

# ***THE LEGEND OF CIFOR***

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Lincoln-Lancaster County Health Department  
Lincoln, NE



**MCAFD**  
**2017**



# CIFOR Guidelines and Metrics

**Dale Morse, Don Sharp, Elizabeth Pace**  
Food Safety Office, DFWED/NCEZID/CDC

**Craig Hedberg**  
Minnesota CoE and School of Public Health, U of MN

**Food Safety Learning Collaborative Symposium**  
**New York/Northeast Regional Center of Excellence**  
**Cornell University, July 20, 2016**

# How CIFOR Works

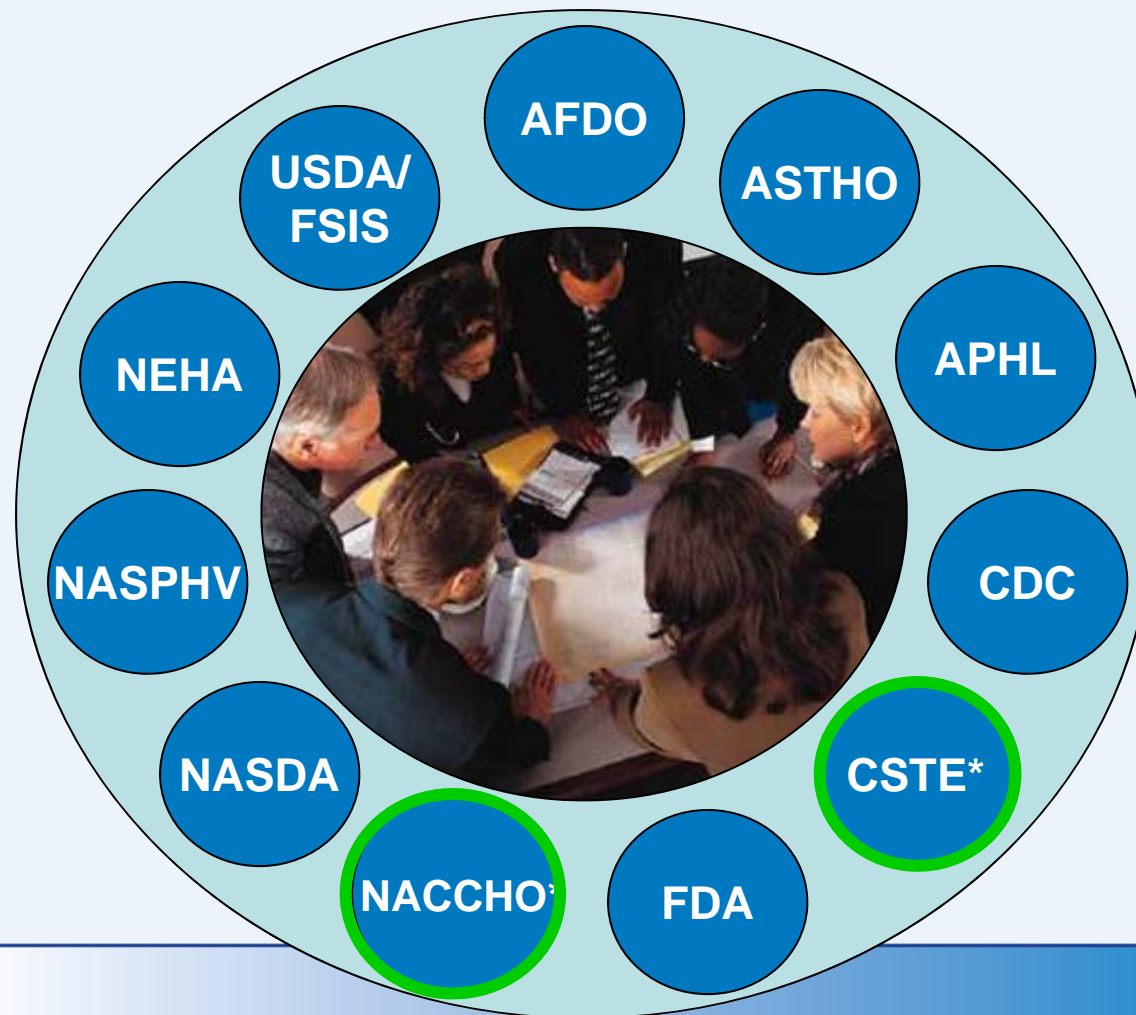
- **Vision**: Local, state, and federal partners collaborating effectively to reduce the burden of foodborne illness in the U.S.
- **Mission**: To improve methods at the local, state, and federal levels to detect, investigate, control, and prevent foodborne disease outbreaks
- **Process**: identify barriers/gaps, develop projects and workgroups to address the barriers/gaps

# Why CIFOR Works

- **Bottoms up approach:** CDC supplies funds and local and state participants supply the project proposals
  - FDA helps with some travel and some past projects
- **Wide variety of member organizations:** lab, epi, environmental health at local, state and federal levels
- **Enthusiastic representatives!:** reps have given many hours of their time to improve foodborne outbreak response and get projects finalized



# CIFOR Member Organizations and Agencies



# CIFOR is 10 years old!

- Since first meeting in January 2006:
  - PFP (FDA, 2008)
  - RRT (FDA, 2008/2009)
  - FoodCORE (CDC, 2009)
  - FSMA (2011)
  - FDA CORE (2011)
  - CoEs (CDC, 2012)
  - OutbreakNet Enhanced (CDC, 2015)
- Strategic Planning: new 5 Yr. Plan in 1/16





# What's in CIFOR's Future?

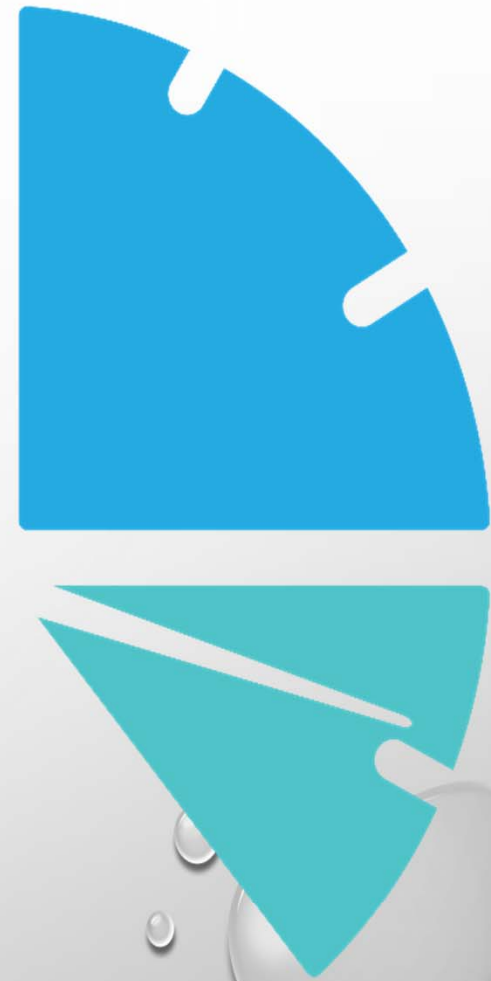
## CIFOR Strategic Plan

We'll be right back  
with “The Legend of  
CIFOR” after these  
messages.



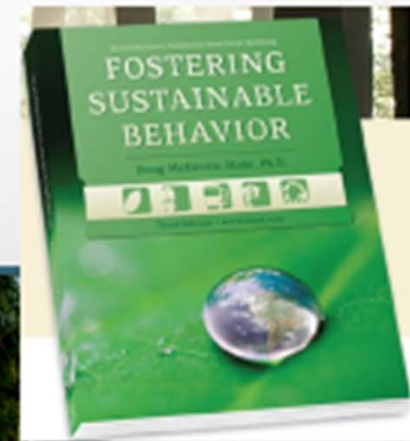
TAKE!  
20!

WASH YOUR HANDS



# COMMUNITY BASED SOCIAL MARKETING

## DOUG MCKENZIE-MOHR





## **BEHAVIOR CHANGE STRATEGY**

- 1) BUY IN FROM TOP MANAGEMENT**
- 2) TRAINING ON HAND HYGIENE, GLO GERM**
- 3) MONITORING**
- 4) VERBAL AND VISUAL PROMPTS (TAKE 20!)**
- 5) IMPLEMENTATION OVER SEVERAL WEEKS**
- 6) EVALUATE - SOAP USE PRE AND POST**

# GLO GERM

**Take 20! Training Log**

**Training One**

Restaurant Name: \_\_\_\_\_

Manager's Name: \_\_\_\_\_

Manager's Email: \_\_\_\_\_

Trainer's Name: \_\_\_\_\_

Trainer's Email: \_\_\_\_\_

Date/Time of Training: \_\_\_\_\_

Number of Staff Trained: \_\_\_\_\_

Notes: \_\_\_\_\_

**Training Two**

Restaurant Name: \_\_\_\_\_

Manager's Name: \_\_\_\_\_

Manager's Email: \_\_\_\_\_

Trainer's Name: \_\_\_\_\_

Trainer's Email: \_\_\_\_\_

Date/Time of Training: \_\_\_\_\_

Number of Staff Trained: \_\_\_\_\_

Notes: \_\_\_\_\_

**Training Three**

Restaurant Name: \_\_\_\_\_

Manager's Name: \_\_\_\_\_

Manager's Email: \_\_\_\_\_

**Take-20! Data Log**

Restaurant Name: \_\_\_\_\_

Brand of Soap: \_\_\_\_\_

Type of soap: Foam ☐ Liquid ☐

|    | Date | Name of Weight Taker | Weight AM | Weight PM | # of Employees working | # of Transactions sold |
|----|------|----------------------|-----------|-----------|------------------------|------------------------|
| 1  |      |                      |           |           |                        |                        |
| 2  |      |                      |           |           |                        |                        |
| 3  |      |                      |           |           |                        |                        |
| 4  |      |                      |           |           |                        |                        |
| 5  |      |                      |           |           |                        |                        |
| 6  |      |                      |           |           |                        |                        |
| 7  |      |                      |           |           |                        |                        |
| 8  |      |                      |           |           |                        |                        |
| 9  |      |                      |           |           |                        |                        |
| 10 |      |                      |           |           |                        |                        |
| 11 |      |                      |           |           |                        |                        |
| 12 |      |                      |           |           |                        |                        |
| 13 |      |                      |           |           |                        |                        |
| 14 |      |                      |           |           |                        |                        |
| 15 |      |                      |           |           |                        |                        |
| 16 |      |                      |           |           |                        |                        |





DANGEROUS INFECTIONS CAN BE SPREAD BY  
**SIMPLY TOUCHING ZITS  
OR RUBBING YOUR NOSE.**



**TAKE 20** SECONDS TO WASH YOUR HANDS  
AFTER TOUCHING ANY PART OF YOUR BODY



THE CHANGING HANDS OF THE CITY OF NEW YORK HEALTH DEPARTMENT. © 2010 CITY OF NEW YORK HEALTH DEPARTMENT. ALL RIGHTS RESERVED.

ILLNESS-CAUSING BACTERIA  
CAN BE FOUND ON AS MUCH AS  
**70%** OF RAW MEAT AND EGGS.



IF YOU DON'T CHANGE GLOVES  
AND **WASH YOUR HANDS,**  
YOU WILL GET SOMEONE SICK.



**TAKE 20** SECONDS TO WASH YOUR HANDS  
AFTER HANDLING RAW MEAT AND EGGS.





1 IN 6 OF YOUR FRIENDS AND FAMILY  
WILL GET FOOD POISONING THIS YEAR.



WE ARE ALL RESPONSIBLE FOR EACH OTHER'S HEALTH

**TAKE 20** SECONDS TO WASH YOUR HANDS



HOW WILL YOU  
SPEND YOUR SECONDS TODAY?



**6,000**  
ON SOCIAL MEDIA



**3,600**  
EATING FOOD



**1,020**  
STOPPED AT RED LIGHTS

**TAKE 20** SECONDS TO WASH YOUR HANDS  
AFTER USING THE BATHROOM.



CELL PHONES ARE DIRTY TOO.



**TAKE 20** SECONDS TO WASH YOUR HANDS  
AFTER USING YOUR CELL PHONE.

WOULD **YOU**  
WANT TO EAT  
**THIS?**

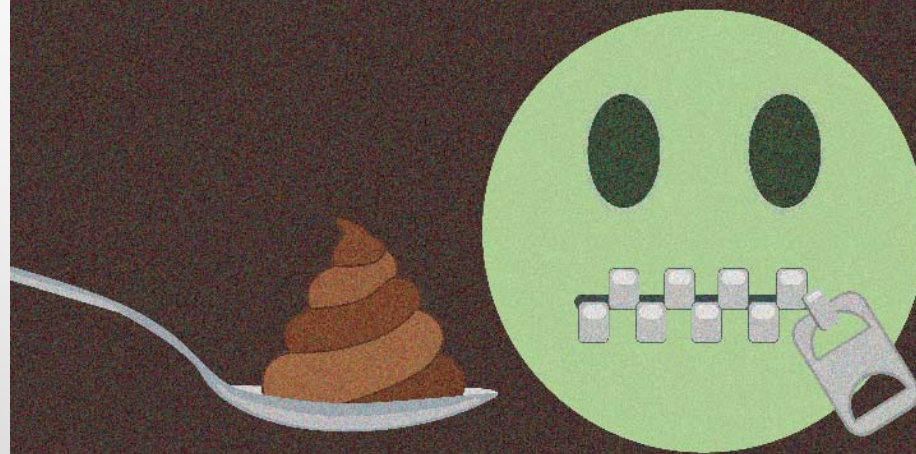


**TAKE 20** SECONDS TO WASH YOUR HANDS  
**AFTER CLEANING.**





# NOBODY WANTS TO EAT YOUR POOP



**TAKE 20** SECONDS TO WASH YOUR HANDS  
AFTER USING THE BATHROOM.





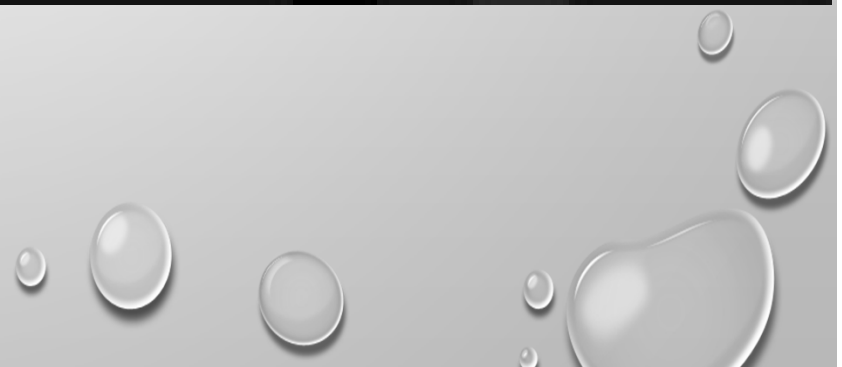
**PILOT TESTED  
12 RESTAURANTS  
70 SCHOOLS**



**NEXT PHASE:  
ROLL OUT TO  
RESTAURANTS**



**AND NOW BACK TO  
OUR REGULARLY  
SCHEDULED  
PROGRAMMING**



# What's in CIFOR's Future?

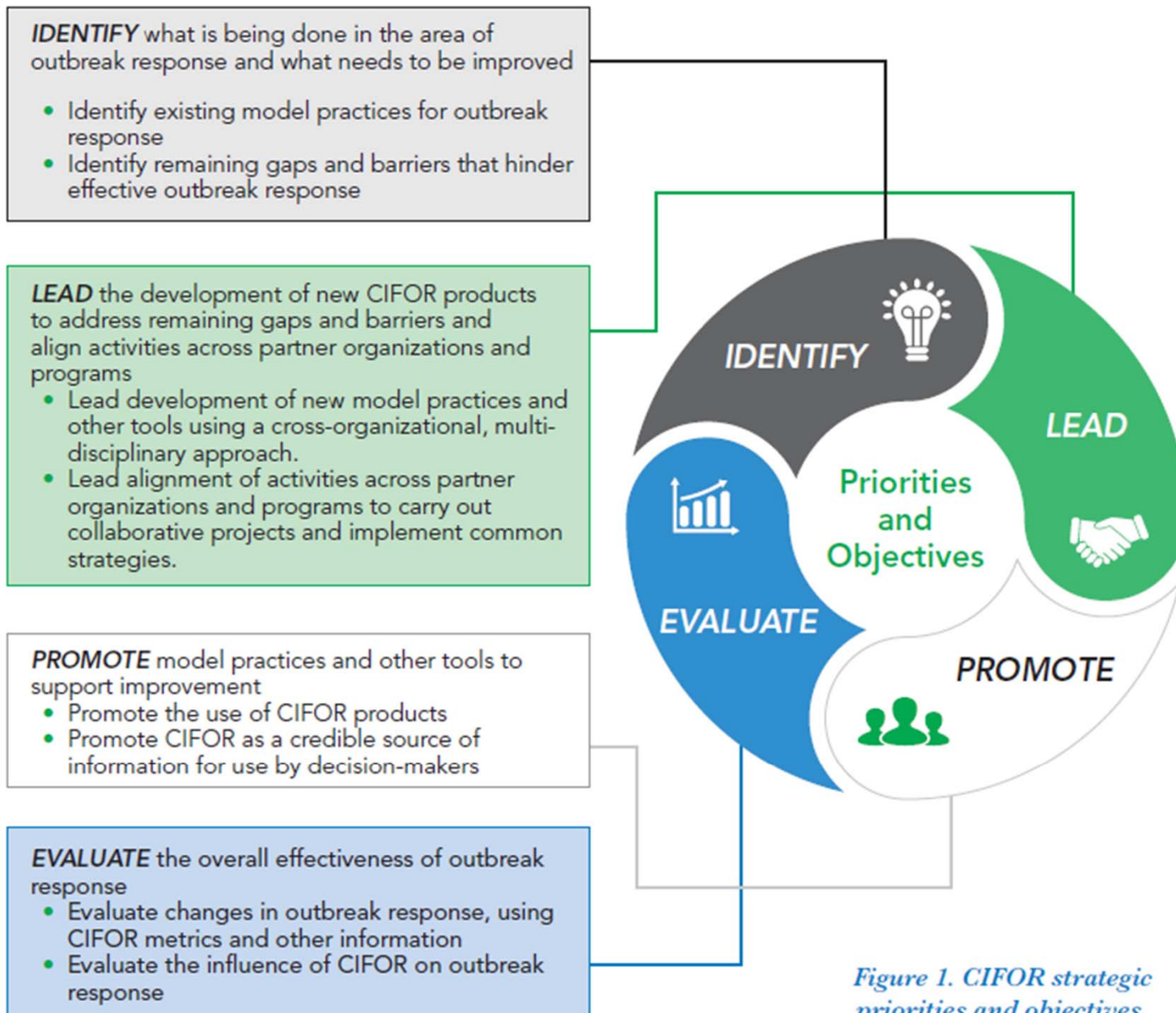
## CIFOR Strategic Plan

### Development Teams

- **Identify** what is being done in the area of outbreak response and what needs to be improved
- **Lead** the development of new CIFOR products to address remaining gaps and barriers and align activities across partner organizations and programs
- **Promote** model practices and other tools to support improvement
- **Evaluate** the overall effectiveness of outbreak response



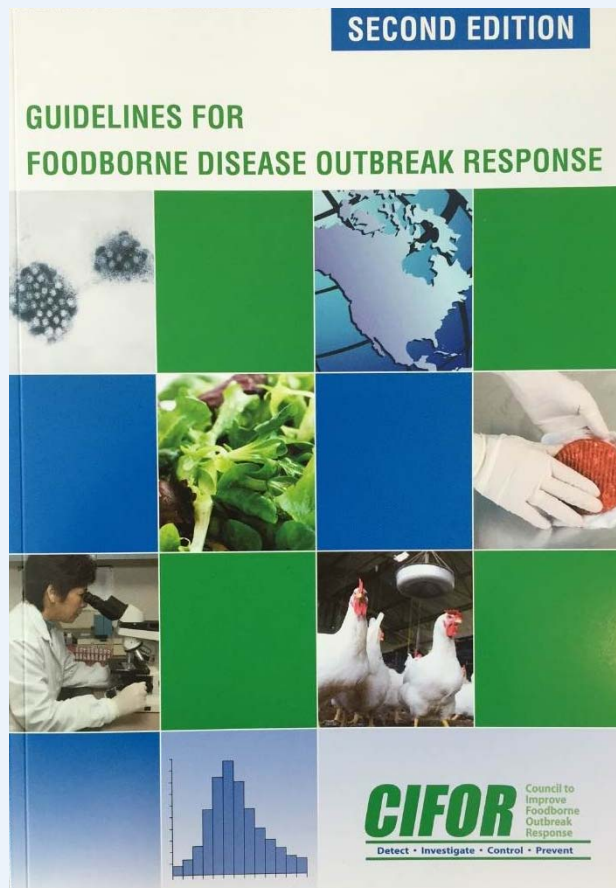
# CIFOR Development Teams



*Figure 1. CIFOR strategic priorities and objectives.*



# CIFOR *Guidelines for Foodborne Disease Outbreak Response, 2<sup>nd</sup> Edition*



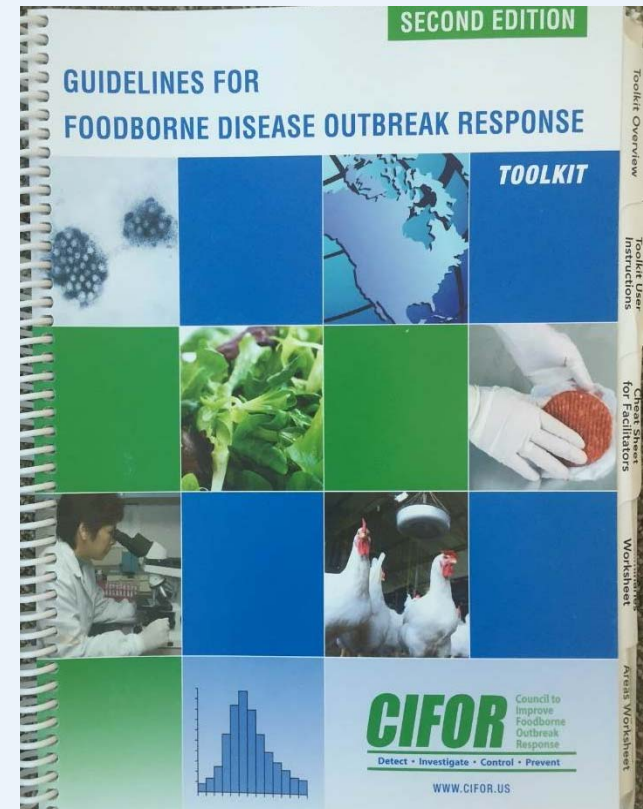
- Developed by a workgroup with representatives from state, local, and federal levels and all disciplines
- Recommendations are based on existing guidelines and practices
- Incorporated input from external reviewers and public review
- 1<sup>st</sup> edition in 2009: 198 pages
- 2<sup>nd</sup> edition in 2014: 255 pages

# CIFOR *Guidelines Toolkit*, 2<sup>nd</sup> Edition

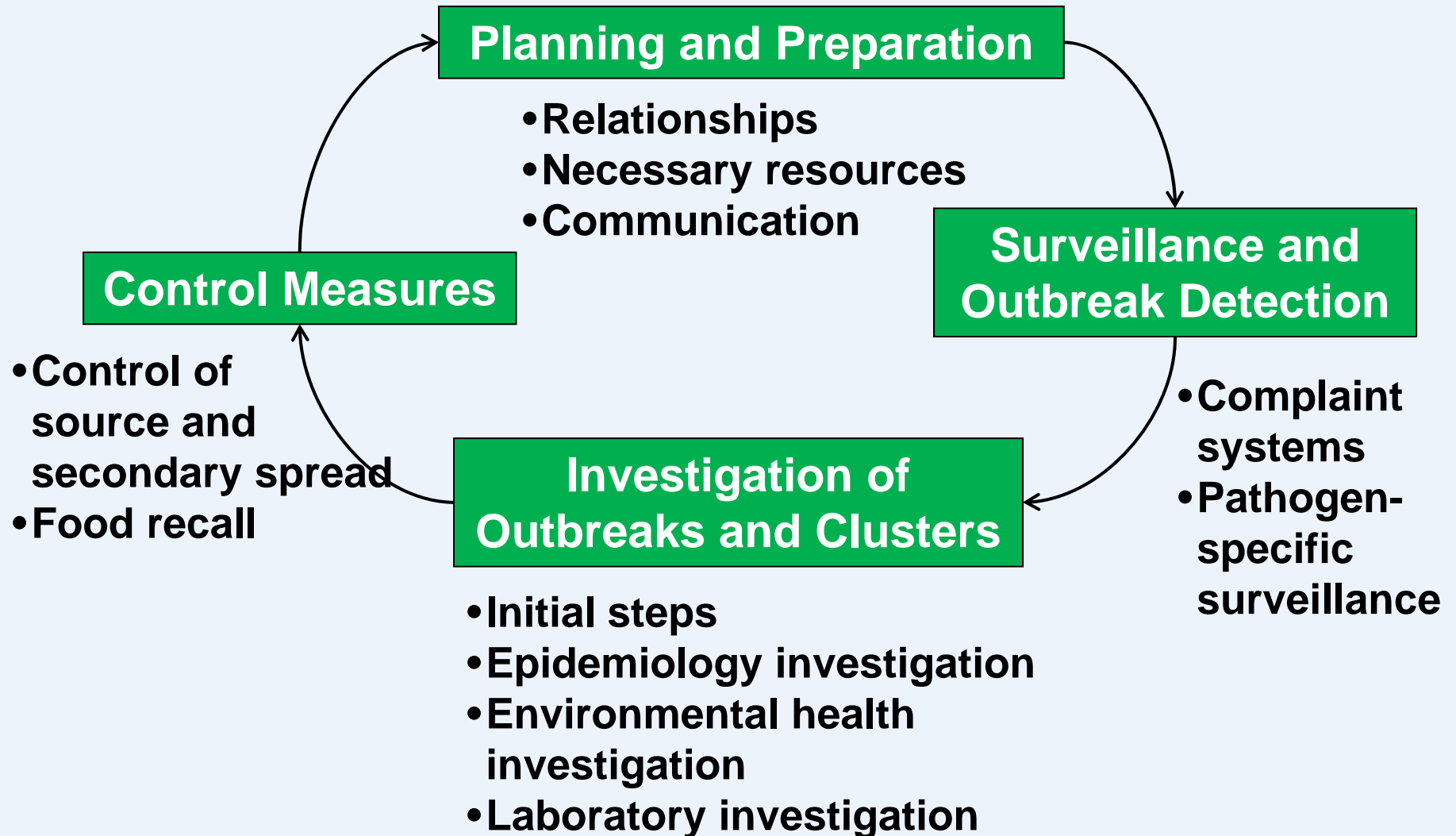
A process and supporting materials to help agencies and jurisdictions:

2015

- Become more familiar with recommendations in the *Guidelines*
- Systematically evaluate their current foodborne disease detection and outbreak response activities
- Identify appropriate *Guidelines* recommendations to improve performance
- Make plans to implement those recommendations



# Toolkit Focus Areas



# **CIFOR *Guidelines* and Toolkit Implementation Training Grants**

- **Provided support to state and large urban ( $\geq 1$  million pop.) health depts to conduct training workshop(s) using the *Guidelines* and Toolkit**
- **Grant funds (\$5 K to \$7 K) used for:**
  - **Travel support, meeting room, A/V equipment**
  - **Facilitator contract, other training expenses**
- **Trainings completed by June, 2016**

# CIFOR Outbreaks of Undetermined Etiology (OUE) Guidelines

- Suggest optimal, universal specimens for outbreaks
- Provide adequate specimens for second-tier testing and pathogen discovery
- Use CIFOR-developed recommendations on shipment, rule-out testing, and long-term storage of outbreak specimens

# OUE Guidelines

- Modeled on Minnesota and Wisconsin documents
- Uses specific outbreak profiles
- Categorized by key symptoms:
  - ✓ Diarrhea, vomiting, cramping, HUS, paresthesias, respiratory depression, hepatic symptoms, systemic illnesses, other
- Infectious and non-infectious agents
- Includes OUE Agent List
  - ✓ Incubation period
  - ✓ Primary signs and symptoms
  - ✓ Primary specimen(s)
  - ✓ Key epidemiological information

# How to Access the OUE Guidelines

- Available at [www.cifor.us](http://www.cifor.us)
- Under the heading "Resources"
- Click on "Guidelines"
- Click on "Guidelines for PCRs"
- No need to create an account
- Will be able to download the guidelines
- Once downloaded, the guidelines can be viewed online or printed



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S  
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dows 7

# Has PulseNet helped reduce the impact of foodborne illness outbreaks?





# **“An Economic Evaluation of PulseNet, A Network for Foodborne Disease Surveillance”**

- **Authors: Scharff, Besser, Sharp, Jones, Gerner-Smidt, Hedberg**
- **American Journal Of Preventive Medicine, 2016**
- **Began as a basic CIFOR report to APHL**
- **Key findings about PulseNet system:**
  - **Prevents over 250,000 Salmonella, 9000 E. coli and 56 Listeria cases annually**
  - **Costs \$7.3 Million annually to operate but reduces medical and productivity costs by \$507 Million**

# “After PulseNet, what is next?”



# “After PulseNet, what is next?”



# WGS – That's What!



Take A Journey Through The Sights And Sounds Of Foodborne

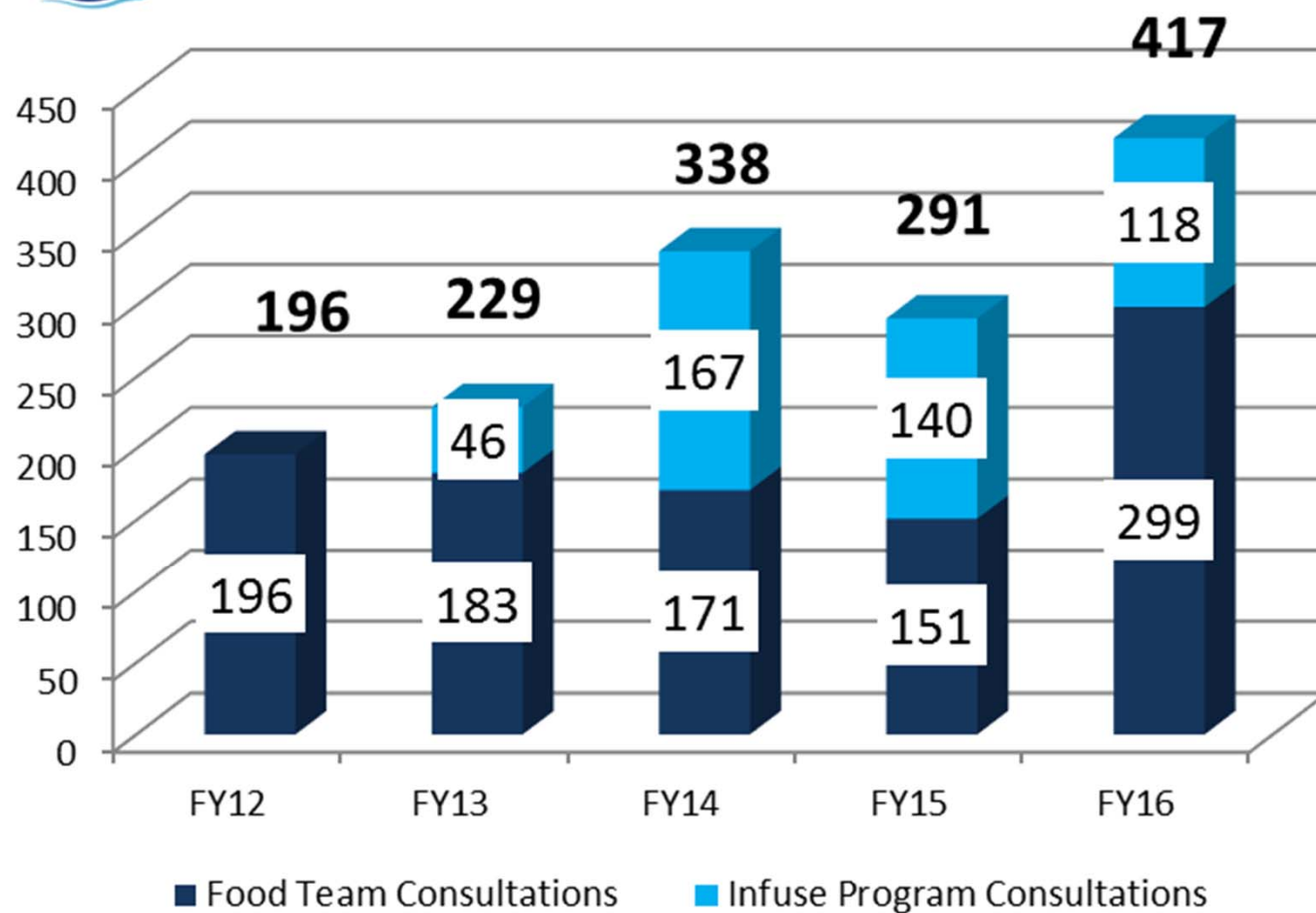


**John E. Carr**

*Author of "Don't Touch That Dial!"*



## Food Safety Program Onsite Consultations





# TOOLS AND RESOURCES

The collage displays various food safety tools and resources:

- Website:** A screenshot of the INFUSE (Illinois Network for Foodborne Outbreak Response) website, showing a navigation menu on the left and a main content area with the INFUSE logo and text about food safety challenges.
- Folder:** A red folder with a circular logo featuring a fork and knife, with the text "INFUSE" and "partnering to enhance food safety".
- Reheating Log:** A table for tracking reheating temperatures. It includes columns for Date, Food Item, Reheat Temp, and Reheat Time. The table is partially filled with data.
- Equipment & Food Log:** A table for tracking equipment and food temperatures. It includes columns for Date, Food Item, Equipment, and Temperature. The table is partially filled with data.
- Cooling Log:** A table for tracking cooling temperatures. It includes columns for Date, Food Item, Cooling Temp, and Cooling Time. The table is partially filled with data.

# ONLINE INSPECTION REPORTS AND RATING DIAL

Results for 'LUCKIES LOUNGE & GRILL'

Rating (Click to Enlarge)

Name and Address

Latest Rating

3 Year Avg Rating

Inspection Detail



LUCKIES LOUNGE & GRILL

1101 W BOND CIR

Facility Type: Restaurant, Full Service

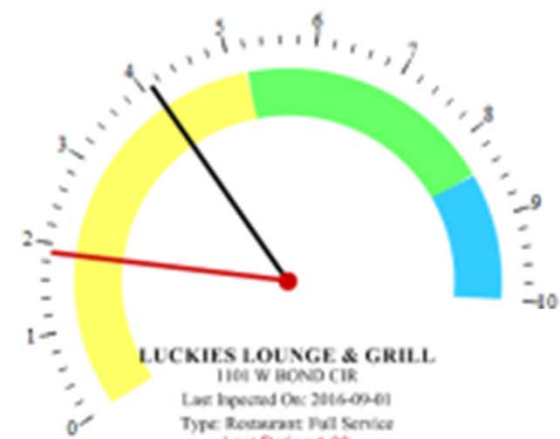
Below Average

Below Average

Click Here

Close

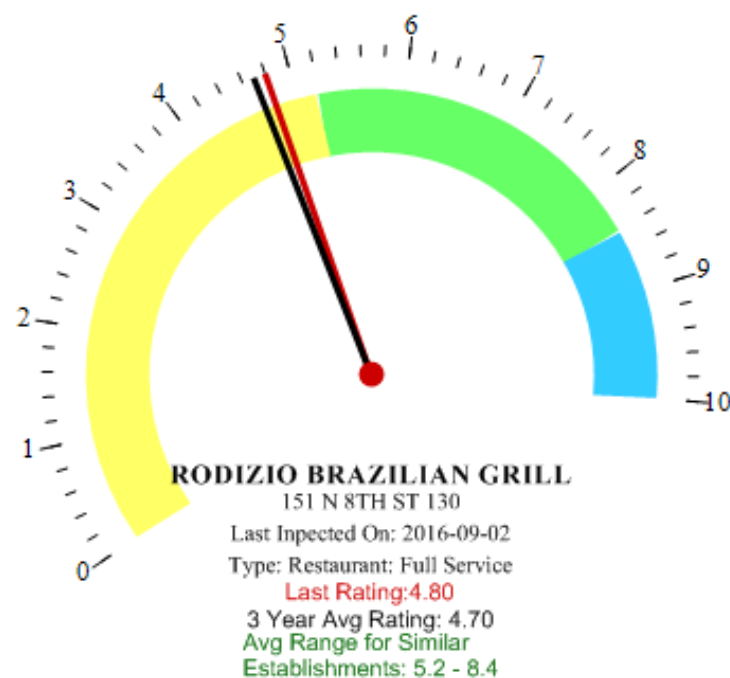
| Inspection Date | Purpose       | Click an Inspection Date for detailed violations |               | Enforcement Issued      |
|-----------------|---------------|--|---------------|-------------------------|
|                 |               | Criticals  | Non-Criticals |                         |
| 10/01/16        | Follow-up - 2 | 0  | 0             | None                    |
| 07/01/16        | Regular - 1   | 6  | 13            | Food Enforcement Notice |
| 05/01/16        | Regular - 1   | 1  | 4             | None                    |
| 09/01/15        | Follow-up - 2 | 1  | 0             | None                    |
| 01/01/15        | Regular - 1   | 6  | 6             | Food Enforcement Notice |
| 03/01/15        | Regular - 1   | 3  | 10            | None                    |
| 08/01/14        | Regular - 1   | 5  | 9             | Notice of Violation     |
| 07/01/14        | Follow-up - 2 | 0  | 0             | None                    |







## Active Managerial Controls Adopted LLCHD Voluntary Consultation



Below Avg: Bottom  
16% of Businesses

Avg: Middle 68% of  
Businesses

Above Avg: Top  
16% of Businesses

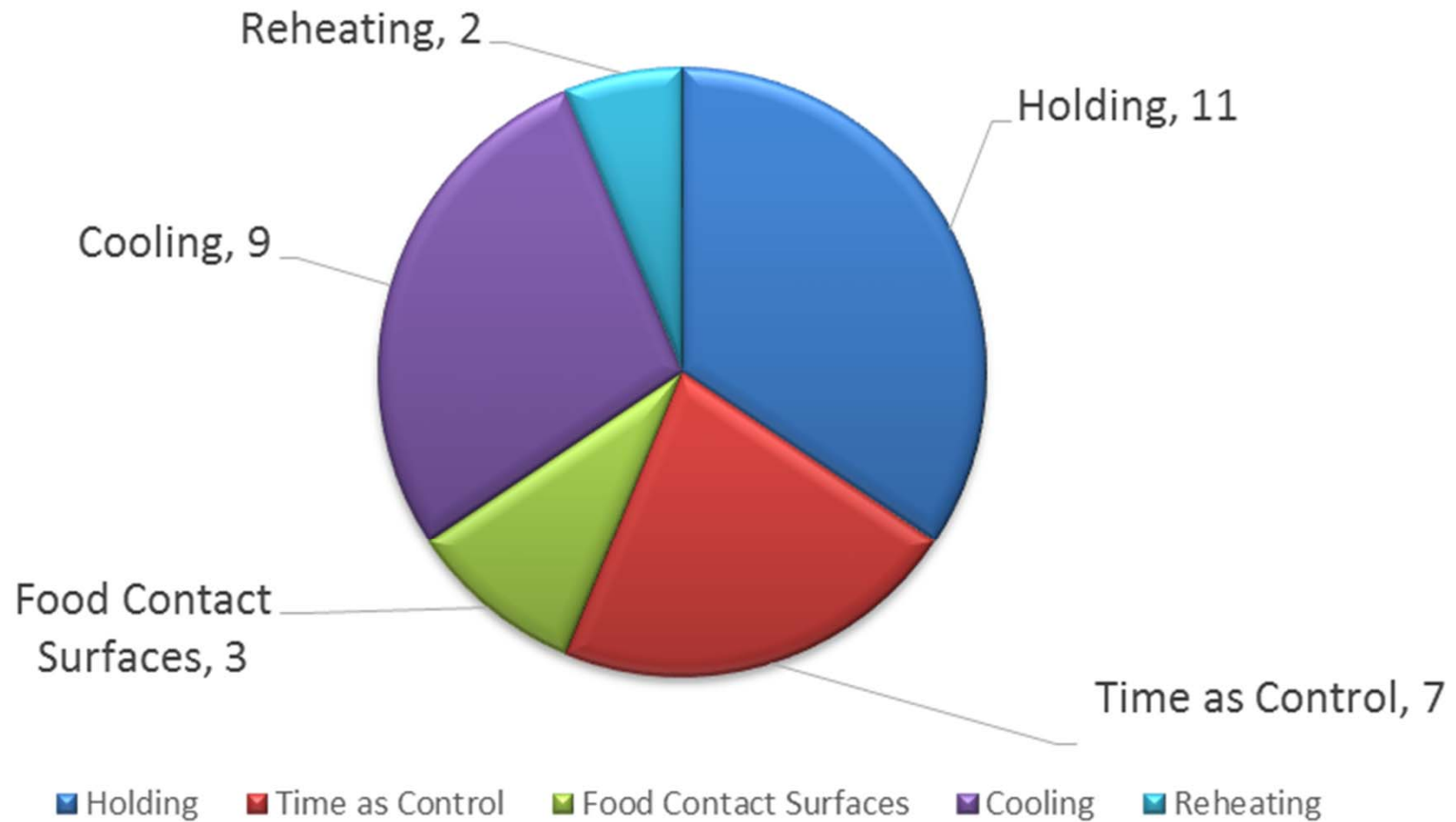
Below Avg: Bottom  
16% of Businesses

Avg: Middle 68% of  
Businesses

Above Avg: Top  
16% of Businesses



## Hybrid AMC Breakdown



**NOW BACK  
TO THE SHOW**





# Integrated Food Safety Centers of Excellence (CoEs)

**Dale Morse, MD, MS & Elizabeth Pace, MPH**

Food Safety Office  
Division of Foodborne, Waterborne, and Environmental Diseases  
National Center for Emerging and Zoonotic Infectious Diseases  
Centers for Disease Control and Prevention

# Food Safety Modernization Act

PUBLIC LAW 111-353—JAN. 4, 2011

124 STAT. 3951

42 USC 280g-16. "SEC. 399V-5. FOOD SAFETY AND  
Deadline. "(a) IN GENERAL.—Not later than 180 days after the  
Designation. enactment of the FDA I

**"SEC. 399V-5. FOOD SAFETY**

"(a) IN GENERAL.—The Secretary, acting through the Center for Disease Control and Prevention and the Centers for Disease Control and Prevention's National Center for Safety and Health, shall establish and maintain a system of Centers of Excellence for the purpose of conducting research, training, and local public health preparedness and response to food and drug outbreaks. The Centers shall be established in selected State health departments.

“(b) SELECTION OF CE

(1) ELIGIBLE EN  
as a Center of Excellence  
“(A) be a Stat

“(B) partner  
cation that have

meaningful experience in production, process, and ship in the labor detection and inv

“(C) provide time, and in suc

"(2) WORKING GE  
date of enactment of  
the Secretary shall es

and stakeholders from  
and health agencies,

and food manufacture  
to make recommenda  
tions of the Centers o

“(3) ADDITIONAL  
may designate eligibl

ters of Excellence, i  
under subsection (a).

“(c) **ACTIVITIES.**—Under the Centers for Disease Control and Prevention shall be based out-

which shall provide assistance to departments of health through

“(1) providing res  
cerning symptoms an  
interviewing individ

“(2) providing an

of foodborne disease  
ties;

(3) providing to mental investigation for streamlining and

“(4) establishing  
train future epidem

address critical workf  
 "(5) training and  
 "(6) strengthenin

new foodborne illness  
ment information sys

“(7) conducting  
on increasing prev

“(d) REPORT TO CONGRESS ON THE DATE OF ENACTMENT OF THE ACT.”

“(1) describes the

“(2) provides legislative resources required

“(e) AUTHORIZATION of appropriations to be appropriated such

“(f) **NO DUPLICATION**  
of the Centers of Excellence

the Secretary shall not of response efforts.”.

**Integrated Food Safety Centers of Excellence (CoEs) were established under the Food Safety Modernization Act (FSMA) to:**

**“... serve as resources for federal, state, and local public health professionals to respond to foodborne illness outbreaks.”**

**“... provide assistance to OTHER regional, state, and local departments of health ...”**





# Centers of Excellence - 2012

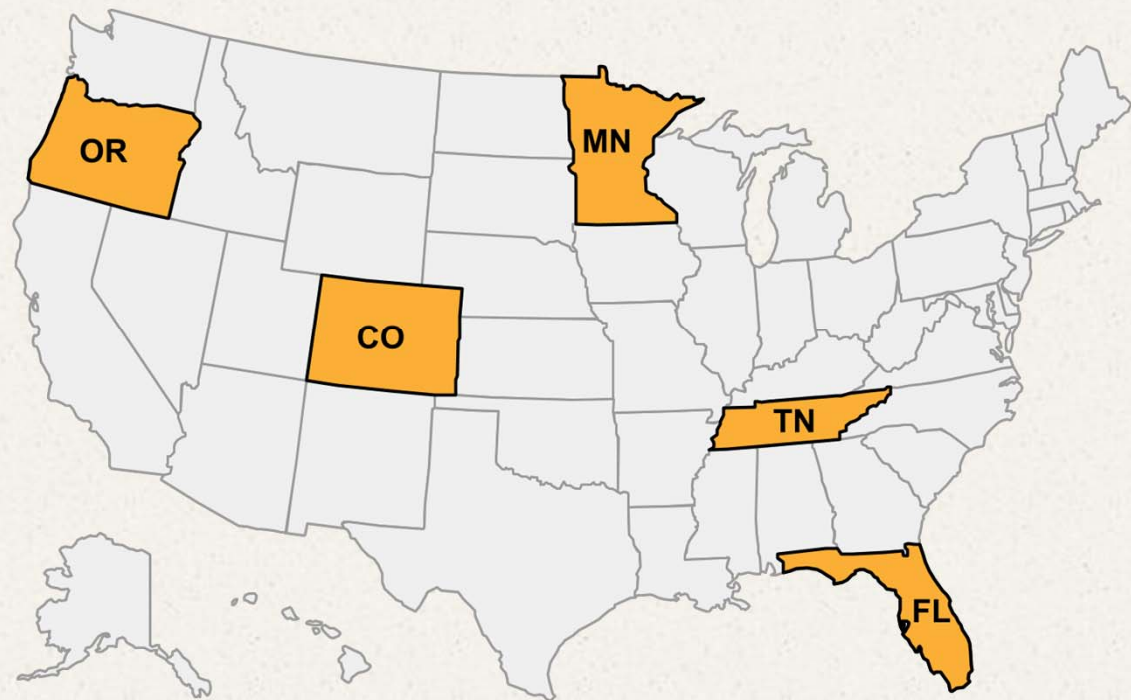
★ Colorado

★ Florida

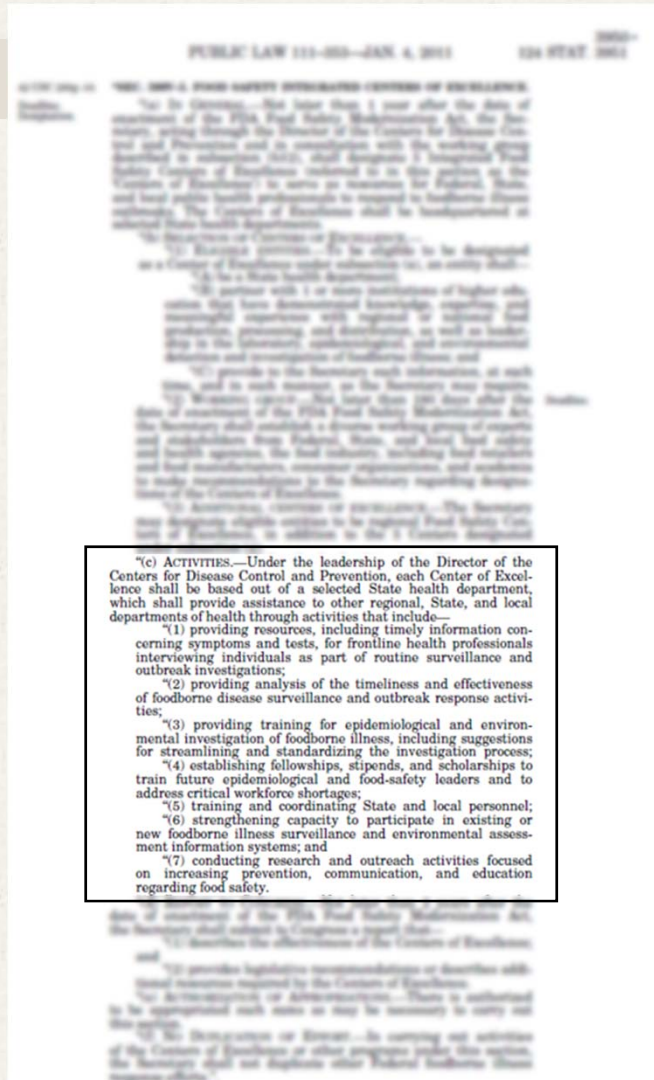
★ Minnesota

★ Tennessee

★ Oregon



# CoE Activities



## Main Activity Areas

1. **Strengthen** surveillance and outbreak investigations
2. **Analyze** timeliness and effectiveness of responses
3. **Train** public health staff in proven investigation techniques
4. **Educate** future food safety workforce
5. **Improve** capacity of information systems
6. **Evaluate** and communicate best practices

# Workgroups



## Academic

Compiles a list of food safety programs and courses offered by CoE Universities



## Communication

Coordinates marketing and dissemination of CoE products (e.g. websites, Newsletter, Twitter)



## Informatics

Guides data projects and products such as data aggregation



## Metrics

Organizes activities related to CoE metrics including the 16 CIFOR measure/metrics with target ranges



## Training

Manages a repository of training products produced and offered by CoEs



# 2015 Expansion - Northeast

## Reason for Expansion

- Large uncovered population in Northeast
- Far from existing CoEs
- Legislation allowed for expansion on regional basis



## New York as Northeast Regional CoE

- Unique regional emphasis, but doesn't have to go it alone
  - 3 FoodNet; 2 FoodCORE sites; 4 OutbreakNet Enhanced
  - 8 of 11 states funded above per capita national average
- Learning collaborative can serve as a model for regional foodborne illness support

# Centers of Excellence - 2015

## ★ Colorado

Colorado Department of Public Health  
and Environment  
Colorado School of Public Health

## ★ Florida

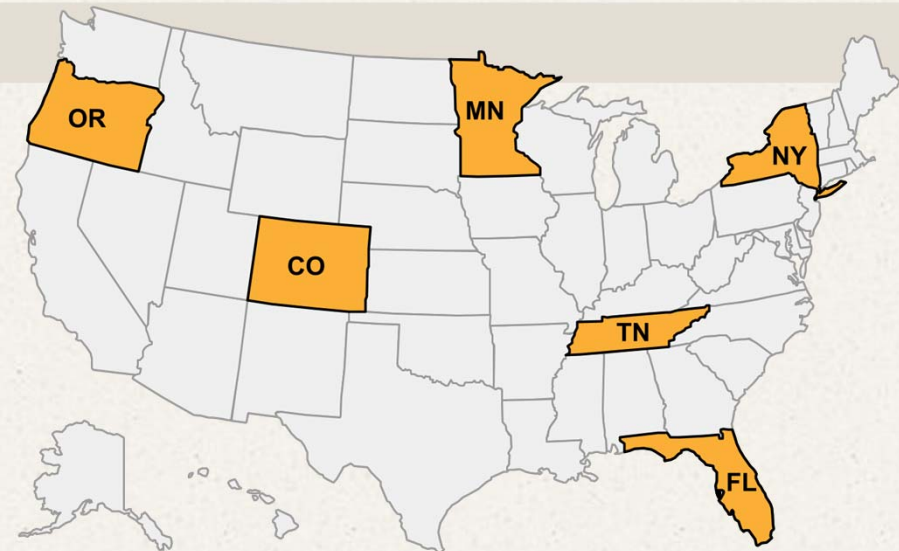
Florida Department of Health  
University of Florida

## ★ Minnesota

Minnesota Department of Health  
University of Minnesota SPH

## ★ New York

New York State Department of Health  
Cornell University



## ★ Tennessee

Tennessee Department of Health  
University of Tennessee

## ★ Oregon

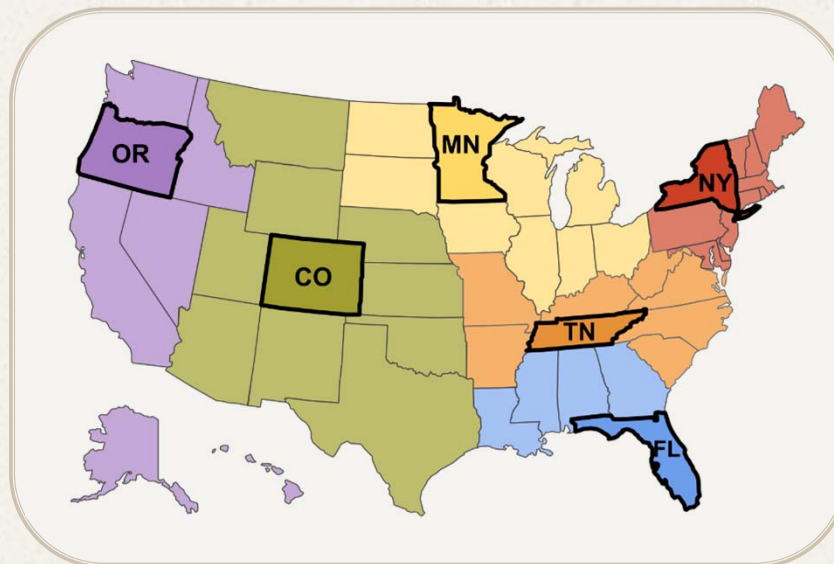
Oregon Public Health Division  
University of Minnesota SPH

# CoE Geographic Regions

Centers serve as **NAVIGATORS** between the states in their geographic region and the resources and services provided by the Centers of Excellence

Centers may continue working with institutions outside of their region with whom they have **EXISTING PROFESSIONAL RELATIONSHIPS**

Centers may continue providing **EXPERTISE** assistance to states outside of their region as they may be the most appropriate match for the requested service





# CoE Services

- One-on-one Consultation
  - Surveillance/outbreak consultation
  - Long-term projects (e.g. database improvements)
  - Mentorship (e.g. OutbreakNet Enhanced)
  - CIFOR Toolkit evaluations
  - Collaborative team training (e.g. Epi-Ready)
  - Needs assessments
  - Student interview team training
- On-line Training
  - Case series
  - Courses and videos
  - Questionnaire templates
  - Foodborne surveillance tools and products

# CoE Online Products (as of June 9, 2016)

1. 2013 Minnesota CIFOR Target Ranges for Select Performance Measures
2. 2014 Minnesota CIFOR Target Ranges for Select Performance Measures
3. Alabama Counties – Legal Field Template
4. Background Population Exposure Estimates Using Salmonella Case Interviews
5. Binomial Probability Worksheet
6. Background Population Exposure Estimates Using E. coli O157 Case Interviews
7. Centered on Food Safety Newsletter – Special Edition, Fall 2015
8. Bleach Guidance Document (Spanish)
9. Bleach Guidance Document
10. Centered on Food Safety Newsletter – Spring 2015
11. Centered on Food Safety Newsletter – Fall 2015
12. Centered on Food Safety Newsletter – Fall 2014
13. Centered on Food Safety Newsletter – Summer 2015
14. Centered on Food Safety Newsletter – Winter 2015
15. Centered on Food Safety Newsletter – Spring 2016
16. CoE Regional Map
17. Colorado Training Needs Assessment
18. Colorado 2013 CIFOR Report
19. Clinical & Environmental Specimens in Colorado
20. Creating a Choropleth Map in Epi Info 7
21. Creating a Case Cluster Map in Epi Info 7
22. Compendium of Acute Foodborne Disease
23. Enfermedades transmitidas por los alimentos : ¿Qué problema?
24. Cultural Foods Safety App
25. Downloading Epi Info 7
26. Environmental Water Sampling for Legionella
27. Environmental Assessment QuickTrain
28. Environmental Assessment Activities Mini Lecture
29. Event & Venue-centric Outbreak Questionnaire Template
30. Evaluation of Florida Foodborne Illness and Outbreak Response Using the CIFOR Performance Measures 2013
31. Epi Info 7 Check Code 101
32. FL-CoE Education and Training Needs Assessment
33. FL-CoE CIFOR Evaluation 2013
34. FBI Complaint Form
35. Exclusion Guidance for High Risk Groups with Enteric Diseases
36. Food Safety Southeast App for iOS
37. Food Safety Southeast App for Android
38. Florida Counties – Legal Field Template
39. Food Source Information Wiki
40. Gastroenteritis Foodborne Outbreak Summary Form
41. Foodborne Illness: What Problem?
42. Georgia Counties – Legal Field Template
43. Importing a Non-Epi Infor Database into Epi Info 7
44. Get the SCOOP!
45. Importing Templates into Epi Info 7
46. Instructional Video for the IT-Kit Stool Sample Collection Kit
47. In the Lab: Plating a Stool Sample
48. Instructional Video for the IT-Kit Stool Sample Collection Kit (Spanish)
49. IT-Kit Materials Cost
50. Interviewing Cardinal Rules Training Guide
51. IT-Kit Patient Instructions (English and Spanish)
52. Key Points for Creating a Foodborne Complaint System
53. IT-Kit Stockroom Order Request Form
54. Key Points for Creating a Team of Student Workers
55. Legally Covered Seminar
56. Key Points for Investigating Sub-Clusters
57. Mexican-style Restaurant Questionnaire Template
58. Minnesota Enteric Interview Forms
59. National Outbreak Reporting System (NORS) Form
60. Norovirus Outbreaks and Control Measures
61. Outbreak Case Log: Day Care Facility Gastrointestinal Illness – Project Template
62. Outbreak Communication Agreement
63. Outbreak Interviewing Strategies (Full Version)
64. Outbreak Interviewing Strategies (Quick Version)
65. Outbreak Interviewer Training
66. Outbreak Investigation Case Series: E. coli O157:H7 Associated with Ground Beef Patties, 2007
67. Outbreak Investigation Guidelines
68. Packing & Shipping Lab Specimens
69. Patient Specimen Collection Instructions (Amies, English)
70. Patient Specimen Collection Instructions (Amies, Spanish)
71. Patient Specimen Collection Instructions (Bulk, English)
72. Patient Specimen Collection Instructions (Bulk, Spanish)
73. Prevention and Control of Norovirus in LTCFs
74. ProTip #1
75. ProTip #2
76. ProTip #3
77. Puerto Rico Municipalities – Legal Field Template
78. Raw Milk Questionnaire Template
79. Shotgun Hypothesis-Generating Questionnaire
80. Shotgun Hypothesis-Generating Questionnaire (Spanish)
81. Specimen Collection Video
82. Student Outbreak Response Training
83. Student Outbreak Response Training Curriculum Guide
84. Sub/Sandwich Shop Questionnaire Template
85. The Gopher-Beaver Form
86. The Stool Sample Kit: Instructions for Staff
87. Water Test Kit Video Tutorial
88. Toddlers/Young Children Questionnaire Template
89. US Virgin Islands Districts – Legal Field Template
90. What is Vibrio Vulnificus and Where Can It Be Found?
91. Web Course: Foodborne Outbreak Investigation and Response, PartB
92. Web Course: Foodborne Outbreak Investigation and Response, PartA
93. Wyoming 2014 CIFOR Report

# CoE FoodSafetyTools.org





# Learn More About the CoEs

- Twitter
  - @FoodSafetyCoE
- Quarterly Newsletter
  - *Centered on Food Safety*



[www.cdc.gov/foodsafety/centers/index.html](http://www.cdc.gov/foodsafety/centers/index.html)



# Future Directions & Projects

- Expanding Mentorship Activities
  - ~7 OutbreakNet Enhanced sites being added
  - Additional outreach to **others**
- Pursuing External Funding for Special Projects
  - Antimicrobial Resistance
  - Attribution
  - Advance Microbial Detection
- Adding Work Group Priorities
  - WGS training for epis
  - Research agenda
  - Integrated activities

# CoEs Potential Role in Helping OTHERS Achieve Higher Food Safety Status



## Premier (First)

FoodCORE, FoodNet, and CoE (5)

## Contenders (Economy Comfort)

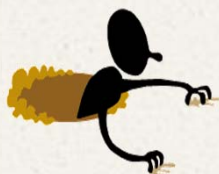
1-2 FoodCORE, FoodNet, or CoE (10)

## Aspiring (Coach)

Basic plus OutbreakNet Enhanced Funding (8)

## Struggling (Basic)

Funded by PulseNet, OutbreakNet, and NARMS only (N= 28)



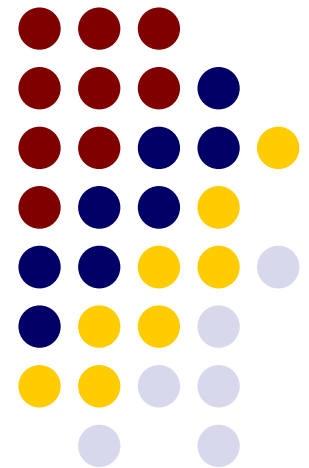


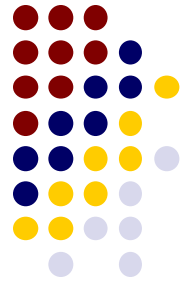
## MINNESOTA INTEGRATED FOOD SAFETY CENTER OF EXCELLENCE

UNIVERSITY OF MINNESOTA • MINNESOTA DEPARTMENT OF HEALTH

# Developing Metrics to Improve Outbreak Investigation

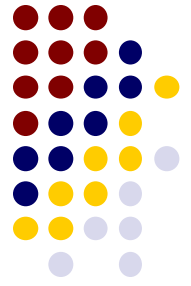
Craig Hedberg, PhD  
Environmental Health Sciences





## Background

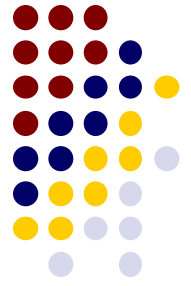
- CIFOR *Guidelines* included measurable indicators of effective surveillance for enteric diseases and response to outbreaks by state and local public health officials.
  - intended for agencies to evaluate performance of their foodborne disease surveillance and control programs.
  - stopped short of providing specific targets for individual metrics.
- CIFOR identified need to develop target values to help state and local public health agencies ***demonstrate performance and effectiveness*** conducting foodborne disease surveillance and outbreak control activities.



# Selected Performance Measures

- Address four key components of the public health food safety system:
  - surveillance system evaluated;
  - follow up on complaints, cases and isolates;
  - complaint/cluster investigations;
  - outbreak summaries and reporting to NORS.
- Encompass roles for epidemiology, laboratory practice, and environmental health, and include activities at both state and local levels.

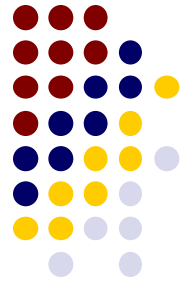




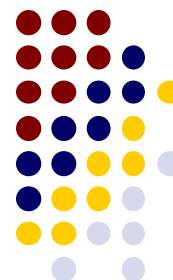
# Target Range Development

- Target ranges for the selected performance measures were based on available information.
  - Most of the target ranges were derived from evaluations of surveillance data published in the peer-reviewed literature.
  - In addition, results of Year 1 FoodCORE analyses, NORS data, and PHEP Guidance were used to establish target ranges.
- As information becomes available, target ranges can be refined to better reflect overall performance levels.
  - In addition, target ranges reflect performance that may change over time as the availability of resources changes or as new methods are introduced.

# Performance Measures Related to Complaint-Based Surveillance

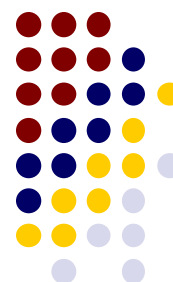


| CIFOR Performance Measure                       | Target Range                         |
|---|--------------------------------------|
| 1. Foodborne illness complaint reporting system | Preferable: Electronic database      |
|   | Acceptable: System to log complaints |
| 12. Complaint investigation interval            | Preferable: < 7 days                 |
|   | Acceptable: 7-21 days                |
| 10. Outbreak clinical specimen collections      | Preferable: >75% of outbreaks        |



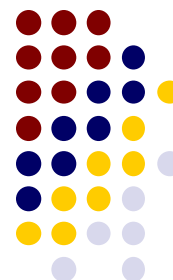
# Performance Measures Related to Pathogen-Specific Surveillance: Case-Based

| CIFOR Performance Measure   | Target Range                                |
|---|---|
| 4. Confirmed cases with exposure history obtained ( <i>Salmonella</i> , STEC, <i>Listeria</i> separate) | Preferable: >75% of cases                   |
|   | Acceptable: 50-75% of cases                 |
| 11. Cluster investigation interval  | Preferable: < 7 days                        |
|   | Acceptable: 7-21 days                       |
| 13. Cluster source identification   | Preferable: >20% of clusters with > 5 cases |



# Performance Measures Related to Pathogen-Specific Surveillance: Isolate-Based

| CIFOR Performance Measure   | Target Range                   |
|---|--------------------------------|
| 5. Isolate submissions to PHL<br>( <i>Salmonella</i> , STEC, <i>Listeria</i> separate)  | Preferable: >90% of isolates   |
|   | Acceptable: 60-90% of isolates |
| 7. Isolate submission interval<br>( <i>Salmonella</i> , STEC, <i>Listeria</i> separate) | Preferable: < 7 days           |
|   | Acceptable: 7-8 days           |
| 6. PFGE subtyping of isolates<br>( <i>Salmonella</i> , STEC, <i>Listeria</i> separate)  | Preferable: >90% of isolates   |
|   | Acceptable: 60-90% of isolates |



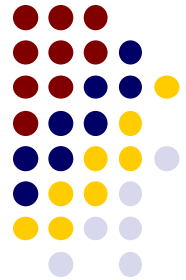
# Performance Measures Related to Outbreak Reporting

| CIFOR Performance Measure              | Target Range                                     |
|--|--|
| 3. Foodborne illness outbreak rate     | Preferable: >6 outbreaks / 1,000,000 population  |
|  | Acceptable: 1-6 outbreaks / 1,000,000 population |
| 14. Outbreak etiology reported to NORS | Preferable: >68% of outbreaks                    |
|  | Acceptable: 44-68% of outbreaks                  |



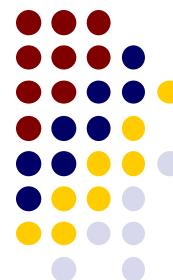


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**Target ranges reflect performance that may change over time as the availability of resources changes or as new methods are introduced.**

[http://www.cifor.us/documents/MetricsReport\\_Abridge\\_FINAL.pdf](http://www.cifor.us/documents/MetricsReport_Abridge_FINAL.pdf)



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# Future Plans for Metrics and C-MET

- COE have begun to use the 16 metrics and C-MET and to assist other states in this process
- Encourage use of C-MET by all states and large local HDs
- Update metrics
  - Obtain feedback from all users
  - Compare utility of CIFOR metrics with FoodCORE and other metrics
- Incorporate major changes into third edition of *CIFOR Guidelines*
  - Minor changes can be done on web anytime

# For More Information About CIFOR:

- Visit the CIFOR website:  
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