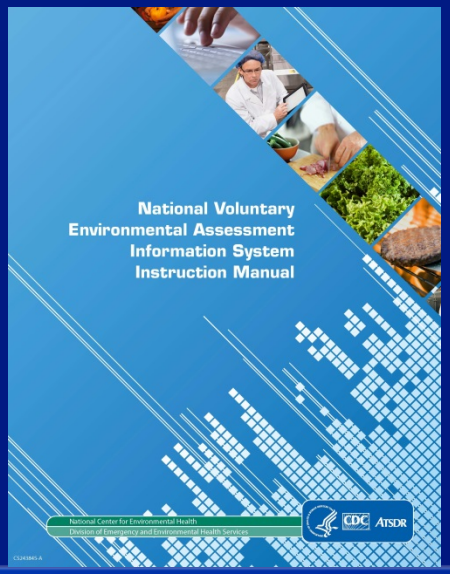
- **CIFOR in 2014**
  - *CIFOR Guidelines for Foodborne Disease Outbreak Response* second edition
  - *Development of Target Ranges for Selected Performance Measures in the CIFOR Guidelines*
  - *CIFOR Guidelines Toolkit* second edition

New Environmental Health Tools to Improve Food Safety

- **NCEH launched 2 new food safety tools in April 2014**
  - National Voluntary Environmental Assessment Information System
  - E-Learning on Environmental Assessments of Foodborne Illness Outbreaks

National Voluntary Environmental Assessment Information System (NVEAIS)

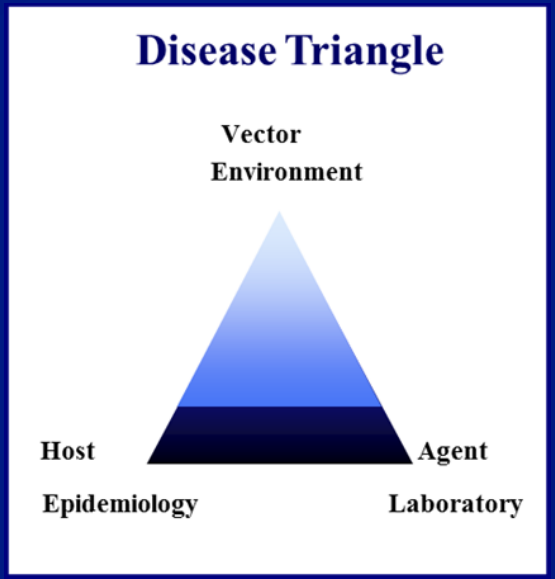
- **2008:** Issue submitted to CFP to form committee to review proposal to seek conference input on establishing a national reporting system
- **2010:** CFP recommendation to amend FDA's Voluntary National Retail Food Regulatory Program Standards, Standard 5, Foodborne Illness and Food Defense Preparedness and Response
- **2012:** FDA amended the standards
- **April 2014:** NVEAIS opened nationally for data reporting



Foodborne Illness Outbreak Environmental Assessments

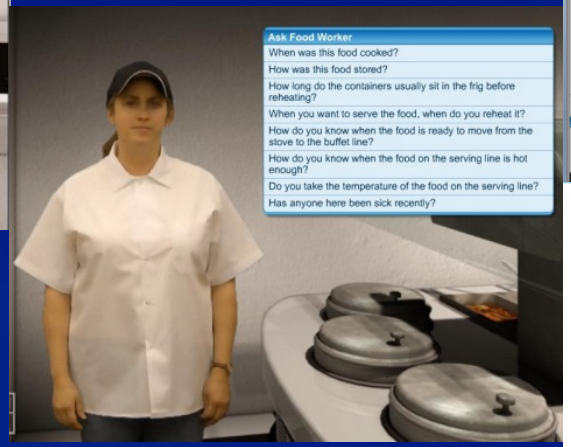
- **Use systems approach**
  - Describe how the environment contributes to the introduction and/or transmission of agents that cause illness
  - Understand contributing factors and environmental antecedents
    - *Contributing factors*- how the outbreak occurred
    - *Environmental antecedents*- why the outbreak occurred

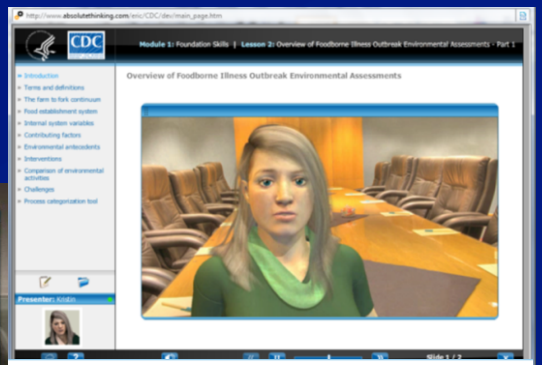
- **Help describe**
  - Risk factors
  - System variability
  - Relationships between risk factors
  - How relationships between risk factors cause system variability



E-Learning on Environmental Assessments of Foodborne Illness Outbreaks

- Use cutting-edge e-learning technologies to develop competency with foodborne illness outbreak environmental assessments and deliver free training over the Internet to enhance global food safety





EHS-Net Restaurant Food Safety Studies 2013

- **Published 4 articles in *Journal of Food Protection***
  - Inadequate chicken cross contamination prevention and cooking practices
    - Less than half of kitchen managers knew the temperature to which chicken should be cooked
    - Brown, et al. J Food Prot. 2013;76(12):2141–2145
  - Handling practices of fresh leafy greens
    - Most restaurants met FDA guidelines for keeping purchase records for shipments of leafy greens
    - Coleman, et al. J Food Prot. 2013;76(12):2126-31

EHS-Net Restaurant Food Safety Studies 2013

- Ground beef handling and cooking practices
  - Chain restaurants and restaurants with food-safety certified managers had safer ground beef practices
  - Bogard, et al. J Food Prot. 2013;76(12):2132-40
- Food worker experiences with and beliefs about working while ill
  - Workers concerned about leaving coworkers short-staffed were more likely to say they had worked with vomiting or diarrhea
  - Carpenter, et al. J Food Prot. 2013;76(12):2146-54.

Information on Environmental Health Services Work

- **Main EHSB page**
  - www.cdc.gov/nceh/ehs
- **NVEAIS**
  - http://www.cdc.gov/nceh/ehs/NVEAIS
- **e-Learning on Environmental Assessments for Foodborne Illness Outbreaks**
  - http://www.cdc.gov/nceh/ehs/eLearn/EA_FIO
- **Research studies**
  - http://www.cdc.gov/nceh/ehs/EHSNet

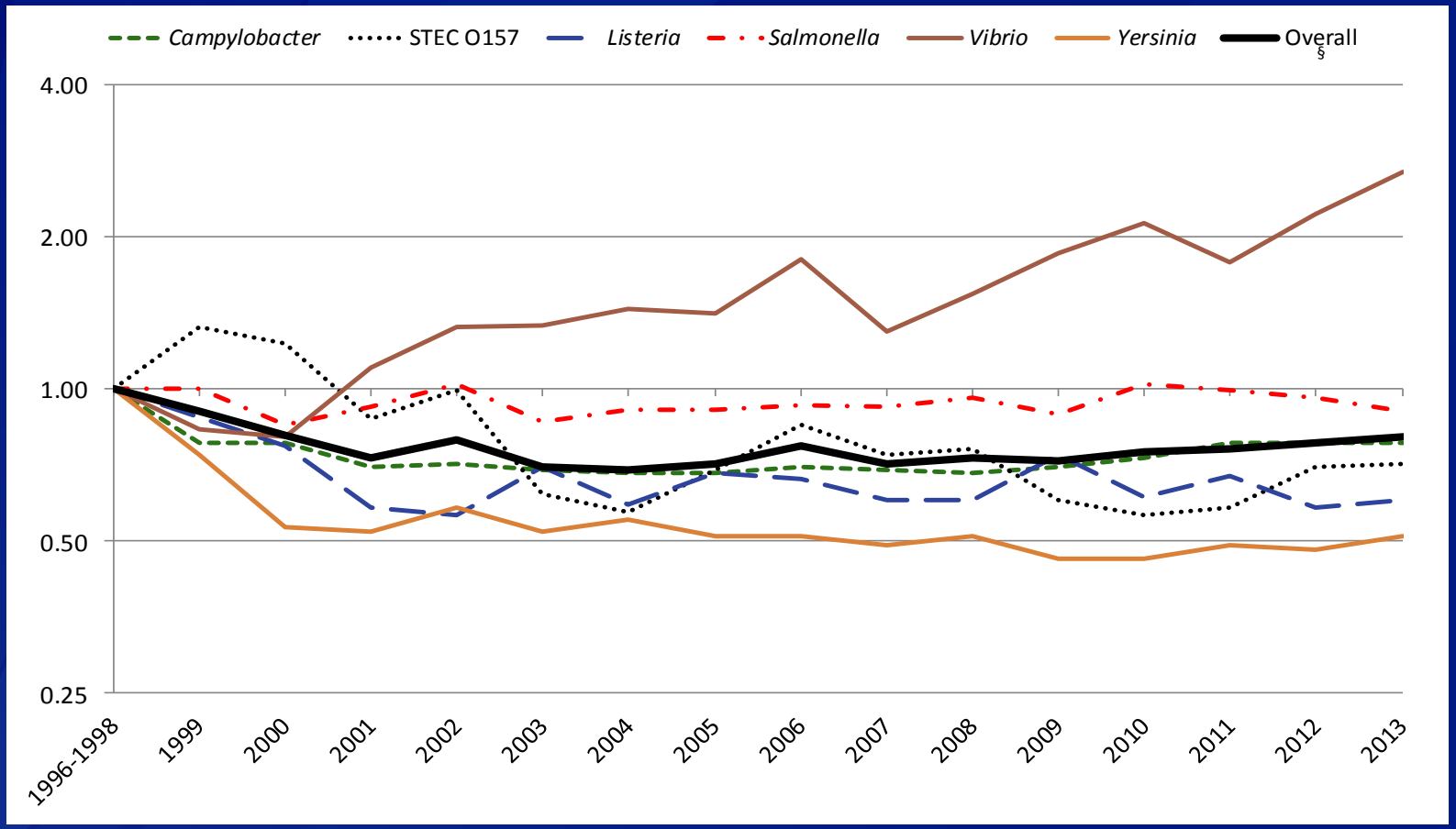
MMWR - FoodNet

- **MMWR: Incidence and Trends of Infection with Pathogens Transmitted Commonly Through Food — Foodborne Diseases Active Surveillance Network, 10 U.S. Sites, 1996–2013**
  - Released April 18, 2014

- **http://www.cdc.gov/mmwr/**

MMWR Weekly
Vol. 63, No. 15
April 18, 2014

Figure 4. Relative rates of culture-confirmed infections with *Campylobacter*, STEC* O157, *Listeria*, *Salmonella*, *Vibrio*, and *Yersinia*, and overall measure of change, compared with 1996–1998 rates, by year, FoodNet 1996–2013†



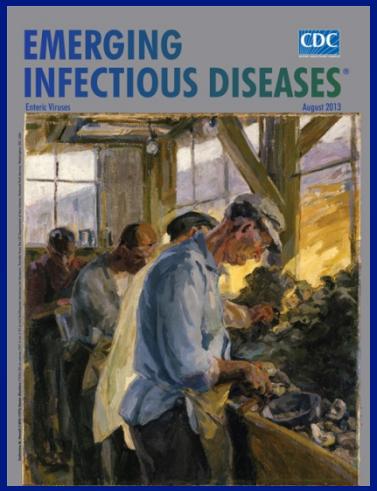
*Shiga toxin-producing *Escherichia coli* . †The position of each line indicates the relative change in the incidence of that pathogen compared with 1996–1998. The actual incidences of these infections cannot be determined from this graph. Data for 2013 are preliminary.

§The measure of overall trends in incidence combines data for *Campylobacter*, *Listeria*, *Salmonella*, STEC O157, *Vibrio*, and *Yersinia*, the six key bacterial pathogens for which >50% of illnesses are estimated to be transmitted by food. The model weights by incidence of infection for each pathogen.

Tracking Trends Among Major Pathogens

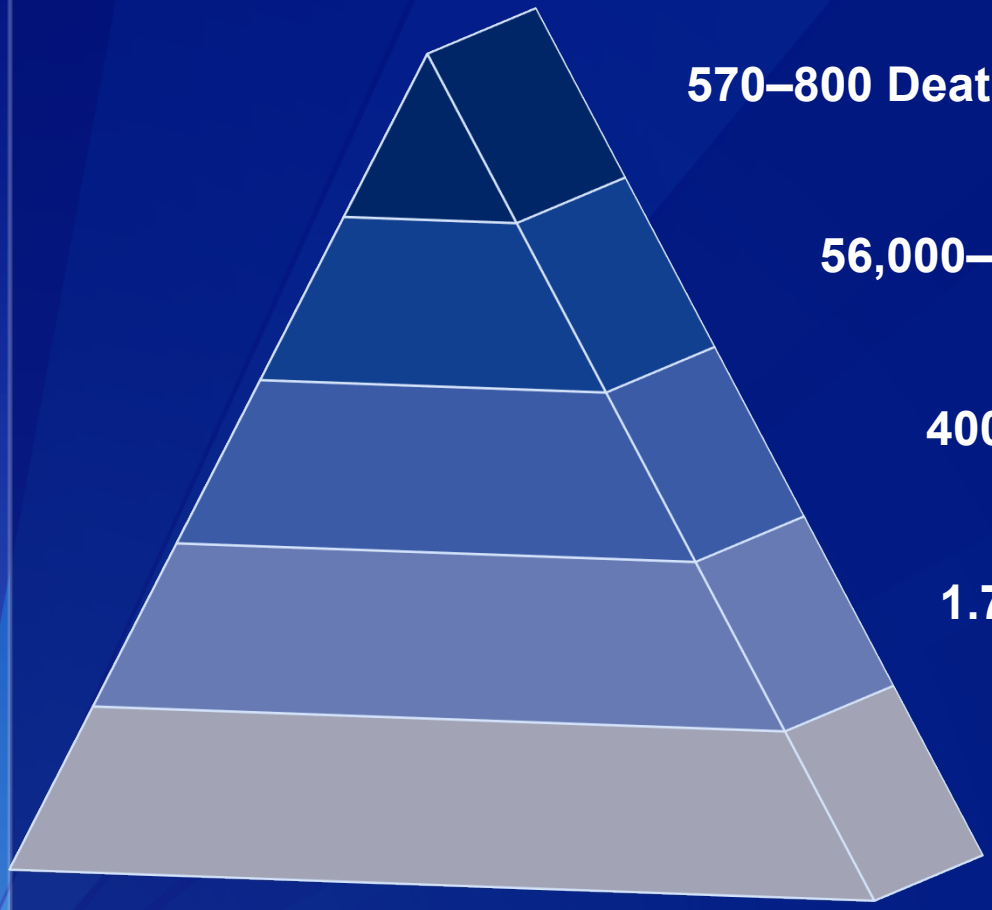
Viral Gastroenteritis

- ***Emerging Infectious Diseases* August 2013 themed issue**
  - U.S. norovirus burden
  - NORS surveillance summary
  - GII.4 Sydney impact
  - Emergence of GI.6
  - Norovirus immunity
  - Biosense syndromic surveillance
  - Minnesota foodborne illness complaint hotline
  - http://wwwnc.cdc.gov/eid/content/19/8/contents.htm



- **Vital Signs**
  - Coming this summer

Annual Burden (Lifetime Risk) of Norovirus Disease—United States



570–800 Deaths (1 in 5000–7000)

56,000–71,000 Hospitalizations (1 in 50–70)

400,000 Emergency Dept Visits (1 in 9)

1.7–1.9 million Outpatient Visits (1 in 2)

19–21 million Total Illnesses (~5)

Hall 2013 EID

Hepatitis A Outbreak from Pomegranate Arils Imported from Turkey

- **Total of 165 cases ate Product A**
  - Of these, 117 had a hepatitis A virus (HAV) genotype (IB) uncommonly seen in the United States
- **FDA trace back investigation identified pomegranate arils in Product A as the suspect vehicle**
- **Postexposure prophylaxis (HAV vaccine and immunoglobulin) was offered to persons who ate Product A**

2013 Cyclospora Outbreaks

- **631 laboratory-confirmed cyclosporiasis cases reported in 25 states and NYC**
  - Comprised at least two distinct outbreaks
  - Linked to fresh produce imported from two different growing regions in Mexico
- **Challenges**
  - *Cyclospora* is not a well-recognized cause of AGI in the United States.
  - Fresh produce vehicles complicate epidemiologic investigations
  - *Cyclospora* is elusive, which complicates environmental investigations
  - Our inability to definitively link cases to each other or to particular food items or sources leaves larges numbers of cases unsolved
  - Determining the end point of an outbreak is difficult and often arbitrary
- **Advanced molecular diagnostics have the potential to revolutionize cyclosporiasis surveillance and outbreak response**

Thank you!

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