

# Council to Improve Foodborne Outbreak Response

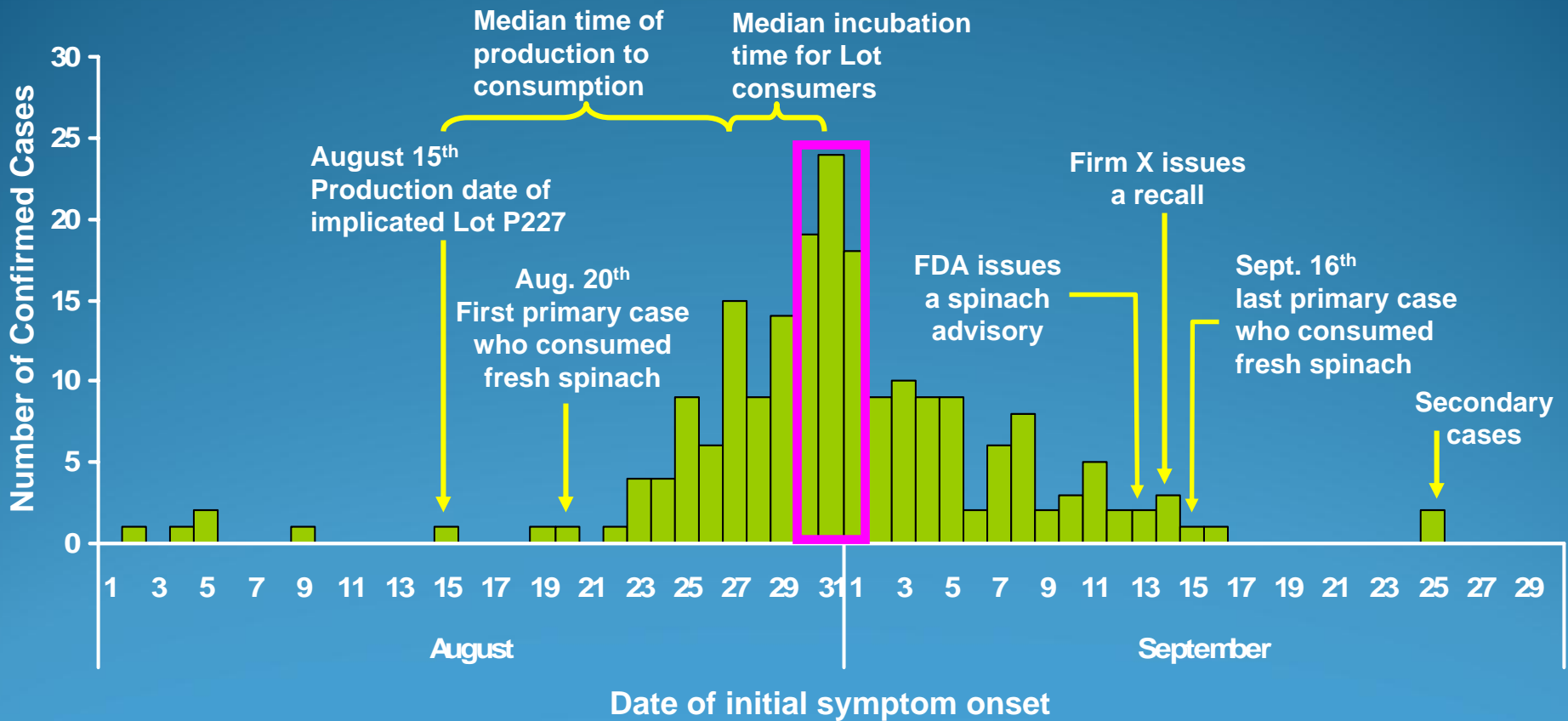
# CIFOR

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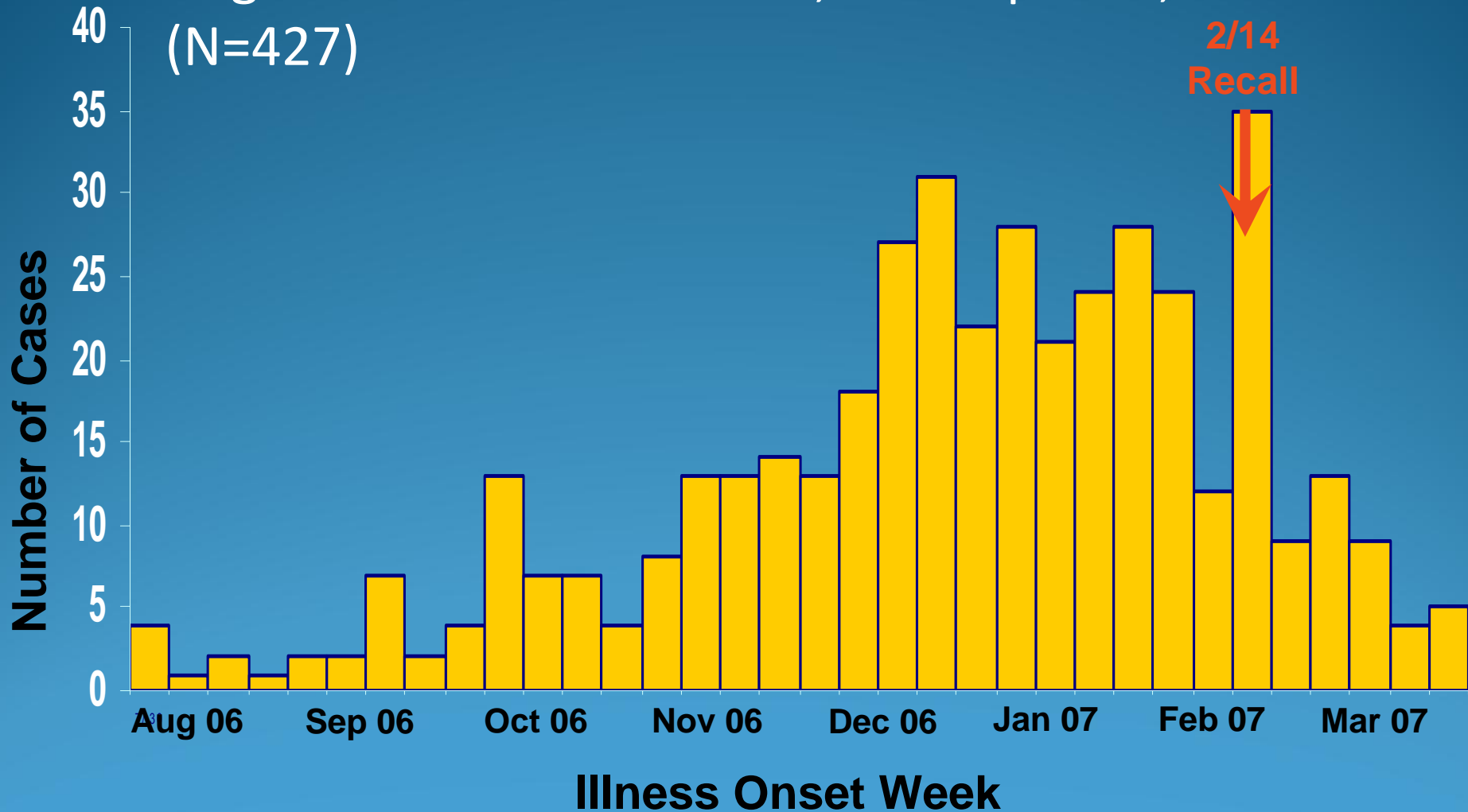
# 2006 Spinach Outbreak Epidemiologic Curve and Timeline



# 2006 Spinach Outbreak

- 24 Days - First Case to Spinach Advisory
- Outbreak was almost over when advisory was issued
- An entire industry was shut down
- How can we identify outbreaks quicker to reduce the number ill and limit the negative impact on good operators?

# Salmonella Outbreak Due to Peanut Butter Cases by Week of Illness Onset, August 2006 – March 2007, as of April 11, 2007 (N=427)

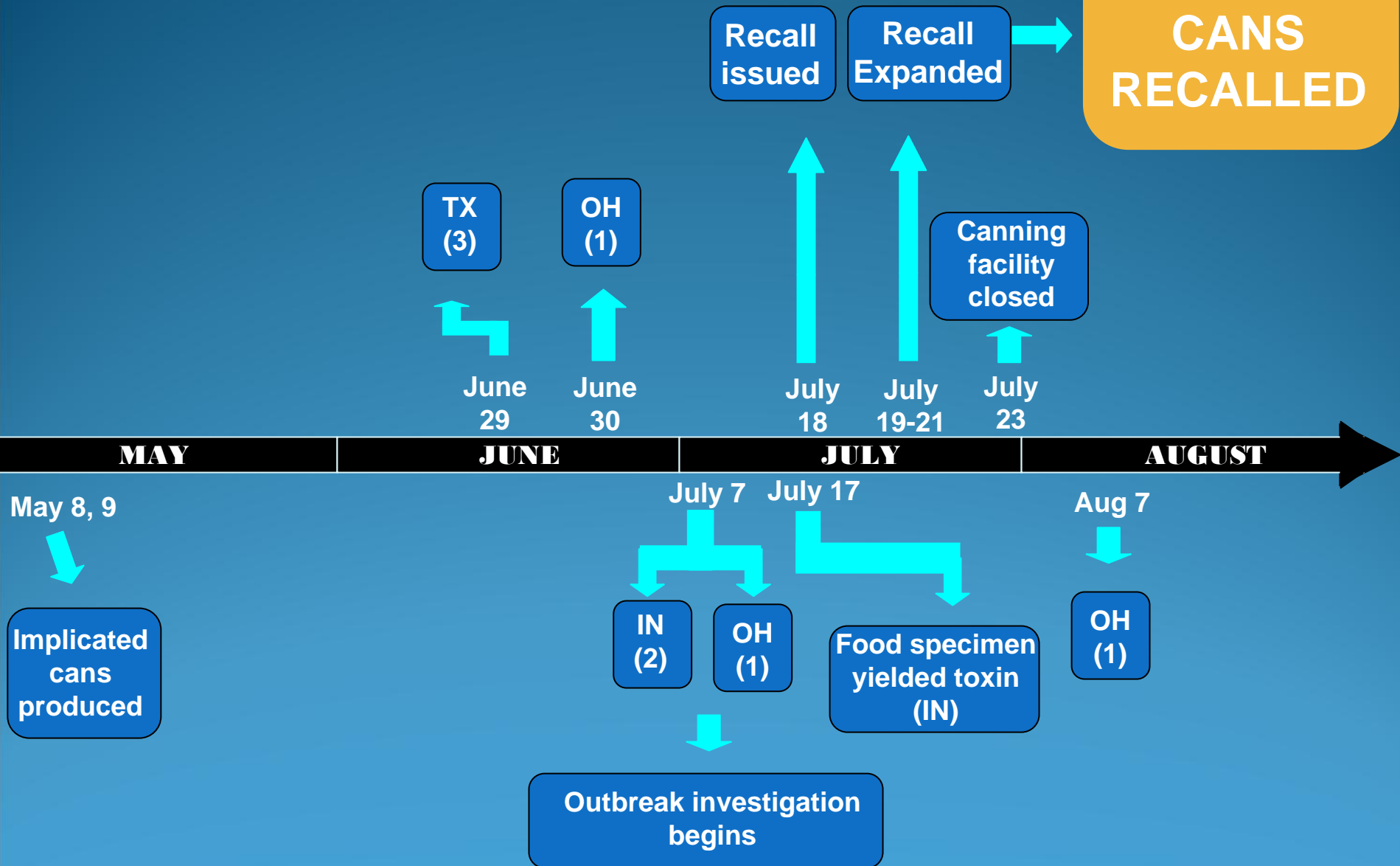


# Salmonella in Peanut Butter Outbreak

- Over 6 Months from First Case Until Recall
- Over 30 Cases After Recall
- How many purchased the product after the recall?
- How do we identify outbreaks quicker and improve the effectiveness of recalls and public notification to limit the number ill?

# Canned Hot Dog Chili Sauce Outbreak Response Timeline 2007

111  
MILLION  
CANS  
RECALLED



# Botulism in Hot Dog Chili Sauce

- 20 Days from First Case Until Recall
- 7 Botulism Cases at time of recall
- North Carolina found 50% of facilities with Recalled Product on Shelves
- Did case almost 3 weeks after recall purchase product after the recall or did they have it on their shelves at home?

How do we identify outbreaks quicker and improve recall and public notification effectiveness?

- Goal: Shorten the Time from the First Case to Implementation of Effective Controls in Order to Reduce the Number Ill



# January 2006 First Meeting

Report by Dennis Perrotta:

“Foodborne Disease Outbreak Investigation Capacity of State Health Departments: Gaps and Promising Practices”.

- Ten themes were identified:
  - Public Health Structure influences capacity
  - Foodborne disease investigation can be complex and require a great deal of coordination.
  - Public health must be notified of an outbreak before it can respond.
  - There exists a gap between environmental health and epidemiology

# Gaps and Promising Practices”.

- Standards for Outbreak Investigations are lacking
- Etiological agent and or vehicle of disease often is not identified
- Multi-state investigations are extremely challenging
- Historical data regarding outbreaks not readily available
- Lack of qualified staff remains a great barrier to outbreak investigation
- Evaluation is critical to enhancing the system



# Vision of CIFOR

- Local, State and Federal partners collaborating effectively to reduce the burden of foodborne illness in the United States

# Mission of CIFOR

- To improve methods at the local, state and federal levels to detect, investigate, control and prevent foodborne disease outbreaks



# Council to Improve Foodborne Outbreak Response (CIFOR)

- The Council of State and Territorial Epidemiologists (CSTE) and the
- National Association of County and City Health Officials (NACCHO) are co-chairing CIFOR
- With support from the Centers for Disease Control and Prevention (CDC).

# CIFOR Partners

- Association of Food and Drug Officials (AFDO)
- Association of Public Health Laboratories (APHL)
- Association of State and Territorial Health Officials (ASTHO)
- Centers for Disease Control and Prevention (CDC)
- Council for State and Territorial Epidemiologists (CSTE)
- Food and Drug Administration (FDA)
- National Association of County and City Health Officials (NACCHO)
- National Environmental Health Association (NEHA)
- United States Department of Agriculture (USDA)



# CIFOR

- Created to develop and share guidelines, processes, and products that will facilitate good foodborne outbreak response.
- Identify and promote best practices

# CIFOR has Seven Key Objectives

- 1. ASSESSMENT  
Assess the current state of foodborne illness surveillance, investigation, and control.
- 2. SYNERGY



# Objectives

- **3. SHARED KNOWLEDGE**
- **4. EDUCATION AND TRAINING**
- **5. COMMUNICATIONS AND ADVOCACY**  
Develop a proactive, integrated system of communications and support effective policy and efforts to highlight the reduction of foodborne illness as a national priority

# Objectives

- **6. MEASUREMENT**

Establish, monitor and analyze metrics to gauge progress and facilitate ongoing improvement of our efforts

- **7. SUSTAINABILITY**

Continue to develop CIFOR as a vibrant, engaged group of collaborators with clear purpose, objectives, and success metrics



# CIFOR Workgroups

- Clearinghouse
- Complaint
- Industry Workgroup
  - Recalls (Sarah Geisert, Chair)
  - Employee Health
- Marketing and Vision
- Multi-Jurisdictional Guidelines
- Overall Guidelines
- Performance Indicators
- PulseNet
- Training

# Current Projects

- Guidelines
  - (currently 166 pages)
- Food Safety Clearinghouse on Web
  - Tools – Lisa Hainstock (AFDO rep.)
- Performance Indicators



# Guidelines

## Purpose and Intent

- To aid governmental agencies that are responsible for preventing and managing foodborne disease
- To serve as a foundational resource for anyone involved in food safety programs
- To harmonize foodborne disease investigation work across all agencies
- Not intended to replace existing procedure manuals

# Target Audience

- Primary audience is agencies at the local and state level, since these organizations carry out the majority of foodborne disease outbreak investigations in the United States.
- Also intended to provide support to the federal public health and regulatory agencies that have critical roles in the country's food safety infrastructure.



# Development Process

- Conducted literature review and collection of existing guidelines
- Identified technical experts to serve as leads on each chapter
- Created chapter drafts according to the original outline
- Drafts reviewed and modified by workgroup and CIFOR
- Drafts reviewed and modified by external review group



# Table of Contents

1. Practical Guide (outline of steps with links to Guide (to be done))
2. Fundamental Concepts
4. Surveillance and Detection
5. Investigation
6. Control Measures
7. Multi-jurisdictional Outbreaks
8. Performance Indicators
9. Legal Issues





## 2. Fundamental Concepts

- Trends in diet and the food industry
- Epidemiology of foodborne disease
- Etiologic agents associated with foodborne disease

# 3. Planning and Preparation

- Agency Roles
- Outbreak Control Team
- Necessary Resources
- Records Management
- Communication
- Planning for Recovery and Follow-up
- Legal Framework
- Escalation
- Incident Command System



# 4. Surveillance and Detection

- Pathogen-Specific Surveillance
  - Processes, strengths, limitations, model practices
  - Cluster follow-up
- Notification/Complaint Systems
  - Processes, strengths, limitations, model practices
- Syndromic Surveillance
  - Processes, strengths, limitations

# 5. Investigation

- Characteristics of Outbreak Investigations
- Outbreak Investigation Procedures
  - Each investigation step described with recommended practices
  - Roles of epidemiology, environmental health and laboratory personnel described for each investigation step



# 6. Control Measures

- Information-Based Decision-Making
- Control of Source
  - Non-specific and specific control measures
- Control of Transmission
- Communication
- End of Outbreak
- Debriefing
- Outbreak Report
- Future Studies and Research

# 7. Multi-Jurisdictional Outbreaks

- Categories of Multi-Jurisdictional Investigations
- Key Indicators and Notification Steps
- Coordination of Multi-Jurisdictional Investigations
- Outbreak Detection and Investigation by Level (Local, State and Federal)
- After-Action Reports and Reporting to EFORS



# 8. Performance Indicators

- Overall Foodborne Disease Program Objectives and Indicators
  - Short, intermediate and long-term
  - Including sub-indicators and metrics
- Key Performance Indicators and Metrics for Program Evaluation
  - By local and state health departments
  - By overall food program and individually for epidemiology, environmental health and laboratory
- Benchmark Data Established by EDITS

# Performance Indicators: Purpose and Intended Use

- Purpose
  - Promote common understanding
  - Facilitate training
  - Support aggregation of data
- Intended Use
  - For state and local public health agencies to evaluate the performance of their food programs



## LHD Example:

### Communicable Disease Program

- Performance Indicator
  - Foodborne outbreaks investigated
- Sub-Indicators
  - Cases interviewed
  - Stool samples obtained
- Metrics
  - % of investigations that had cases interviewed
  - % of investigations that had stool samples collected from at least one case

# LHD Example: Environmental Health Program

- Performance Indicator
  - Foodborne outbreaks investigated
- Sub-Indicators
  - Environmental health assessment conducted
  - Food flow documented
  - Food workers interviewed
- Metrics
  - % of outbreaks with environmental assessments
  - % of assessments including a food flow
  - % of assessments including worker interviews



# EDITS Benchmark Data

- Benchmark data included where available
  - % of cases with exposure history
  - % of cases with an onset date
  - % of cases with a report date
  - Median number of days between receipt of report to case interview
  - % of cases with isolates submitted to PHL
  - Median number of days between submission of specimen to subtyping results

# 9. Legal Issues

- Legal Framework for:
  - Mandatory Disease Reporting
  - Surveillance and Investigation
  - Measures to Prevent or Mitigate Foodborne Disease Outbreaks
  - Investigations as the Basis for Regulatory Actions or Criminal Prosecution



# Public Review Process

- Presentations at multiple meetings
- Entire draft on-line for review and comments
- On-line survey listing key elements of each chapter and inviting input
- Opportunity for organizations to host focus group meetings on the Guidelines

# Finalizing the Guidelines

- Target Dates
  - October 15, 2008 -- Completing all public review
  - December 31, 2008 -- Incorporating public comment and revising draft
  - First Quarter, 2009 -- Final review and adoption by CIFOR
  - Second Quarter, 2009 -- Dissemination





# CIFOR Website

- [www.cifor.us](http://www.cifor.us)

# Performance Indicators

- Reduce Time from First Case to Implementation of Effective Controls to Reduce the Number Ill
  - Respond to illness complaints quickly
  - Ask if similar cases are being seen in neighboring health jurisdictions
  - Perform PFGE quicker and enter into PulseNet to identify links to other cases and identify source



# Outbreaks Keep Occurring from the Same Places

- E. coli O157:H7 and leafy greens from California
- Salmonella and tomatoes from Virginia and Florida
- Salmonella and Puffed Wheat from same plant
- Repeated Listeria outbreaks from the same plant
- Repeated outbreaks from the same food establishments
  
- Identify the source, the root cause, and Follow-Up to make certain permanent controls have been put in place

# History Repeats Itself

- The greatest predictor of future behavior is past behavior
- Investigate and act quickly to prevent additional illnesses and deaths
  - Recalls and advisories are being issued after the majority of the contaminated food has been consumed



# “Go after the Bad Guys”

- Identify the cause and make certain it is permanently eliminated
- Reinspect and sample at outbreak locations
- Failure to do this jeopardizes public health and it harms the industry
  - Spinach and tomatoes



# Industry Workgroup

- Why Recalls are Not Effective:
  - Breakdown in Notification
  - Castleberry product removed from 1 location in store but was in 5 places
  - Recall expansions ignored (believed to be a 2<sup>nd</sup> notice)
  - Clerks put returned recalled product back on shelf
  - New shipment arrives and put onto shelf (believed to be safe)
  - Recalled product sold into commerce (New Era)

# Industry Best Practices

- Put a plant code on all manufactured products
- Use shoppers cards to identify what ill individuals have purchased and identify cause
- Industry reports cluster of illness complaints
- Cash Register Lockouts so recalled product cannot be sold
- Shoppers cards used to directly notify consumers of recalled product (Castleberry)
- Shows notifying regulatory officials of recalls and whether they carry the product
- Workgroup will prioritize actions, meet in September





Thank you!

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