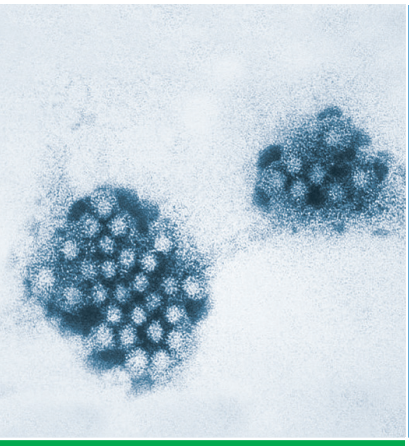
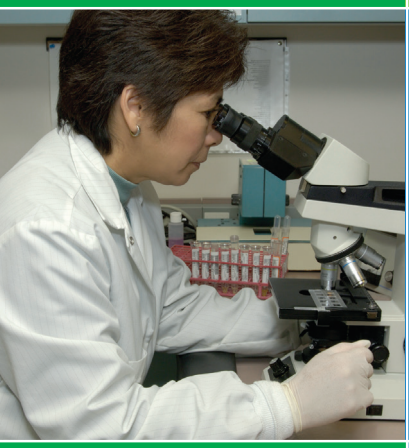
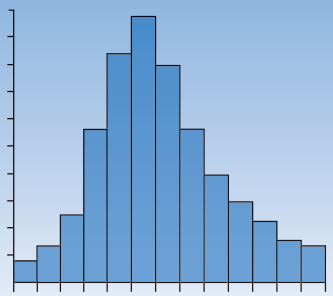
SECOND EDITION

GUIDELINES FOR FOODBORNE DISEASE OUTBREAK RESPONSE



TOOLKIT





CIFOR Council to Improve Foodborne Outbreak Response

Detect • Investigate • Control • Prevent

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CIFOR Toolkit Contents at a Glance

Document name	Purpose	Audience
Toolkit Overview	Describes goals, target audience, and approach of the CIFOR Toolkit	Agency and jurisdiction decision-makers
Toolkit User Instructions	Discusses in detail the steps to be followed in using the CIFOR Toolkit	Facilitator and recorder
Toolkit User Instructions (Cheat Sheet for Facilitators)	Briefly lists the steps to be followed in using the CIFOR Toolkit	Facilitator
Preliminaries Worksheet	Helps identify participants and resources necessary to use the Toolkit	Facilitator
Selecting Focus Areas Worksheet	Helps identify parts of foodborne disease outbreak response that are a high priority for program/agency/jurisdiction to work on	Workgroup (or subset) from program/agency/jurisdiction
Individual Focus Area Worksheets	Helps identify CIFOR recommendations appropriate for program/agency/jurisdiction related to the following:	Workgroup (or subset) from program/agency/jurisdiction
Focus Area 1 Worksheet	*Relationships with relevant agencies and organizations*	
Focus Area 2 Worksheet	*Necessary resources*	
Focus Area 3 Worksheet	*Communication*	
Focus Area 4 Worksheet	*Complaint systems*	
Focus Area 5 Worksheet	*Pathogen-specific surveillance*	
Focus Area 6 Worksheet	*Initial steps of an investigation*	
Focus Area 7 Worksheet	*Epidemiology investigation*	
Focus Area 8 Worksheet	*Environmental health investigation*	
Focus Area 9 Worksheet	*Laboratory investigation*	
Focus Area 10 Worksheet	*Control of the source and secondary spread*	
Focus Area 11 Worksheet	*Food recall*	
Sample Focus Area Worksheet	Illustrates how to complete a Focus Area worksheet	Facilitator and recorder
Uses of the CIFOR Toolkit	Provide ideas about use of the Toolkit in large group settings (i.e., other than individual interdisciplinary outbreak response teams)	Agency and jurisdiction decision-makers
Toolkit Tips for Facilitators	Describes role of facilitator and suggestions for leading Toolkit process	Facilitator
Participant Evaluation Form	Solicits feedback to improve future versions of CIFOR Toolkit	All workgroup members

Toolkit Overview

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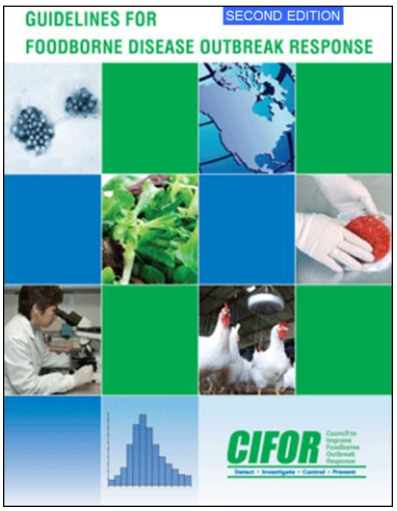
I. Description and goals of the CIFOR Guidelines



The CIFOR *Guidelines for Foodborne Disease Outbreak Response*, originally published in 2009 and revised in 2014, was developed to help local and state public health, environmental health, and food regulatory agencies and laboratories improve their foodborne disease outbreak response activities and harmonize foodborne disease investigation work across the United States.

The *Guidelines* was developed by an interdisciplinary workgroup from around the country with expertise in epidemiology, environmental health, food regulation, and laboratory sciences. The workgroup included representatives from the local, state, and federal level and academia.

The CIFOR *Guidelines* describes the major functions that should occur before, during, and after a foodborne disease outbreak including planning and preparation, disease surveillance and outbreak detection, investigation of clusters and outbreaks, and control measures. It provides useful background information on these functions and the rationale for various activities. The *Guidelines* also describes a range of practices, applicable to the investigation of and response to food-related emergencies of local, state, and national significance, from which agencies and jurisdictions might choose to improve their foodborne disease surveillance and outbreak response performance.

Appropriate and effective foodborne disease outbreak response activities for a particular agency or jurisdiction depend on a host of factors including staff expertise, organizational structure, and resources as well as the unique circumstances of each outbreak. Given the volume and diversity of recommendations included in the CIFOR *Guidelines*, selecting the most appropriate or feasible practices to implement in an agency or jurisdiction could be challenging; thus, the CIFOR *Guidelines* Toolkit has been created.

II. Goals of the CIFOR *Guidelines* Toolkit

The goals of the CIFOR *Guidelines* Toolkit are to help public health, environmental health, and food regulatory agencies and laboratories

- Better understand current foodborne disease outbreak response activities in their agency/jurisdiction,
- Become more familiar with the CIFOR *Guidelines* and recommended practices,
- Identify specific CIFOR recommendations and activities that will improve the agency's/jurisdiction's performance during future foodborne disease outbreak responses, and
- Make plans to implement those activities.

III. Target audience

The CIFOR *Guidelines* Toolkit has been developed for staff in local and state public health, environmental health, and food regulatory agencies and laboratories with expertise and experience in foodborne disease outbreak response and knowledge of their agency/jurisdiction, its activities, and its resources.

Ideally, the Toolkit will be used by an interdisciplinary workgroup within a jurisdiction with knowledge and practical experience in epidemiology, environmental health, food regulation, laboratory science, and communication (i.e., the team that works together to investigate, control, and prevent foodborne disease outbreaks in the jurisdiction). Use of the Toolkit by these teams will provide a broader context for

assessing a jurisdiction's current foodborne disease outbreak response and potential areas for improvement, especially with respect to cross-agency/cross-discipline activities.

In addition, use of the Toolkit with these teams will allow participants to become more familiar with the roles and responsibilities of each team member, facilitate communication, and engender team-building in the process. Knowing each other and understanding each other's roles prior to an emergency event is critical to rapid implementation of an outbreak response and effective control measures.

Although the interdisciplinary workgroup is the ideal target audience, the Toolkit can also be used by individuals from a single program, agency, or discipline, or even a single individual within an agency who acts as a "champion" for the cause. Because outbreak response is a team effort, however, it should be recognized that use in this manner will be more limited in scope and might best be viewed as the initial step for a more inclusive process that involves others at a later time.

IV. Approach

The Toolkit has been developed to guide workgroups through the identification and implementation of recommendations in the CIFOR *Guidelines* that are appropriate for their program/agency/jurisdiction. It promotes a simple process in which users prioritize areas of outbreak response (called Focus Areas) that are most important to their program/agency/jurisdiction and then systematically undertake three steps for each prioritized Focus Area:

1. Describe current activities and procedures in the Focus Area and identify those in need of improvement.
2. Prioritize CIFOR recommendations to address needed improvements.
3. Make plans to implement prioritized CIFOR recommendations.

This approach will allow workgroups to focus their efforts and identify changes to improve foodborne disease outbreak response that are most appropriate to their program/agency/jurisdiction and are an effective use of limited resources.

V. Overlap with other national initiatives

Several other initiatives address foodborne outbreak response capacity development or improvement of program quality and performance at local and state public health, environmental health, and food regulatory agencies and laboratories. Most of these initiatives provide standards (i.e., goals) toward which participating agencies work without specifying activities required to meet the goals.

The CIFOR *Guidelines* offers concrete ways to achieve compliance with many of the standards in these other initiatives (with respect to foodborne diseases and many other infectious diseases) and should be considered a resource by agencies involved in these other initiatives. For example, the FDA Retail Food Regulatory Program Standard 5 requires that participating programs maintain logs or databases for all complaints or referral reports on food-related illness, food-related injury, or intentional food contamination. The CIFOR *Guidelines* describes the key determinants of successful complaint systems and model practices related to these systems and, therefore, can be used to formulate steps to achieve that particular requirement.

VI. Toolkit materials

The CIFOR Toolkit includes the following materials:

- Instructions describing the Toolkit process;

- Worksheets that help users get started with the process, identify areas in need of improvement, and support the examination of CIFOR recommendations specific to the program's/agency's/jurisdiction's needs;
- A list of tips for persons who facilitate or lead the process;
- Sample worksheet pages completed by a local health department to demonstrate how to complete the worksheets; and
- A participant evaluation form to provide feedback on the process.

Electronic versions of all toolkit materials are available at the CIFOR website at www.CIFOR.us. Users can modify any of these materials to meet their particular needs.

VII. Use of the Toolkit

As previously mentioned, ideally the Toolkit will be used by an interdisciplinary workgroup in a jurisdiction, brought together specifically for this task. However, the Toolkit can be used in other ways. For example, the Toolkit might be used as part of the after-action review of an outbreak response. This setting is good in that problems related to outbreak response will be fresh in the minds of participants and motivation will be high to make changes to improve future response. The Toolkit can also be used as an adjunct to meetings arranged for other purposes (e.g., annual statewide public health meetings, Epi-Ready trainings, or gatherings of particular professional groups) or for capacity development efforts (e.g., FDA Retail Food and Manufactured Food Regulatory Program Standards).

VIII. Contacts for Toolkit

The CIFOR Toolkit was developed by the CIFOR Toolkit Workgroup. The developmental process was supported by staff and consultants from the Council of State and Territorial Epidemiologists and was funded by Cooperative Agreement Number 5U38OT000143-02 with the Centers for Disease Control and Prevention (CDC). The CIFOR Toolkit and its contents are solely the responsibility of the authors and do not necessarily represent the official views of the CDC.

For more information about the CIFOR Toolkit or developmental process, please contact:

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Toolkit User Instructions

The CIFOR *Guidelines for Foodborne Disease Outbreak Response*, originally published in 2009 and revised in 2014, was developed to help local and state public health, environmental health, and food regulatory agencies and laboratories improve their foodborne disease outbreak response. The CIFOR Toolkit has been developed to guide you through the CIFOR *Guidelines* to identify recommendations that are appropriate for your program, agency, or jurisdiction and help you take the first steps toward implementation of those recommendations.

I. Preliminaries

To begin using the CIFOR Toolkit and to make the best use of staff time, please complete the **"Preliminaries Worksheet"** (Document D).

To prepare to use the Toolkit:

A. Identify program, agency, or jurisdiction for which decisions will be made.

B. Brief decision-makers from program, agency, or jurisdiction.

C. Select workgroup to use Toolkit.

D. Identify support staff (e.g., a facilitator for the group and a recorder).

E. Make sure participants are familiar with the CIFOR *Guidelines*.

F. Assemble the necessary supporting materials.

G. Decide on a time frame for completing the process.

A. Identify program, agency, or jurisdiction for which decisions will be made

Making this decision upfront will allow you to concentrate your efforts, involve the right people in setting priorities, and identify changes that will be implemented.

B. Brief decision-makers from program, agency, or jurisdiction

Obtaining a commitment from decision-makers will help define the resources and constraints that should be considered when using the Toolkit and creating implementation plans. Use the **"CIFOR Toolkit Overview"** (Document A) to help introduce decision-makers to the CIFOR *Guidelines* and various components of the CIFOR Toolkit.

C. Select workgroup to use Toolkit

An interdisciplinary workgroup with practical expertise in epidemiology, environmental health, food regulation, laboratory science, and communication is ideal. Participants must have knowledge and experience in foodborne disease outbreak response, the time, and the interest. Include staff who are key to improving foodborne disease outbreak response in your program, agency, or jurisdiction. Even if you decide to focus on only one program or agency while using the Toolkit, involvement of participants from both the local and state level is encouraged.

If your program/agency/jurisdiction is involved in other initiatives aimed at capacity development or program quality and performance (e.g., FDA Retail Food and Manufactured Food Regulatory Program Standards, Public Health Accreditation Board Standards, and National Public Health Performance Standards), consider including staff who are involved in those initiatives.

D. Identify support staff

1. Facilitator

To ensure success, identify a facilitator to lead the process. The facilitator should have extensive experience in surveillance and outbreak detection, investigation, and control and be aware of the

resources necessary and available to perform outbreak response activities in the program, agency, or jurisdiction. Before assembling the workgroup, the facilitator should familiarize himself or herself with the *Guidelines*, read through these Toolkit instructions, and examine the worksheets. The facilitator should review the **"Tips for Facilitators"** (Document I) and make sure that participants have access to all necessary materials including the appropriate Toolkit documents.

2. Recorder

Assign one person to record notes from the workgroup's discussions, especially conclusions about the program's/agency's/jurisdiction's performance in foodborne disease outbreak response and decisions on actions to improve performance. The recorder should review Toolkit worksheets before the workgroup assembles to make sure he or she is familiar with the format. In particular, the recorder should examine the sample worksheet completed by a local health department. (See **"Sample Focus Area Worksheet"** [Document G].) The recorder should decide ahead of time whether to use electronic versions of the documents or hard copies and make arrangements to have a laptop, LCD projector, and the necessary files available at the workgroup meeting, if needed.

E. Make sure participants are familiar with the CIFOR Guidelines

To prepare to use the Toolkit, workgroup members should become familiar with the CIFOR *Guidelines*. At the very least, they should read Chapter 1 which summarizes Chapters 2-9. Workgroups might then assign individual participants to take responsibility for reviewing different chapters or sections of the *Guidelines*.

The Council of State and Territorial Epidemiologists (CSTE) will provide free copies of the *Guidelines* to local and state public health, environmental health, and food regulatory agencies and laboratories. To get your free copy or download an electronic version of the *Guidelines*, go to the CIFOR website at www.CIFOR.us. The electronic version will allow you to search for key words and identify specific sections of the *Guidelines* more easily.

F. Assemble the necessary supporting materials

As an initial step in using the Toolkit, assemble relevant copies of the Toolkit worksheets and other documents that might help in the process, including written protocols, after-action reports from recent foodborne disease outbreaks, data from pathogen-specific surveillance and foodborne disease complaint systems, and information on other quality improvement initiatives in which your program or agency might be involved. During workgroup meetings, electronic versions of these documents could be projected on a screen which might help participants follow the process more closely and ensure that they agree with the decisions that are being made.

G. Decide on a time frame for completing the Toolkit

Use of the Toolkit requires a systematic, in-depth examination of foodborne disease outbreak response activities in your program, agency, or jurisdiction and may take the better part of a day or multiple days to complete. Decide upfront whether your workgroup plans to work through the Toolkit process in one time period or break up the process.

Toolkit User Instructions

II. Focus areas

A. Tracks and Focus Areas

In developing the Toolkit, outbreak response activities have been divided into four major "tracks," corresponding to the four main chapters of the CIFOR *Guidelines*:

- Planning and Preparation,
- Surveillance and Outbreak Detection,
- Investigation of Clusters and Outbreaks, and
- Control Measures.

Each track is divided into two to four "Focus Areas," representing cohesive, interrelated sets of actions/resources/relationships most critical to outbreak response. (Figure 1) The Focus Areas are "bite-sized" pieces of outbreak response that allow you to systematically examine current foodborne disease outbreak response activities in your program, agency, or jurisdiction. A total of 11 Focus Areas are included in the Toolkit that supports the second edition of the CIFOR *Guidelines*.

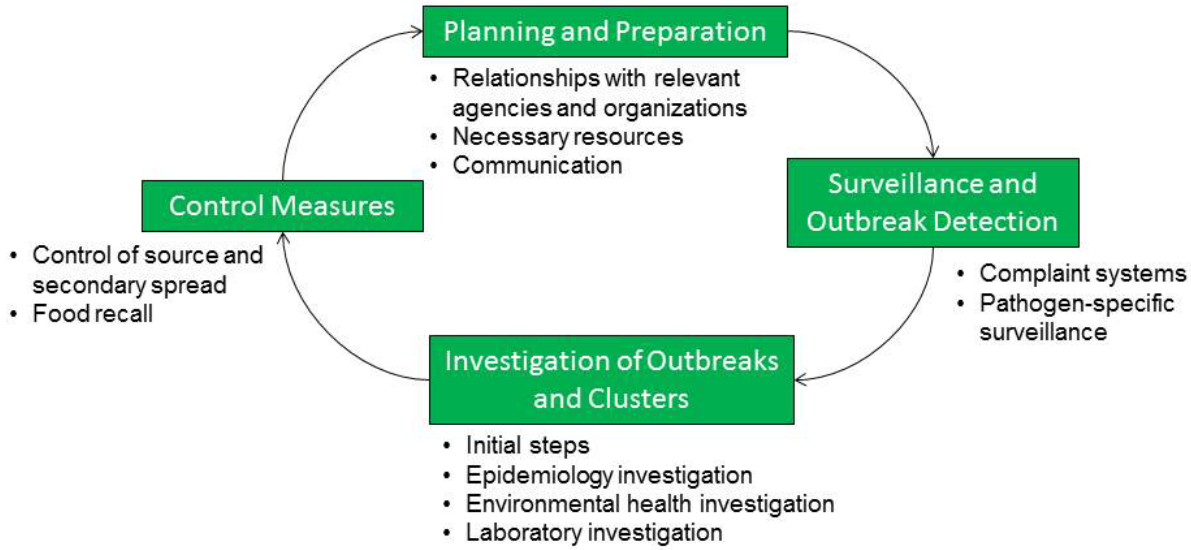

Figure 1: Outbreak Response Tracks and Focus Areas

NOTE: The listing of the tracks and Focus Areas (Figure 1) is not meant to imply a specified order of activities in responding to an outbreak.

B. Prioritization of Focus Areas

A key step in using the Toolkit is to identify the Focus Areas that are most important for your program/agency/jurisdiction to work on. (See the **"Selecting Focus Areas Worksheet"** [Document D]). You might involve the full workgroup in this prioritization process or a smaller group of decision-makers. The workgroup (or subsets of the workgroup) will then concentrate on the prioritized Focus Areas during the remainder of the process.

To help you understand what is included in each Focus Area, "keys to success" have been identified for each Focus Area. Keys to success are activities, relationships, and resources that are felt to be critical to

achieving success in a particular Focus Area. If only a few of the keys to success for a Focus Area are in place in your program, agency, or jurisdiction, it could mean the Focus Area needs work.

If your program, agency, or jurisdiction is already involved in other capacity development or quality assurance initiatives, priorities identified in those efforts can be used to help prioritize Focus Areas for implementing the CIFOR *Guidelines*. The CIFOR *Guidelines* provides ways to address or meet the requirements of many of these initiatives and, therefore, could be integrated into those initiatives.

To prioritize Focus Areas:

- Determine if keys to success are already in place.
- Consider priorities in other capacity development or quality assurance initiatives.
- Review past foodborne outbreak response experiences.
- Prioritize "Relationships with relevant agencies and organizations" to improve multi-jurisdiction response.

In addition, review of past foodborne outbreak response experiences can help to identify areas in need of improvement. After-action reports or debriefings among persons involved in past outbreak responses can help you identify local strengths and weaknesses in foodborne outbreak response as well as opportunities for improvement.

Finally, a growing proportion of foodborne disease outbreaks require the resources of more than one local, state, or federal public health, environmental health, or food-regulatory agency or laboratory for detection, investigation, or control. This is particularly true for some of the most serious foodborne illnesses (e.g., *E. coli* O157:H7 infection, salmonellosis, and hepatitis A infection). Therefore, all agencies and jurisdictions would be well-served to prioritize the Focus Area "Relationships with relevant agencies and organizations" to improve their ability to participate in a multijurisdictional outbreak response.

C. Examination of Priority Focus Areas

For each prioritized Focus Area, the Toolkit will help you systematically examine outbreak response in your program, agency, or jurisdiction and explore the *Guidelines* for ways to improve your response in that Focus Area. Use the **Focus Area-specific Worksheets** (Documents F1-F11) to help you work through the process. An example of a completed Focus Area worksheet has been provided for you. (See **"Sample Focus Area Worksheet"** [Document G].)

Steps in examining each priority Focus Area:

1. Describe your current activities and procedures in the Focus Area and identify areas in need of improvement.
2. Prioritize CIFOR recommendations to address needed improvements.
3. Make plans to implement selected CIFOR recommendations.

STEP 1: Describe your current activities and procedures in the Focus Area. Considering the keys to success, outline what is currently being done in your program/agency/jurisdiction in that Focus Area. Include individuals, programs, and agencies involved; their roles and responsibilities; and routine actions and procedures undertaken. Written response protocols, if available, will help in this process. Consider other ongoing efforts in capacity development or quality improvement (e.g., FDA Retail and Manufactured Food Regulatory Program Standards).

As you list current activities and procedures related to this Focus Area, identify those which might need work to improve your program's/agency's/jurisdiction's response to foodborne disease outbreaks. Review outbreak investigation after-action reports and summaries of debriefings to help in this effort or describe experiences from the most recent outbreak in which your program/agency/jurisdiction was involved.

Toolkit User Instructions

STEP 2: **Prioritize CIFOR recommendations to address needed improvements**. Having identified activities and procedures in need of improvement, read through the CIFOR recommendations related to the Focus Area listed on the Focus Area-specific worksheet. Use the linkages provided to review the relevant sections of the CIFOR *Guidelines* for more detail. Rate the priority for implementation of each recommendation using a scale of 1to 5 (1=Low priority and 5=High priority). If a recommendation is already in place in your program/agency/jurisdiction, check the appropriate box. If a recommendation is not relevant to your program/agency/jurisdiction, select N/A.

In considering recommendations to improve your program's/agency's/jurisdiction's performance in outbreak response, pick those that will be the best use of resources based on the following:

- The likely impact on the occurrence of foodborne diseases or on outbreak response;
- The ease of implementation including necessary time, resources, expertise, and likely barriers; and
- Whether the recommendation is dependent on other conditions being in place.

STEP 3: **Make plans to implement selected CIFOR recommendations.** For each recommendation selected in the previous step, identify who will take the lead and the timeframe for implementation. If certain actions must precede others, make a note of this and adjust the timeframe. Also identify factors that could positively or negatively influence full implementation. For example, certain staff skills or expertise might facilitate implementation of a particular recommendation whereas lack of funding might inhibit implementation. Also think about ways to incorporate the recommendation into your program's/agency's/jurisdiction's standard operating procedures so the activity will be continued into the future.

When the worksheet for one Focus Area has been completed**,** repeat steps 1-3 for each of the other Focus Areas you have selected as important for your program/agency/jurisdiction to address.

III. Feedback

The Toolkit has been developed to help you explore and implement the CIFOR *Guidelines*. Your feedback on the Toolkit process, the worksheets, and other materials is encouraged. A Participant Evaluation form is available in hard copy (see the **"Participant Evaluation Form"** [Document J]**)** or online at www.CIFOR.us. Ask all workgroup members to complete an evaluation after the process is complete. Be as specific as possible in your comments, indicating specific documents or worksheet pages. Forward all evaluation forms and feedback to the address below.

IV. Contacts for Toolkit

For more information about the CIFOR *Guidelines* Toolkit, contact:

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Toolkit User Instructions:

Cheat Sheet for Facilitators

This document briefly lists the steps involved in using the CIFOR *Guidelines* Toolkit. For a more in-depth discussion, please see **"Toolkit User Instructions"** (Document B).

Prepare for using the CIFOR Toolkit

1. Review the **"Preliminaries Worksheet"** (Document D).
2. Identify the program, agency, or jurisdiction for which decisions will be made using the CIFOR Toolkit.
3. Brief decision-makers about using the CIFOR Toolkit. Ask decision-makers to read the **"Toolkit Overview"** (Document A).
4. Select individuals to participate in the workgroup.
5. Identify a facilitator and a recorder for the workgroup.
   a. The facilitator should review all Toolkit documents focusing on the **"Toolkit User Instructions"** (Document B) and **"Toolkit Tips for Facilitators"** (Document I).
   b. The recorder should study the **"Sample Focus Area Worksheet"** (Document G) and make arrangements to have a laptop and LCD projector, if desired, for use during workgroup meetings.
6. Have the workgroup members review at least Chapter 1 of the CIFOR *Guidelines*.
7. Assemble the necessary supporting materials including written protocols, after-action reports from recent foodborne disease outbreaks, and information on other quality improvement initiatives.
8. Decide on a time frame for going through the CIFOR Toolkit components.

Select Focus Areas to work on

1. Assemble the workgroup (or subset of the workgroup) and review the **"Selecting Focus Areas Worksheet"** (Document E).
2. Read the goals and "keys to success" for each Focus Area.
3. Determine which keys to success are relevant to your program, agency, or jurisdiction and which are fully or partially in place.
4. Consider ongoing work in other capacity development or quality assurance efforts and the priorities of those efforts.
5. Review past foodborne outbreak response experiences to identify areas in need of improvement.
6. Select the Toolkit Focus Areas that are a high priority for your program, agency, or jurisdiction to work on.

Identify CIFOR recommendations appropriate for your program, agency, or jurisdiction and make plans for implementation

1. Obtain copies of the **Worksheets for the Focus Areas** (Documents F1-F11) you plan to work on.
2. Starting with the first Focus Area, review the "keys to success" listed on the worksheet with the workgroup (or subset) and discuss your program's, agency's, or jurisdiction's current activities and procedures, making notes on the worksheet.
3. As you list current activities and procedures, identify those that might need work to improve your program's, agency's, or jurisdiction's response to foodborne disease outbreaks.
4. Read through the CIFOR recommendations related to the Focus Area as listed on the worksheet. If desired, review the relevant sections of the CIFOR *Guidelines* listed after each recommendation.
5. For each recommendation, rate the priority for implementation (or improvement) in your program, agency, or jurisdiction using a scale of 1 to 5 (1=Low priority and 5=High priority). If a recommendation is already in place, check the appropriate box. If a recommendation is not relevant to your program, agency, or jurisdiction, select N/A.
6. For each CIFOR recommendation rated as a high priority for implementation, identify who will take the lead and the timeframe for implementation. Record that information on the worksheet.
7. Identify factors that could positively or negatively influence implementation of a recommendation.

Toolkit User Instructions (Cheat Sheet for Facilitators)

8. Repeat steps 2-7 for each Toolkit Focus Area selected as a high priority for your program, agency, or jurisdiction to work on.

Provide feedback on Toolkit

1. Ask all workgroup participants to complete the **"Participant Evaluation Form"** (Document J).
2. Forward all evaluation forms and other feedback to the following address:

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dpatel@cste.org

Preliminaries Worksheet

The CIFOR Toolkit has been developed to help public health, environmental health, and food regulatory agencies and laboratories use the CIFOR Guidelines to improve their foodborne disease outbreak response activities. To prepare for the CIFOR Toolkit process and make the best use of staff time, complete this worksheet before starting the process.

1. During the CIFOR Toolkit process, for what programs, agencies, or jurisdictions will decisions be made? Be specific.

The term "agency/jurisdiction" will be used to refer to this entity on all Toolkit worksheets.

2. The CIFOR Toolkit has been developed for use by interdisciplinary workgroups, including persons with practical expertise in epidemiology, environmental health, food regulation, laboratory science, and communication. To make decisions for the agency/jurisdiction identified above, which of the following program areas should participate in the Workgroup?

☐ Agriculture	☐ Environmental health	☐ Laboratory
☐ Communications	☐ Food regulation	☐ Public health nursing
☐ Epidemiology	☐ Health education	☐ Other (specify)

3. What additional programs or agencies might inform or enrich Workgroup discussions?

4. The CIFOR *Guidelines* offer concrete ways to achieve compliance with other ongoing efforts related to capacity development or program performance. What other initiatives are currently underway in your agency/jurisdiction? *(Check all that apply.)*

- ☐ FDA Retail and Manufactured Food Regulatory Program Standards
- ☐ State or Local Public Health Accreditation Board Standards
- ☐ State or Local Public Health Performance Standards
- ☐ Epidemiology and Laboratory Capacity Grants
- ☐ FDA Rapid Response Team
- ☐ OutbreakNet Sentinel Sites Grant
- ☐ Public Health Emergency Preparedness Grants
- ☐ Other (specify) _____

If you have checked any of the above initiatives, consider including staff familiar with those initiatives on the Workgroup.

5. List the persons who have been invited to participate in the CIFOR Toolkit process and their affiliations.

To ensure success, identify a person to facilitate use of the CIFOR Toolkit by the Workgroup. The facilitator should be familiar with the CIFOR Guidelines and the Toolkit components. He or she should have extensive knowledge of the agency/jurisdiction for which decisions are being made and a good working knowledge of surveillance and outbreak detection, investigation, and control so he or she can guide the group appropriately.

6. Workgroup Facilitator: _____

Select a person to record notes from Workgroup discussions, especially conclusions about agency/jurisdiction performance and decisions on actions to improve performance. The recorder should review the Toolkit worksheets before the Workgroup assembles.

7. Workgroup Recorder: _____

8. Will the recorder use hard copies or electronic versions of the CIFOR Toolkit documents?

☐ Hard copies ☐ Electronic versions

9. Is an LCD or other type of projector available to display CIFOR Toolkit documents or will Workgroup members need hard copies?

☐ Projector available ☐ Hard copies will be needed

10. Which of the following materials are available to your Workgroup?

☐ CIFOR *Guidelines for Foodborne Disease Outbreak Response, Second Edition*
☐ Written copies of your agency's/jurisdiction's outbreak response protocol(s)
☐ Summaries of pathogen-specific surveillance data
☐ Summaries of data from foodborne disease complaint systems
☐ After-action reports from recent foodborne disease outbreaks
☐ Information or documents from other capacity development or quality improvement initiatives in which your agency is involved

Before starting the CIFOR Toolkit process, Workgroup members should skim the CIFOR Guidelines and read Chapter 1 which provides a summary of the key chapters. (An electronic version of the Guidelines is available at www.CIFOR.us.)

DATE WORKSHEET COMPLETED: _____

When you have finished the "Preliminaries Worksheet," go to the "Selecting Focus Areas Worksheet" (Document E). You may wish to involve the entire Workgroup in selecting the priority Focus Areas or a smaller group of decision-makers before assembling the entire Workgroup.

Selecting Focus Areas Worksheet

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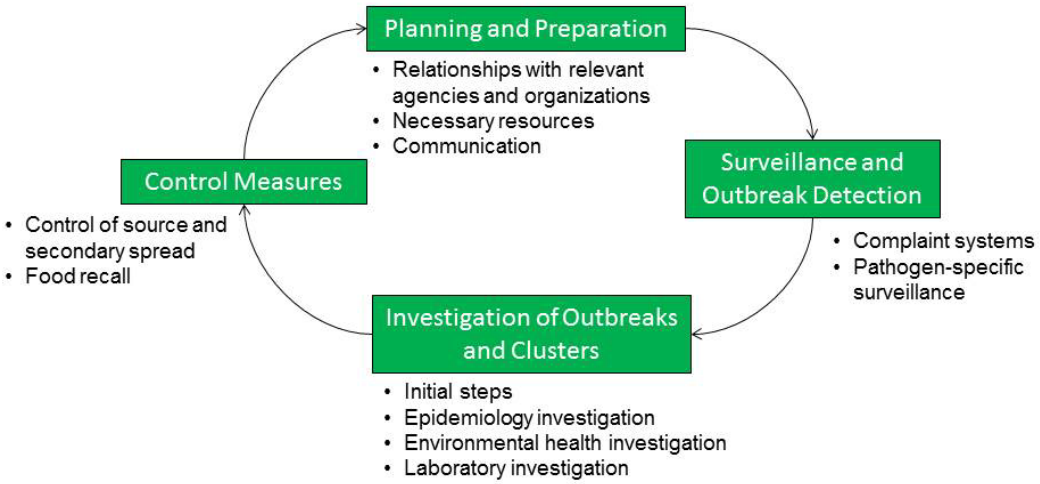
Detect • Investigate • Control • Prevent

In developing the CIFOR Toolkit, outbreak response activities have been divided into four major "Tracks" and 11"Focus Areas." The Focus Areas are "bite-sized" pieces of outbreak response that will allow agencies/jurisdictions to systematically examine and improve foodborne disease outbreak response. A key step in using the CIFOR Toolkit will be to identify the Focus Areas that are most important for your agency/jurisdiction to work on.



INSTRUCTIONS:

1. Decide whether to involve the entire workgroup in the prioritization process or a smaller group of decision-makers. List the individuals who will be involved in the prioritization of Focus Areas below.

2. Assemble the above people and examine the Focus Area descriptions on the following pages. To better understand what is covered in each Focus Area, review the "keys to success" (i.e., activities, relationships, and resources that are felt to be critical to achieving success in a Focus Area).

3. Determine which keys to success are applicable to your agency/jurisdiction and which are already in place. This determination might be somewhat subjective. Metrics, such as measures of time (e.g., rapidly, timely, and quickly), have not been defined. Your workgroup should provide its own definition for these terms, as is appropriate for your agency/jurisdiction, and use its best judgment in deciding whether a key to success is fully or partially in place. If only a few of the keys to success for a Focus Area are in place in your agency/jurisdiction, it could mean the Focus Area needs work.

4. Consider ongoing work in other capacity development or quality assurance efforts in your agency/jurisdiction (e.g., FDA Retail and Manufactured Food Regulatory Program Standards, Local Public Health Accreditation Board Standards, and Local Public Health Performance Standards) and the priorities of those efforts. Review past foodborne outbreak response experiences to identify areas in need of improvement. Consider your agency's/jurisdiction's ability to participate in a multijurisdictional outbreak response.

5. Based on the above, identify the Focus Areas that are a high priority for your agency/jurisdiction to work on. Put checks in the boxes next to those Focus Areas.

HIGH PRIORITY
TO WORK ON

PLANNING AND PREPARATION

☐

FOCUS AREA 1: Relationships with relevant agencies and organizations

Agency/jurisdiction can swiftly launch an outbreak response that is coordinated with all relevant agencies, minimizing confusion and redundant efforts and taking advantage of all available resources.

KEYS TO SUCCESS:

Roles and responsibilities

- o Agency/jurisdiction determines in advance the role of the local incident command system (ICS) in the response to an outbreak.
- o Agency/jurisdiction has procedures for working with other agencies and organizations during an outbreak response. Procedures are written and easily accessible by staff.
- o Staff understand the likely roles/responsibilities of key agencies and organizations during an outbreak response, the resources they have available, and the contributions they can make to an outbreak response.
- o Agency/jurisdiction cross-trains with other key agencies and organizations to better understand their roles and responsibilities during an outbreak response.

Communication

- o Staff know how to contact key local, state, and federal agencies likely to be involved in foodborne outbreak response.
- o Agency/jurisdiction has procedures for communication between members of the outbreak response team and their agencies and with other agencies and organizations involved in foodborne outbreak response.
- o Staff undertake routine communication with key agencies and organizations before an outbreak occurs.

Multijurisdictional outbreaks

- o Staff readily recognize signs suggestive of a multijurisdictional foodborne disease outbreak.
- o Staff rapidly notify agencies that might need to participate in a multijurisdictional outbreak response or be affected by the event.

Making changes

- o Agency/jurisdiction conducts a debriefing among investigators following each outbreak response and refines outbreak response planning based on lessons learned.
- o Agency/jurisdiction has performance indicators related to relationships with relevant agencies and organizations and routinely evaluates its performance in this Focus Area.

HIGH PRIORITY
TO WORK ON

PLANNING AND PREPARATION (cont'd)

☐

FOCUS AREA 2: Necessary resources

Agency/jurisdiction has ready access to personnel, supplies, equipment, documents, and references necessary to initiate a rapid and effective outbreak response.

KEYS TO SUCCESS:

Outbreak response team

- o Agency/jurisdiction has access to staff with knowledge and experience in epidemiology, environmental health, laboratory science, health education, and communications to help in the response to an outbreak.
- o Agency/jurisdiction has a designated outbreak response team with expertise in epidemiology, environmental health, and laboratory science.
- o Outbreak response team members have been trained in the agency's/jurisdiction's outbreak response protocols and their individual and combined roles.
- o Staff have access to and familiarity with standard documents used in an outbreak response including reporting forms, questionnaires, and disease-specific information sheets.

Surge capacity

- o Available resources allow agency/jurisdiction to continue other necessary (core) functions during an outbreak response.
- o Agency/jurisdiction anticipates gaps in resources and identifies sources to fill those gaps before an outbreak occurs (e.g., obtaining epidemiologic support from the state public health agency, identification of outside laboratories to provide support in large outbreaks).

Making changes

- o Agency/jurisdiction conducts a debriefing among investigators following each outbreak response and refines outbreak response planning based on lessons learned.
- o Agency/jurisdiction has performance indicators related to the resources necessary for successful outbreak response and routinely evaluates its performance in this Focus Area.

HIGH PRIORITY
TO WORK ON

PLANNING AND PREPARATION (cont'd)

☐

FOCUS AREA 3: Communication

Agency/jurisdiction lays groundwork for good communication with key individuals, both internal and external to the agency, before an outbreak occurs.

KEYS TO SUCCESS:

Contact lists

- o Agency/jurisdiction identifies key individuals and organizations related to outbreak response before an outbreak occurs including members of the outbreak response team, officials inside the agency, contacts at external agencies (i.e., other local, state, and federal agencies), and the media.
- o Agency/jurisdiction establishes and frequently updates contact lists for key individuals and organizations.

Communication practices

- o Agency/jurisdiction has procedures for communicating with key individuals and organizations. Procedures are written and easily accessible by staff.
- o Agency/jurisdiction has staff trained in communicating with the media and risk communication.
- o Agency/jurisdiction identifies a person(s) responsible for external communication on behalf of the agency/jurisdiction during each outbreak response.

Making changes

- o Agency/jurisdiction conducts a debriefing among investigators following each outbreak response and refines outbreak response planning based on lessons learned.
- o Agency/jurisdiction has performance indicators related to communication and routinely evaluates its performance in this Focus Area.

HIGH PRIORITY
TO WORK ON

SURVEILLANCE AND OUTBREAK DETECTION

☐

FOCUS AREA 4: Complaint systems

Agency/ jurisdiction receives and processes individual reports of possible foodborne illness(es) from the public in a way that allows timely follow-up of possible food safety problems and the detection of clusters.

KEYS TO SUCCESS:

Soliciting and receiving reports

- o Agency/jurisdiction has an established process for receiving reports about possible foodborne illness(es) from the public.
- o Public knows how to report possible foodborne illnesses to the agency/jurisdiction.
- o Agency/jurisdiction solicits reports of possible foodborne illness from other agencies and organizations likely to receive these reports (e.g., poison control center, industry) inside and outside the jurisdiction.
- o Agency/jurisdiction works with the local media to solicit reports of possible foodborne illness from the public.

Detection of clusters/outbreaks

- o Staff collect specified pieces of information about each foodborne illness report and record the information in an electronic data system.
- o Staff regularly review reports of foodborne illness to identify cases with common characteristics or suspicious exposures that might represent a common source outbreak.

Responding to complaints

- o Staff triage and respond to complaints in a manner consistent with the likely resulting public health intervention (e.g., investigate reports of group illnesses more aggressively than isolated illnesses).

Making changes

- o Agency/jurisdiction has performance indicators related to complaint systems and routinely evaluates its performance in this Focus Area.

HIGH PRIORITY
TO WORK ON

SURVEILLANCE AND OUTBREAK DETECTION (cont'd)

☐

FOCUS AREA 5: Pathogen-specific surveillance

Agency/jurisdiction receives reports from health-care providers and laboratories on all cases of disease when certain foodborne pathogens are identified and obtains case information in a way that allows timely follow-up of patients and quick detection and investigation of possible outbreaks.

KEYS TO SUCCESS:

Reporting/submission of isolates

- State has mandatory reporting of diseases that are likely to have been foodborne, as well as mandatory submission of pathogen isolates or clinical specimens associated with these disease cases.
- Staff actively solicit case reports and submission of specimens/isolates to improve completeness of reporting.
- Agency/jurisdiction has a system to rapidly transport specimens/isolates from clinical laboratories to the public health laboratory.

Testing of specimens

- Public health laboratory has the capacity to quickly process and test specimens/isolates submitted by clinical laboratories, including pathogen confirmation and subtyping.

Collection of exposure information

- Staff collect sufficient demographic and exposure information from patients to recognize possible patterns and associations between cases in a timely fashion.

Detection of clusters/outbreaks

- Staff analyze case information (e.g., demographics, exposure information, subtyping results) to rapidly identify possible clusters or outbreaks.

Communication

- Public health laboratory shares test results with epidemiology staff in a timely fashion.
- Public health laboratory reports test results to national databases in a timely fashion.

Making changes

- Agency/jurisdiction has performance indicators related to pathogen-specific surveillance and routinely evaluates its performance in this Focus Area.

HIGH PRIORITY
TO WORK ON

INVESTIGATION OF CLUSTERS AND OUTBREAKS

☐

FOCUS AREA 6: Initial steps

Agency determines the likely occurrence of a foodborne outbreak based on case reports and characterizes the nature of the outbreak so that necessary resources can be mobilized and appropriate actions can be initiated.

KEYS TO SUCCESS:

Initial steps

- Agency/jurisdiction has processes for the response to a possible outbreak including who is to be notified and/or involved in the investigation and specific actions. Processes are written and easily accessible by staff.
- Agency/jurisdiction has established criteria for determining the scale of the response to a possible foodborne outbreak based on the likely pathogen, number of cases, distribution of cases, hypothesized source, and agencies likely to be involved.
- Staff can prioritize the response to a possible outbreak based on agency/jurisdiction criteria and know what outbreak circumstances require an immediate response, a more moderate response, or no response at all.
- Staff have access to historical trends or other data to determine whether case counts exceed the expected number for a particular period and population.
- Staff develop hypotheses about the source of an outbreak early in the investigation to guide investigation steps.

Requests for assistance

- Local agencies notify state agencies as soon as an outbreak is suspected.
- Agency/jurisdiction asks for help as soon as the need is recognized.

Making changes

- Agency/jurisdiction conducts a debriefing among investigators following each outbreak response and refines outbreak response protocols based on lessons learned.
- Agency/jurisdiction has performance indicators related to the initial steps of an outbreak investigation and routinely evaluates its performance in this Focus Area.

HIGH PRIORITY
TO WORK ON

INVESTIGATION OF CLUSTERS AND OUTBREAKS (cont'd)

☐

FOCUS AREA 7: Epidemiologic investigation

During an outbreak investigation, agency/jurisdiction staff collect, analyze, and interpret exposure (and other) information from cases (and comparison groups, where appropriate) to determine the etiologic agent, persons at risk, mode of transmission, and the vehicle of the outbreak.

KEYS TO SUCCESS:

Staff skills and expertise

- o Staff have good interviewing skills and can collect complete and accurate exposure information from cases and controls, where appropriate (or have access to staff in other agencies with this expertise).
- o Staff have expertise in epidemiologic study design (or have access to staff in other agencies with this expertise).

Outbreak investigation

- o Agency/jurisdiction has a written protocol outlining the steps in the epidemiologic investigation of a foodborne disease outbreak. Staff have easy access to the protocol and have been trained in its implementation.
- o Staff interview cases about exposures as soon as possible after the case is reported.
- o Staff have access to standard epidemiologic questionnaires used by other investigators in similar outbreaks.

Communication

- o Staff communicate in a timely fashion and coordinate activities with environmental health and laboratory staff during the investigation.

Making changes

- o Agency/jurisdiction conducts a debriefing among investigators following each outbreak response and refines outbreak response protocols based on lessons learned.
- o Agency/jurisdiction has performance indicators related to the epidemiologic investigation and routinely evaluates its performance in this Focus Area.

HIGH PRIORITY
TO WORK ON

INVESTIGATION OF CLUSTERS AND OUTBREAKS (cont'd)

☐

FOCUS AREA 8: Environmental health investigation

Agency/jurisdiction staff collect, analyze, and interpret information from the implicated facility or production site to determine the etiologic agent, mode of transmission and vehicle, source of contamination, contributing factors, environmental antecedents, and food supply chain.

KEYS TO SUCCESS:

Staff skills and expertise

- o Staff have expertise in food production processes, HACCP, and environmental health assessments.
- o Staff have expertise in traceback and traceforward investigations (or have access to staff in other agencies with this expertise).
- o Staff have good interviewing skills to solicit information from facility managers and food workers.

Outbreak investigation

- o Agency/jurisdiction has a written protocol outlining the steps in the environmental health investigation of a foodborne disease outbreak. Staff have easy access to the protocol and are trained in its implementation.
- o Staff undertake environmental health assessments at facilities or production sites implicated during a foodborne outbreak (not routine food establishment licensing inspections) and identify appropriate contributing factors and environmental antecedents.
- o Staff undertake traceback and traceforward investigations (or have access to staff in other agencies that undertake these investigations).

Communication

- o Staff communicate in a timely fashion and coordinate activities with epidemiology and laboratory staff.

Making changes

- o Agency/jurisdiction conducts a debriefing among investigators following each outbreak response and refines outbreak response protocols based on lessons learned.
- o Agency/jurisdiction has performance indicators related to the environmental health investigation and routinely evaluates its performance in this Focus Area.

HIGH PRIORITY
TO WORK ON

INVESTIGATION OF CLUSTERS AND OUTBREAKS (cont'd)

☐

FOCUS AREA 9: Laboratory investigation

Agency/jurisdiction staff provide guidance on collection, storage, and shipment of patient specimens and food/environmental samples. Agency/jurisdiction staff test patient specimens and suspect vehicles to identify the etiologic agent, mode of transmission, and vehicle in an outbreak and explore the ability of the agent to survive and grow in the implicated vehicle and how the vehicle might have become contaminated.

KEYS TO SUCCESS:

Staff skills and expertise

- Staff have expertise in appropriate laboratory testing methodologies and access to necessary equipment, reagents, and supplies to perform testing.

Specimen collection and testing

- In collaboration with laboratory staff, epidemiology and environmental health staff collect appropriate clinical specimens and food and environmental samples and store and transport them properly.
- Staff link patient and clinical specimen information.
- Staff isolate etiologic agent (if necessary) and characterize isolates (e.g., subtyping) in a timely fashion.
- Staff use standardized (currently approved) methods to analyze specimens/samples and subtype isolates.

Communication

- Staff communicate in a timely fashion and coordinate activities with epidemiology and environmental health staff.
- Staff report results of laboratory tests to epidemiologic and environmental health investigators, regulatory personnel (if applicable), and appropriate national databases in a timely fashion.

Making changes

- Agency/jurisdiction conducts a debriefing among investigators following each outbreak response and refines outbreak response protocols based on lessons learned.
- Agency/jurisdiction has performance indicators related to the laboratory investigation and routinely evaluates its performance in this Focus Area.

HIGH PRIORITY
TO WORK ON

CONTROL MEASURES

☐

FOCUS AREA 10: Control of source and secondary spread[1]

Agency/jurisdiction works with the facility or production site implicated in an outbreak to ensure that actions are taken to quickly stop exposure to contaminated food and prevent similar food safety problems in the future. Agency/jurisdiction also works with health-care providers, the public, and managers in settings where transmission of disease easily could occur (e.g., food establishments, health-care institutions, and child-care settings) to prevent secondary spread of disease from persons infected from the original source of the outbreak.

KEYS TO SUCCESS:

Control measures

- o Agency/jurisdiction works with the facility or production site, appropriate regulatory agency, and industry representatives in determining the desired control measures.
- o Agency/jurisdiction has legal authority to require the desired control measures.
- o Staff consider a variety of control measures to address the food safety problem (e.g., removing the vehicle from consumption, cleaning the environment, educating food workers, modifying food preparation, excluding ill staff).
- o Staff work with the implicated facility to implement control measures as soon as sufficient information is available to do so.
- o Agency/jurisdiction works with settings in which transmission easily can occur to prevent secondary spread.

Communication

- o Outbreak response team members share information from the outbreak response with each other in a timely fashion.
- o Staff effectively communicate necessary control measures to the facility manager, facility workers, and others involved in the implementation of control measures and provide education, as needed.
- o Agency/jurisdiction has staff trained in communicating with the media and risk communication.
- o Agency/jurisdiction has means to alert health-care providers about the outbreak and provide specific information about treatment and infection control.
- o Agency/jurisdiction has ongoing communication with the public.
- o Agency/jurisdiction has pre-existing relationships with the media to ensure rapid and accurate communication of information to the public.

Monitoring

- o Staff monitor the implementation of control measures at the implicated facility and the effectiveness of those control measures.
- o Staff monitor the population at risk to ensure that the outbreak has ended and the source has been eliminated

Making changes

- o Agency/jurisdiction conducts a debriefing among investigators following each outbreak response and refines outbreak response protocols based on lessons learned.
- o Agency/jurisdiction has performance indicators related to control of the source at the implicated facility and routinely evaluates its performance in this Focus Area.

[1]In the 2011 version of the CIFOR Toolkit (companion to the 2009 CIFOR *Guidelines*), this Focus Area was split into two Focus Areas (Focus Area 10: Control of Source and Focus Area 12: Control of Secondary Spread).

HIGH PRIORITY
TO WORK ON

CONTROL MEASURES (cont'd)

☐

FOCUS AREA 11: Food recall

Agency/jurisdiction ensures that the food implicated in an outbreak is removed from the market, retail establishments, and the homes of consumers as quickly as possible.

KEYS TO SUCCESS:

- o Agency/jurisdiction collaborates with state and federal agencies as well as the implicated facility or production site in the recall.
- o Agency/jurisdiction proactively embargoes or seizes the implicated food product while awaiting official recall.
- o Agency/jurisdiction has means to quickly notify retail establishments and other sites (e.g., food banks) under its jurisdiction about the recall.
- o Agency/jurisdiction has means to quickly notify the public about a recall.
- o Agency/jurisdiction monitors the effectiveness of the recall at all appropriate establishments.

Making changes

- o Agency/jurisdiction conducts a debriefing among investigators following each outbreak response and refines outbreak response protocols based on lessons learned.
- o Agency/jurisdiction has performance indicators related to food recall and routinely evaluates its performance in this Focus Area.

DATE WORKSHEET COMPLETED: _____

After you complete this worksheet, you will assess each high priority Focus Area individually using the Focus Area-specific worksheets provided. For ideas on the completion of the Focus Area worksheets, see the document entitled "Sample Focus Area Worksheet" (Document G).

Focus Area 1-11 Worksheets

Focus Area 1 Worksheet: Relationships with Relevant Agencies and Organizations

CIFOR
Council to Improve Foodborne Outbreak Response
Detect • Investigate • Control • Prevent

FOCUS AREA 1: RELATIONSHIPS WITH RELEVANT AGENCIES AND ORGANIZATIONS

Complete this worksheet if "Relationships with Relevant Agencies and Organizations" is a high priority Focus Area for efforts to improve foodborne disease outbreak response in your agency/jurisdiction. (NOTE: The term "agency/jurisdiction" refers to the entity for which your workgroup is making decisions. See your completed "Document D: Preliminaries" worksheet for a definition.)

List the individuals participating in the discussion of this Focus Area (and their affiliations).

To help you understand what is included in this Focus Area, review the following goals and keys to success.

GOALS FOR RELATIONSHIPS WITH RELEVANT AGENCIES AND ORGANIZATIONS:

Agency/jurisdiction can swiftly launch an outbreak response that is coordinated with all relevant agencies, minimizing confusion and redundant efforts and taking advantage of all available resources.

KEYS TO SUCCESS FOR RELATIONSHIPS WITH RELEVANT AGENCIES AND ORGANIZATIONS:

"Keys to success" are activities, relationships, and resources that are critical to achieving success in a Focus Area. Determining whether an agency/jurisdiction has a particular key to success in place is somewhat subjective. Metrics, such as measures of time (e.g., rapidly, timely, and quickly), have not been defined. Your workgroup should provide its own definitions for these terms, as is appropriate for your agency/jurisdiction, and use its best judgment in deciding whether a particular key to success is fully or partially in place.

Roles and responsibilities

- ○ Agency/jurisdiction determines in advance the role of the local incident command system in outbreak response.
- ○ Agency/jurisdiction has procedures for working with other agencies and organizations during an outbreak response. Procedures are written and easily accessible by staff.
- ○ Staff understand the likely roles/responsibilities of key agencies and organizations during an outbreak response, the resources they have available, and the contributions they can make to an outbreak response.
- ○ Agency/jurisdiction cross-trains with other key agencies and organizations to better understand their roles and responsibilities during an outbreak response.

Communication

- ○ Staff know how to contact key local, state, and federal agencies likely to be involved in outbreak response.
- ○ Agency/jurisdiction has procedures for communication between members of the outbreak response team and their agencies and with other agencies and organizations involved in foodborne outbreak response.
- ○ Staff undertake routine communication with key agencies and organizations before an outbreak occurs.

Multijurisdictional outbreaks

- ○ Staff readily recognize signs suggestive of a multijurisdictional foodborne disease outbreak.
- ○ Staff rapidly notify agencies that might need to participate in a multijurisdictional outbreak response or be affected by the event.

Making changes

- ○ Agency/jurisdiction conducts a debriefing among investigators following each outbreak response and refines outbreak response planning based on lessons learned.
- ○ Agency/jurisdiction has performance indicators related to relationships with relevant agencies and organizations and routinely evaluates its performance in this Focus Area.

1. DESCRIBE YOUR CURRENT ACTIVITIES AND PROCEDURES IN THIS FOCUS AREA.

Considering the keys to success on the previous page, describe your agency's/jurisdiction's current activities and procedures in this Focus Area. Refer to written protocols, if available, and materials related to ongoing efforts in capacity development or quality improvement (e.g., FDA Retail and Manufactured Food Regulatory Program Standards). As you list current activities and procedures related to this Focus Area, indicate those which could be changed to improve your agency's/jurisdiction's response to foodborne disease outbreaks.

Activity/Procedure	Needs Improvement? ✓
	☐
	☐
	☐
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	☐
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	☐
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	☐

2. PRIORITIZE CIFOR RECOMMENDATIONS TO ADDRESS NEEDED IMPROVEMENTS.

Having identified activities and procedures in need of improvement, review the CIFOR recommendations related to this Focus Area (listed below). Rate the priority for implementing each recommendation based on its likely impact on foodborne outbreak response at your agency/jurisdiction and available resources. Use a scale of 1 to 5 to rate each recommendation (1=Low priority for implementation and 5=High priority for implementation). If a recommendation is already in place in your agency/jurisdiction, check the appropriate box. If a recommendation is not relevant to your agency/jurisdiction, select N/A. **Refer to the blue underlined section number following each recommendation to view the recommendation as it appears in the CIFOR *Guidelines*.**

	Already in place	Priority for Implementation or Improvement in Your Agency/Jurisdiction LOW HIGH
Roles and responsibilities		
Decide in advance whether and how to apply the incident command system (ICS) in the response to a foodborne disease outbreak and incorporate the ICS structure into response planning. (3.10.3)	☐	1 2 3 4 5 N/A
If the decision is made to routinely apply an ICS structure to foodborne disease outbreak response, coordinate planning with other agencies that may be drawn into the investigation and response. (3.10.3)	☐	1 2 3 4 5 N/A
Prepare an outbreak response protocol. Include the agency's role in a response, whether to apply the ICS structure, staff that may be involved (e.g., the outbreak response team), contact information for relevant agencies, communication processes with those agencies, and escalation procedures for involving other agencies. The protocol should be written and easily accessible to staff. (3.2.3.3) (3.1.1)	☐	1 2 3 4 5 N/A
Ensure that the agency has the legal authority to conduct all functions included in its outbreak response protocol (e.g., investigation, data sharing, enforcement, and regulation). (3.8)	☐	1 2 3 4 5 N/A
Ensure that staff know the roles and responsibilities of other local, state, and federal agencies in outbreak response and factors that influence which agencies need to be involved in particular outbreak investigations. (3.1.1)	☐	1 2 3 4 5 N/A
Ensure that staff understand jurisdictional issues with agencies within or adjacent to their jurisdiction that have some level of autonomy and operate their own public health programs (e.g., tribes, the military, and the National Park Service). (3.1.3)	☐	1 2 3 4 5 N/A
Establish relationships with these agencies before any outbreaks. (3.1.3)	☐	1 2 3 4 5 N/A
Consider the development of memoranda of understanding with tribal organizations within or adjacent to the jurisdiction to establish lines of communication and reciprocal support during public health emergencies before an emergency occurs. (3.1.3.1)	☐	1 2 3 4 5 N/A
Establish relationships and communication pathways with law enforcement agencies before any outbreak. (3.1.3.5)	☐	1 2 3 4 5 N/A

Roles and responsibilities (cont'd)	Already in place	Priority for Implementation or Improvement in Your Agency/Jurisdiction LOW HIGH
Establish relationships with academic centers that might provide technical assistance or services during foodborne disease investigations and clarify expectations for their role in outbreak response before any outbreak. (3.1.5)	☐	1 2 3 4 5 N/A
Determine the composition of the foodborne disease outbreak response team and pre-assign specific tasks before any outbreaks. (3.2.1)	☐	1 2 3 4 5 N/A
Train individual members of the outbreak response team in the agency's outbreak response protocol and the member's team role. Training should be provided for additional tasks outside of a team member's regular role that they might be required to perform. (3.2.3.4)	☐	1 2 3 4 5 N/A
Regardless of whether an agency elects to apply the ICS structure to its foodborne disease outbreak response, provide ICS training to the outbreak response team using foodborne disease outbreak examples so that all team members clearly understand how to use the ICS structure in an outbreak situation. (3.10.4)	☐	1 2 3 4 5 N/A
Exercise the outbreak response team together to ensure that each member understands and can perform his or her role according to agency-specific protocols and legal authorities and understands the roles and responsibilities of other team members. (3.2.3.3) (3.2.3.4)	☐	1 2 3 4 5 N/A
Additional ideas:		

Communication		
Decide on the basis of roles who (both in and outside the agency) will be notified when an outbreak is suspected, including any changes in notification according to the nature of the outbreak (e.g., pathogen type, involvement of commercial product) and timing (weekends and holidays versus week days). (3.2.3.3) (3.6.2.2)	☐	1 2 3 4 5 N/A
Prepare contact information (including after-hours contact information) for people in and outside the agency (e.g., other local, state, and federal agencies; important food industry contacts; key health-care providers; primary media contacts) who might be notified in the event of an outbreak. (3.2.3.3) (3.6.2.1)	☐	1 2 3 4 5 N/A
Ensure that the contact list is updated at least twice yearly and, when feasible, made available to all stakeholders in both electronic and hard copy formats. (3.6.2.1)	☐	1 2 3 4 5 N/A
Distribute a list of your agency's contacts to other agencies. Provide contact list in electronic and hard copy formats. (3.6.2.3)	☐	1 2 3 4 5 N/A

	Already in place	Priority for Implementation or Improvement in Your Agency/Jurisdiction
Communication (cont'd)		LOW HIGH
Ensure that members of the outbreak response team know each other before an outbreak occurs. (3.6.2.2)	☐	1 2 3 4 5 N/A
Establish routine communication among outbreak response team members before an outbreak occurs. (3.6.2.2)	☐	1 2 3 4 5 N/A
Develop a formal communication process for agencies of the outbreak response team for use during outbreaks. (3.6.2.2)	☐	1 2 3 4 5 N/A
Determine whether confidential information can be shared with agencies of the outbreak response team and other authorities. (3.6.2.2) (3.6.2.3) (7.3)	☐	1 2 3 4 5 N/A
Develop procedures for sharing information with other agencies (e.g., other local, state, or federal agencies) during an outbreak, including notification triggers, timelines, and who will be responsible for notifying those agencies. (3.6.2.3) (7.3)	☐	1 2 3 4 5 N/A
Foster working relationships with other agencies that might be involved in the response to a foodborne outbreak, holding joint meetings and planning sessions before any outbreaks occur. (3.6.2.3)	☐	1 2 3 4 5 N/A
Additional ideas:		
Multijurisdictional outbreaks		
Establish a framework for rapidly assessing whether a given foodborne disease outbreak or other event affects multiple jurisdictions. (Table 7.3)	☐	1 2 3 4 5 N/A
Put mutual aid agreements or memoranda of agreement in place to facilitate outbreak investigation and response across jurisdictions. (9.0.2)	☐	1 2 3 4 5 N/A
Establish protocols to allow rapid and open information sharing between public health and food-regulatory agencies. Public health officials should ensure that their agencies have the legal authorities needed to share information and that their professional staff understand those authorities. (7.3)	☐	1 2 3 4 5 N/A
Establish processes for participating in multiagency, multijurisdictional conference calls, and train staff in appropriate conference call etiquette. (3.6.2.3)	☐	1 2 3 4 5 N/A
Conduct regional training with staff from multiple agencies, including table-top exercises, to improve multijurisdictional response. (3.2.3.4)	☐	1 2 3 4 5 N/A

	Already in place	Priority for Implementation or Improvement in Your Agency/Jurisdiction
Multijurisdictional outbreaks (cont'd)		LOW HIGH
After recognizing a possible multijurisdictional outbreak, immediately notify agencies that might need to participate in the investigation or might be affected by the outbreak. (7.2) (Table 7.3)	☐	1 2 3 4 5 N/A
During a multijurisdictional outbreak, designate a coordinating office to collect, organize, and disseminate collective data from the investigation. The coordinating office must have sufficient resources, expertise, and legal authority to collect, organize, and disseminate data from the investigation. (7.3)	☐	1 2 3 4 5 N/A
If possible, coordinate the investigation at the level at which the outbreak originally was detected and investigated (i.e., where most of the relevant investigation materials will reside). (7.3)	☐	1 2 3 4 5 N/A
Shift leadership in an outbreak response to reflect the focus of the investigation at the time. Plan the shift of leadership in advance and communicate the plan to the entire outbreak response team. (7.3)	☐	1 2 3 4 5 N/A
Coordinate the investigation of human illness outbreaks within public health agencies. (7.3)	☐	1 2 3 4 5 N/A
Coordinate the investigation of food contamination events within food-regulatory agencies. (7.3)	☐	1 2 3 4 5 N/A
Coordinate the release of information about an outbreak response with the lead agency to provide a consistent message about the progress of the investigation or the source of the outbreak. (7.3)	☐	1 2 3 4 5 N/A
When an incident involves an agricultural commodity and the bulk of the commodity is produced in a limited number of states, notify those state agricultural agencies of the outbreak and its progress. (7.3)	☐	1 2 3 4 5 N/A

Additional ideas:

Making changes

After each outbreak, conduct a debriefing (after action meeting) with all collaborating agencies, summarizing the effectiveness of communication and coordination among jurisdictions and identifying gaps or problems that arose during the investigation. Refine the agency's outbreak response protocol and relationships with other agencies based on these discussions. (6.7) (3.2.3.4) (5.2.8)	☐	1 2 3 4 5 N/A

Additional ideas:

3. MAKE PLANS TO IMPLEMENT SELECTED CIFOR RECOMMENDATIONS.

For each CIFOR recommendation selected in the previous step (or idea formulated by the workgroup), identify who will take the lead in implementing the recommendation and the timeframe for implementation (e.g., a specific completion date or whether the change is likely to require short, mid- or long-term efforts). If certain actions must precede others, make a note of this and adjust the timeframe. In addition, consider factors that could positively or negatively influence implementation of the recommendation and ways to incorporate the recommendation into your agency's/jurisdiction's standard operating procedures.

One person should be given responsibility for monitoring progress in implementing the above CIFOR recommendations. Follow-up should occur at specified checkpoints (e.g., 3, 6, 9, and 12 months after the start of the Toolkit process) and results should be shared with the entire workgroup.

CIFOR recommendations or other ideas from previous step	Lead person	Timeframe for implementation	Notes (e.g., necessary antecedents, factors that might influence implementation, ways to incorporate the recommendation into standard operating procedures)

DATE WORKSHEET COMPLETED: _____

NEXT DATE FOR FOLLOW-UP ON PROGRESS: _____

FOCUS AREA 1: RELATIONSHIPS WITH RELEVANT AGENCIES AND ORGANIZATIONS

Complete this worksheet if "Relationships with Relevant Agencies and Organizations" is a high priority Focus Area for efforts to improve foodborne disease outbreak response in your agency/jurisdiction. (NOTE: The term "agency/jurisdiction" refers to the entity for which your workgroup is making decisions. See your completed "Document D: Preliminaries" worksheet for a definition.)

List the individuals participating in the discussion of this Focus Area (and their affiliations).

To help you understand what is included in this Focus Area, review the following goals and keys to success.

GOALS FOR RELATIONSHIPS WITH RELEVANT AGENCIES AND ORGANIZATIONS:

Agency/jurisdiction can swiftly launch an outbreak response that is coordinated with all relevant agencies, minimizing confusion and redundant efforts and taking advantage of all available resources.

KEYS TO SUCCESS FOR RELATIONSHIPS WITH RELEVANT AGENCIES AND ORGANIZATIONS:

"Keys to success" are activities, relationships, and resources that are critical to achieving success in a Focus Area. Determining whether an agency/jurisdiction has a particular key to success in place is somewhat subjective. Metrics, such as measures of time (e.g., rapidly, timely, and quickly), have not been defined. Your workgroup should provide its own definitions for these terms, as is appropriate for your agency/jurisdiction, and use its best judgment in deciding whether a particular key to success is fully or partially in place.

Roles and responsibilities

- ○ Agency/jurisdiction determines in advance the role of the local incident command system in outbreak response.
- ○ Agency/jurisdiction has procedures for working with other agencies and organizations during an outbreak response. Procedures are written and easily accessible by staff.
- ○ Staff understand the likely roles/responsibilities of key agencies and organizations during an outbreak response, the resources they have available, and the contributions they can make to an outbreak response.
- ○ Agency/jurisdiction cross-trains with other key agencies and organizations to better understand their roles and responsibilities during an outbreak response.

Communication

- ○ Staff know how to contact key local, state, and federal agencies likely to be involved in outbreak response.
- ○ Agency/jurisdiction has procedures for communication between members of the outbreak response team and their agencies and with other agencies and organizations involved in foodborne outbreak response.
- ○ Staff undertake routine communication with key agencies and organizations before an outbreak occurs.

Multijurisdictional outbreaks

- ○ Staff readily recognize signs suggestive of a multijurisdictional foodborne disease outbreak.
- ○ Staff rapidly notify agencies that might need to participate in a multijurisdictional outbreak response or be affected by the event.

Making changes

- ○ Agency/jurisdiction conducts a debriefing among investigators following each outbreak response and refines outbreak response planning based on lessons learned.
- ○ Agency/jurisdiction has performance indicators related to relationships with relevant agencies and organizations and routinely evaluates its performance in this Focus Area.

1. DESCRIBE YOUR CURRENT ACTIVITIES AND PROCEDURES IN THIS FOCUS AREA.

Considering the keys to success on the previous page, describe your agency's/jurisdiction's current activities and procedures in this Focus Area. Refer to written protocols, if available, and materials related to ongoing efforts in capacity development or quality improvement (e.g., FDA Retail and Manufactured Food Regulatory Program Standards). As you list current activities and procedures related to this Focus Area, indicate those which could be changed to improve your agency's/jurisdiction's response to foodborne disease outbreaks.

Activity/Procedure	Needs Improvement? ✓
	☐
	☐
	☐
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Focus Area 2 Worksheet: Necessary Resources

CIFOR Council to Improve Foodborne Outbreak Response

Detect • Investigate • Control • Prevent

FOCUS AREA 2: NECESSARY RESOURCES

Complete this worksheet if "Necessary Resources" is a high priority Focus Area for efforts to improve foodborne disease outbreak response in your agency/jurisdiction. (NOTE: The term "agency/jurisdiction" refers to the entity for which your workgroup is making decisions. See your completed "Document D: Preliminaries" worksheet for a definition.)

List the individuals participating in the discussion of this Focus Area (and their affiliations).

To help you understand what is included in this Focus Area, review the following goals and keys to success.

GOALS FOR NECESSARY RESOURCES:

Agency/jurisdiction has ready access to personnel, supplies, equipment, documents, and references necessary to initiate a rapid and effective outbreak response.

KEYS TO SUCCESS FOR NECESSARY RESOURCES:

"Keys to success" are activities, relationships, and resources that are critical to achieving success in a Focus Area. Determining whether an agency/jurisdiction has a particular key to success in place is somewhat subjective. Metrics, such as measures of time (e.g., rapidly, timely, and quickly), have not been defined. Your workgroup should provide its own definitions for these terms, as is appropriate for your agency/jurisdiction, and use its best judgment in deciding whether a particular key to success is fully or partially in place.

Outbreak response team

- ○ Agency/jurisdiction has access to staff with knowledge and experience in epidemiology, environmental health, laboratory science, health education, and communications to help in the response to an outbreak.
- ○ Agency/jurisdiction has a designated outbreak response team with expertise in epidemiology, environmental health, and laboratory science.
- ○ Outbreak response team members have been trained in the agency's/jurisdiction's outbreak response protocols and their individual and combined roles.
- ○ Staff have access to and familiarity with standard documents used in an outbreak response including reporting forms, questionnaires, and disease-specific information sheets.

Surge capacity

- ○ Available resources allow agency/jurisdiction to continue other necessary (core) functions during an outbreak response.
- ○ Agency/jurisdiction anticipates gaps in resources and identifies sources to fill those gaps before an outbreak occurs (e.g., obtaining epidemiologic support from the state public health agency, identification of outside laboratories to provide support in large outbreaks).

Making changes

- ○ Agency/jurisdiction conducts a debriefing among investigators following each outbreak response and refines outbreak response planning based on lessons learned.
- ○ Agency/jurisdiction has performance indicators related to the resources necessary for successful outbreak response and routinely evaluates its performance in this Focus Area.

1. DESCRIBE YOUR CURRENT ACTIVITIES AND PROCEDURES IN THIS FOCUS AREA.

Considering the keys to success on the previous page, describe your agency's/jurisdiction's current activities and procedures in this Focus Area. Refer to written protocols, if available, and materials related to ongoing efforts in capacity development or quality improvement (e.g., FDA Retail and Manufactured Food Regulatory Program Standards). As you list current activities and procedures related to this Focus Area, indicate those which could be changed to improve your agency's/jurisdiction's response to foodborne disease outbreaks.

Activity/Procedure	Needs Improvement? ✓
	☐
	☐
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2. PRIORITIZE CIFOR RECOMMENDATIONS TO ADDRESS NEEDED IMPROVEMENTS.

Having identified activities and procedures in need of improvement, review the CIFOR recommendations related to this Focus Area (listed below). Rate the priority for implementing each recommendation based on its likely impact on foodborne outbreak response at your agency/jurisdiction and available resources. Use a scale of 1 to 5 to rate each recommendation (1=Low priority for implementation and 5=High priority for implementation). If a recommendation is already in place in your agency/jurisdiction, check the appropriate box. If a recommendation is not relevant to your agency/jurisdiction, select N/A. **Refer to the blue underlined section number following each recommendation to view the recommendation as it appears in the CIFOR Guidelines**.

	Already in place	Priority for Implementation or Improvement in Your Agency/Jurisdiction
Outbreak response team		LOW HIGH
Determine the composition of the outbreak response team before an outbreak occurs. (3.2.1)	☐	1 2 3 4 5 N/A
Use teams that include expertise in epidemiology, environmental health, laboratory science, and risk communication to respond to outbreaks. Members may come from different programs within an agency or different agencies. (3.2.2)	☐	1 2 3 4 5 N/A
Establish a dedicated emergency response unit, if the population is large enough to justify the effort. (3.2.3.1)	☐	1 2 3 4 5 N/A
Designate a team leader to help set and enforce investigation priorities, coordinate activities associated with the investigation, and communicate with agency decision makers and other agencies and organizations. (3.2.2.1)	☐	1 2 3 4 5 N/A
Recruit additional team members with other areas of expertise depending on the unique characteristics of each outbreak. (3.2.2.6)	☐	1 2 3 4 5 N/A
Ensure that members of the outbreak response team know each other. (3.6.2.2)	☐	1 2 3 4 5 N/A
Ensure that all outbreak response team members have a common understanding that the primary goal for outbreak response is to implement control measures as quickly as possible to prevent illness. (3.2.3.4)	☐	1 2 3 4 5 N/A
Pre-assign specific tasks to team members based on their knowledge and skills before an outbreak occurs. (3.2.1)	☐	1 2 3 4 5 N/A
Ensure that the laws and legal authorities needed to support all relevant surveillance, detection, investigation, and control activities are in place as well as memoranda of agreement and other legal agreements for coordinated implementation of laws across jurisdictions and sectors. (3.8)	☐	1 2 3 4 5 N/A
Ensure that team members (and other professional staff) understand the laws and legal authority needed to conduct an outbreak response and can demonstrate competence in applying those laws and legal authorities. (3.8) (9.0.2)	☐	1 2 3 4 5 N/A

Outbreak response team (cont'd)	Already in place	Priority for Implementation or Improvement in Your Agency/Jurisdiction LOW HIGH
Provide continuing education to members of the outbreak response team so they can maintain and improve their skills within their specialty. (3.2.3.4)	☐	1 2 3 4 5 N/A
Train members of the outbreak response team in the agency's outbreak response protocol and the member's team role. (3.2.3.3)	☐	1 2 3 4 5 N/A
Exercise outbreak response team members together to identify gaps in resources and likely problem areas, and ensure that each team member can perform his or her assigned role in outbreak response and understands the roles and responsibilities of other team members. (3.2.3.4)	☐	1 2 3 4 5 N/A
Conduct regional training with multiple agencies, including table-top exercises. (3.2.3.4)	☐	1 2 3 4 5 N/A
Identify opportunities to collaborate with representatives of the food industry in training exercises, to foster an understanding of what happens during an outbreak investigation and develop communication strategies that can help streamline actual outbreak investigations. (3.2.3.4)	☐	1 2 3 4 5 N/A
Ensure that all team members regularly participate in outbreak investigation and control efforts, even if it means working with another jurisdiction because the team's home jurisdiction does not have many outbreaks. (3.2.3.4)	☐	1 2 3 4 5 N/A
Identify support personnel available to make phone calls, answer incoming calls from concerned members of the public, enter data into a database, copy paperwork, and perform other administrative work to assist the outbreak response team. (3.3.2.1)	☐	1 2 3 4 5 N/A
Have legal counsel available to prepare public health orders, review and recommend revisions in agency procedures and control measures, and address other legal issues. (3.3.2.2) (3.8)	☐	1 2 3 4 5 N/A
Keep appropriate equipment (3.3.2.3) and supplies (3.3.2.4) ready for use by the outbreak response team at any time. Ensure that relevant field investigators have access to these kits and know where they are located. (3.2.3.3)	☐	1 2 3 4 5 N/A
Review supplies regularly (at least twice a year and preferably quarterly) and replace missing or expired materials. (3.3.2.4)	☐	1 2 3 4 5 N/A
Identify standardized outbreak-related forms (e.g., chain-of-custody forms, foodborne illness complaint worksheets, case report forms, laboratory test requisition forms, standard outbreak investigation questionnaires, and environmental health assessment forms) before an outbreak occurs. (3.3.2.5) (3.5.2.1) (5.1.2.5)	☐	1 2 3 4 5 N/A
Train staff in the use of these standard forms to ensure proper completion by all members of the investigation team. (3.5.2.1) (5.1.2.5)	☐	1 2 3 4 5 N/A

	Already in place	Priority for Implementation or Improvement in Your Agency/Jurisdiction
Outbreak response team (cont'd)		LOW HIGH
Determine how and what information from forms can be properly and efficiently shared within the investigation team. (3.5.2.1)	☐	1 2 3 4 5 N/A
Obtain tools to analyze outbreak data (e.g., Epi Info, SAS) before an outbreak occurs. (3.5.2.2)	☐	1 2 3 4 5 N/A
Ensure that staff are trained to use these tools. (3.5.2.2)	☐	1 2 3 4 5 N/A
Ensure that appropriate electronic records management procedures are in place, including routine data backups, off-site redundant storage, and disaster recovery procedures. (3.5.2.2)	☐	1 2 3 4 5 N/A
Determine storage capacity for laboratory samples collected during an outbreak before any outbreaks. (6.2.1.2)	☐	1 2 3 4 5 N/A
Develop written guidance, in collaboration with public health or regulatory laboratorians, on sample collection and management. Guidance should cover samples that have been collected from food prepared for consumption or food that has been partially consumed, as well as samples from food for which regulatory action could readily be taken, such as unopened boxes of suspected food. (6.2.1.2)	☐	1 2 3 4 5 N/A
Assemble a reference library with information about foodborne diseases, enteric illnesses, and control measures. Where possible include electronic resources that can be accessed during field investigations. (3.2.3.3)	☐	1 2 3 4 5 N/A
Assemble a list of resource persons who have expertise in specific disease agents and investigation methodologies. (3.2.3.3)	☐	1 2 3 4 5 N/A
Additional ideas:		
Surge capacity		
Identify individuals who can conduct interviews and provide other support to the outbreak response team during large-scale outbreaks (e.g., university or MPH students, STD investigators). (3.2.3.2)	☐	1 2 3 4 5 N/A
Develop a contact list and protocol for contacting these individuals when needed, including after-hours contact information. (3.2.3.2)	☐	1 2 3 4 5 N/A
Develop job description(s) for these individuals. (3.2.3.2)	☐	1 2 3 4 5 N/A
Develop and provide training for these individuals including on-the-job training and training during outbreak investigations. (3.2.3.2)	☐	1 2 3 4 5 N/A
Periodically involve non-foodborne disease staff in foodborne disease outbreak responses to help them to be better prepared for non-foodborne disease outbreak investigations and to augment foodborne disease response resources when needed. (3.2.3.4)	☐	1 2 3 4 5 N/A

	Already in place	Priority for Implementation or Improvement in Your Agency/Jurisdiction
Surge capacity (cont'd)		LOW HIGH
Develop processes for requesting help from other agencies in the response to an outbreak. (3.9)	☐	1 2 3 4 5 N/A
Ask for help in responding to an outbreak earlier rather than later – when the scale of the outbreak seems likely to overwhelm agency resources; when it is known or suspected to be multijurisdictional or to be associated with a commercially distributed product; or when the nature of the outbreak or response is beyond the experience of agency staff. (3.9.2)	☐	1 2 3 4 5 N/A
Ensure that all key staff know the steps necessary in asking for help. (3.9.3)	☐	1 2 3 4 5 N/A
When asking for help, be prepared to share as much information about the outbreak as possible including the setting of the outbreak, the population at risk, the suspected etiologic agent, the suspected source, and the agencies involved. (3.9.3)	☐	1 2 3 4 5 N/A

Additional ideas:

Making changes

Conduct a debriefing among members of the outbreak response team and other investigators following each outbreak to identify lessons learned. (3.2.3.4)	☐	1 2 3 4 5 N/A
Refine agency outbreak response preparation and planning (e.g., available resources) based on the lessons learned. (3.2.3.4)	☐	1 2 3 4 5 N/A

Additional ideas:

3. MAKE PLANS TO IMPLEMENT SELECTED CIFOR RECOMMENDATIONS.

For each CIFOR recommendation selected in the previous step (or idea formulated by the workgroup), identify who will take the lead in implementing the recommendation and the timeframe for implementation (e.g., a specific completion date or whether the change is likely to require short, mid- or long-term efforts). If certain actions must precede others, make a note of this and adjust the timeframe. In addition, consider factors that could positively or negatively influence implementation of the recommendation and ways to incorporate the recommendation into your agency's/jurisdiction's standard operating procedures.

One person should be given responsibility for monitoring progress in implementing the above CIFOR recommendations. Follow-up should occur at specified checkpoints (e.g., 3, 6, 9, and 12 months after the start of the Toolkit process) and results should be shared with the entire workgroup.

CIFOR recommendations or other ideas from previous step	Lead person	Timeframe for implementation	Notes (e.g., necessary antecedents, factors that might influence implementation, ways to incorporate the recommendation into standard operating procedures)

DATE WORKSHEET COMPLETED: _____

NEXT DATE FOR FOLLOW-UP ON PROGRESS: _____

Focus Area 3 Worksheet: Communication

CIFOR Council to Improve Foodborne Outbreak Response

Detect • Investigate • Control • Prevent

FOCUS AREA 3: COMMUNICATION

Complete this worksheet if "Communication" is a high priority Focus Area for efforts to improve foodborne disease outbreak response in your agency/jurisdiction. (NOTE: The term "agency/jurisdiction" refers to the entity for which your workgroup is making decisions. See your completed "Document D: Preliminaries" worksheet for a definition.)

List the individuals participating in the discussion of this Focus Area (and their affiliations).

To help you understand what is included in this Focus Area, review the following goals and keys to success.

GOALS FOR COMMUNICATION:

Agency/jurisdiction lays groundwork for good communication with key individuals, both internal and external to the agency, before an outbreak occurs.

KEYS TO SUCCESS FOR COMMUNICATION:

"Keys to success" are activities, relationships, and resources that are critical to achieving success in a Focus Area. Determining whether an agency/jurisdiction has a particular key to success in place is somewhat subjective. Metrics, such as measures of time (e.g., rapidly, timely, and quickly), have not been defined. Your workgroup should provide its own definitions for these terms, as is appropriate for your agency/jurisdiction, and use its best judgment in deciding whether a particular key to success is fully or partially in place.

Contact lists

- Agency/jurisdiction identifies key individuals and organizations related to outbreak response before an outbreak occurs including members of the outbreak response team, officials inside the agency, contacts at external agencies (i.e., other local, state, and federal agencies), and the media.
- Agency/jurisdiction establishes and frequently updates contact lists for key individuals and organizations.

Communication practices

- Agency/jurisdiction has procedures for communicating with key individuals and organizations. Procedures are written and easily accessible by staff.
- Agency/jurisdiction has staff trained in communicating with the media and risk communication.
- Agency/jurisdiction identifies a person(s) responsible for external communication on behalf of the agency/jurisdiction during each outbreak response.

Making changes

- Agency/jurisdiction conducts a debriefing among investigators following each outbreak response and refines outbreak response planning based on lessons learned.
- Agency/jurisdiction has performance indicators related to communication and routinely evaluates its performance in this Focus Area.

1. DESCRIBE YOUR CURRENT ACTIVITIES AND PROCEDURES IN THIS FOCUS AREA.

Considering the keys to success on the previous page, describe your agency's/jurisdiction's current activities and procedures in this Focus Area. Refer to written protocols, if available, and materials related to ongoing efforts in capacity development or quality improvement (e.g., FDA Retail and Manufactured Food Regulatory Program Standards). As you list current activities and procedures related to this Focus Area, indicate those which could be changed to improve your agency's/jurisdiction's response to foodborne disease outbreaks.

Activity/Procedure	Needs Improvement? ✓
	☐
	☐
	☐
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2. PRIORITIZE CIFOR RECOMMENDATIONS TO ADDRESS NEEDED IMPROVEMENTS.

Having identified activities and procedures in need of improvement, review the CIFOR recommendations related to this Focus Area (listed below). Rate the priority for implementing each recommendation based on its likely impact on foodborne outbreak response at your agency/jurisdiction and available resources. Use a scale of 1 to 5 to rate each recommendation (1=Low priority for implementation and 5=High priority for implementation). If a recommendation is already in place in your agency/jurisdiction, check the appropriate box. If a recommendation is not relevant to your agency/jurisdiction, select N/A. **Refer to the blue underlined section number following each recommendation to view the recommendation as it appears in the CIFOR Guidelines**.

	Already in place	Priority for Implementation or Improvement in Your Agency/Jurisdiction (LOW → HIGH)
Contact lists		
Prepare contact information (including after-hours information) for people in the agency who should be contacted in the event of an outbreak, including backups. (3.6.2.1)	☐	1 2 3 4 5 N/A
Prepare contact information (including after-hours numbers) for contact people in external agencies (e.g., other local, state, and federal agencies). (3.6.2.1)	☐	1 2 3 4 5 N/A
Prepare contact information (including after-hours numbers) for important food industry contacts, including trade associations. (3.6.2.1)	☐	1 2 3 4 5 N/A
Ensure that all contact lists are updated at least twice yearly and, when feasible, made available to all stakeholders in both electronic and hard copy formats. (3.6.2.1)	☐	1 2 3 4 5 N/A
Distribute a list of your agency's contacts to other agencies, and obtain a list of their contacts. Provide the contact list in electronic and hard copy formats. (3.6.2.1) (3.6.2.3)	☐	1 2 3 4 5 N/A
Develop a group electronic distribution list for rapidly information sharing with those who should be contacted in the event of an outbreak.	☐	1 2 3 4 5 N/A
Additional ideas:		
Communication practices – Internal (outbreak response team and their organizational units and agencies)		
Ensure that members of the outbreak response team know each other before an outbreak occurs. (3.6.2.2)	☐	1 2 3 4 5 N/A
Establish and use routine procedures for communicating among outbreak response team members and their units and agencies before an outbreak occurs. (3.6.2.2)	☐	1 2 3 4 5 N/A
Define a formal communication process for agencies of the outbreak response team for use during outbreaks. Options include daily phone calls and routine e-mail alerts. (3.6.2.2)	☐	1 2 3 4 5 N/A

	Already in place	Priority for Implementation or Improvement in Your Agency/Jurisdiction
Communication practices – Internal (cont'd)		LOW HIGH
Decide who will be notified when an outbreak is suspected on the basis of roles, including any changes in notification according to the nature of the outbreak (e.g., pathogen type, involvement of commercial product) and timing (weekends and holidays versus week days). (3.6.2.2)	☐	1 2 3 4 5 N/A
Determine whether and how confidential information (e.g., from forms and questionnaires) can shared within the outbreak response team before an outbreak occurs. (3.5.2) (3.6.2.2)	☐	1 2 3 4 5 N/A
During an outbreak response, maintain close communication and coordination among outbreak response team members. (5.1.2.3) (5.2.5)	☐	1 2 3 4 5 N/A
During an outbreak response, identify persons who will be responsible for external communication on behalf of their organizational unit and for the outbreak response team. (3.6.2.2)	☐	1 2 3 4 5 N/A
During an outbreak response, communicate actions taken and new outbreak information to all members in the outbreak response team. Make sure public information officer is routinely updated to ensure appropriate messaging to the public and media. (6.4.1) (5.2.5)	☐	1 2 3 4 5 N/A
During an outbreak response, arrange for the outbreak response team to meet daily to update the entire team in a timely manner. (5.2.5)	☐	1 2 3 4 5 N/A
Additional ideas:		

Communication practices – External agencies (other local, state, and federal agencies)		
Develop standardized processes (including notification triggers and timelines) for sharing information with other local, state, and federal agencies, including who will notify the next level of public health, environmental health, or food-regulatory agencies. Commit to notifying collaborating agencies as soon as possible in the outbreak investigation process. (3.6.2.3)	☐	1 2 3 4 5 N/A
Identify an agency lead on interactions with other agencies, ideally the lead investigator. Establish procedures for coordinating communication with these entities to provide consistent messaging and accurate information flow. (3.6.2.3)	☐	1 2 3 4 5 N/A
Foster working relationships with other agencies, holding joint meetings and planning sessions before an outbreak occurs. (3.6.2.3)	☐	1 2 3 4 5 N/A
Establish processes for participating in multiagency, multijurisdictional conference calls and train staff in conference call etiquette. (3.6.2.3).	☐	1 2 3 4 5 N/A
Determine whether and how confidential information can be shared with other local, state and federal agencies. (3.6.2.3)	☐	1 2 3 4 5 N/A

	Already in place	Priority for Implementation or Improvement in Your Agency/Jurisdiction
Communication practices – External agencies (cont'd)		LOW HIGH
Identify and regularly communicate with agencies or organizations that receive possible foodborne illness complaints (e.g., agriculture agencies, facility licensing agencies, poison control centers) and ensure that they have current contact information for your staff. (4.3.9.7)	☐	1 2 3 4 5 N/A
Rapidly post subtyping results to PulseNet and report newly detected clusters to PulseNet and Foodborne Outbreak listserves. (4.2.10.5)	☐	1 2 3 4 5 N/A
Document every outbreak investigation using a standard form to facilitate inclusion in state and national outbreak databases. (5.2.9)	☐	1 2 3 4 5 N/A
Additional ideas:		

Communication practices – Public		
Establish standard channels of communication with the public before an outbreak occurs and use those same channels each time a public health issue arises about which the public may seek information. (3.6.2.5)	☐	1 2 3 4 5 N/A
Identify an agency lead on interactions with the public, ideally someone trained in communication. Establish procedures for coordinating communication with the public to provide consistent messaging and accurate information flow. (3.6.2.5)	☐	1 2 3 4 5 N/A
Create templates for communication with the public (e.g., fact sheets), focusing on the most common foodborne diseases before an outbreak occurs. (3.6.2.5)	☐	1 2 3 4 5 N/A
Establish relationships with consumer groups that might be helpful in disseminating information about foodborne disease outbreaks and disease prevention messages. (3.6.2.5)	☐	1 2 3 4 5 N/A
Periodically issue foodborne disease prevention messages or press releases to ensure that the public knows with whom to communicate and from where information will come during an outbreak. (3.6.2.5)	☐	1 2 3 4 5 N/A
Since the public obtains news from multiple sources, use all available sources to disseminate information (e.g., the Internet, television, radio, newspapers, and social media). (6.5.3)	☐	1 2 3 4 5 N/A
Create and test web-based tools for communication with the public (e.g., blast e-mails, survey instruments). (3.6.2.5)	☐	1 2 3 4 5 N/A
Adopt a standard format for reporting risk information to the public. (6.5.3) Decide in advance how to communicate the naming of implicated establishments based on local legal guidelines and whether risk of transmission is ongoing.	☐	1 2 3 4 5 N/A

	Already in place	Priority for Implementation or Improvement in Your Agency/Jurisdiction
Communication practices – Public (cont'd)		LOW HIGH
Adopt standard scripts for reporting complex procedural or technical information to the public. (6.5.3)	☐	1 2 3 4 5 N/A
In communicating with the public during an outbreak provide practical measures that the public can take to decrease risk for illness (e.g., avoidance of known high-risk foods or special instructions for their preparation), as well as basic food-safety messages and information about how to contact public health authorities to report suspected related illnesses. (6.2.1)	☐	1 2 3 4 5 N/A
Test messages to the public with representatives of the target population before releasing them. (6.5.3)	☐	1 2 3 4 5 N/A
Guide staff on how to respond to and communicate with upset members of the public. (3.6.2.5)	☐	1 2 3 4 5 N/A
Make copies of summary reports from each outbreak response available to members of the public who request them. (5.2.10)	☐	1 2 3 4 5 N/A
Additional ideas:		

Communication practices – Media		
Identify an agency lead on media interactions, ideally someone trained as a public information officer. (3.6.2.7)	☐	1 2 3 4 5 N/A
Obtain media training for primary agency spokespersons. (3.6.2.7)	☐	1 2 3 4 5 N/A
Establish procedures for coordinating agency communication with the media. (3.6.2.7)	☐	1 2 3 4 5 N/A
Establish standard channels of communication with the media (e.g., website, telephone number), and use those same channels each time a public health issue arises about which the public might seek information. Identify primary contact persons from major local media outlets. Know routine deadlines and time frames for reporting news through major local media outlets (e.g., the deadline for having news from a press release appear in the evening newspaper). (3.6.2.7)	☐	1 2 3 4 5 N/A
Periodically hold a media education event to teach new media professionals in the community's media market about public health and response to foodborne disease outbreaks. (3.6.2.7)	☐	1 2 3 4 5 N/A
Additional ideas:		

	Already in place	Priority for Implementation or Improvement in Your Agency/Jurisdiction
Making changes		LOW HIGH
Conduct a debriefing following each outbreak response with all members of the outbreak response team to identify lessons learned. (6.7) (3.2.3.4) (5.2.8)	☐	1 2 3 4 5 N/A
Prepare summary reports for all outbreaks consistent with the size and complexity of the response. Use the reports as a continuous quality improvement opportunity. (3.7.2) (5.2.9) (6.8)	☐	1 2 3 4 5 N/A
Make copies of summary reports available to all members of the outbreak response team and their units and agencies and persons responsible for implementing control measures. (5.2.10) (6.8)	☐	1 2 3 4 5 N/A

Additional ideas:

3. MAKE PLANS TO IMPLEMENT SELECTED CIFOR RECOMMENDATIONS.

For each CIFOR recommendation selected in the previous step (or idea formulated by the workgroup), identify who will take the lead in implementing the recommendation and the timeframe for implementation (e.g., a specific completion date or whether the change is likely to require short, mid- or long-term efforts). If certain actions must precede others, make a note of this and adjust the timeframe. In addition, consider factors that could positively or negatively influence implementation of the recommendation and ways to incorporate the recommendation into your agency's/jurisdiction's standard operating procedures.

One person should be given responsibility for monitoring progress in implementing the above CIFOR recommendations. Follow-up should occur at specified checkpoints (e.g., 3, 6, 9, and 12 months after the start of the Toolkit process) and results should be shared with the entire workgroup.

CIFOR recommendations or other ideas from previous step	Lead person	Timeframe for implementation	Notes (e.g., necessary antecedents, factors that might influence implementation, ways to incorporate the recommendation into standard operating procedures)

DATE WORKSHEET COMPLETED: _____

NEXT DATE FOR FOLLOW-UP ON PROGRESS: _____

Focus Area 4 Worksheet:

Complaint Systems

FOCUS AREA 4: COMPLAINT SYSTEMS

Complete this worksheet if "Complaint Systems" is a high priority Focus Area for efforts to improve foodborne disease outbreak response in your agency/jurisdiction. (NOTE: The term "agency/jurisdiction" refers to the entity for which your workgroup is making decisions. See your completed "Document D: Preliminaries" worksheet for a definition.)

List the individuals participating in the discussion of this Focus Area (and their affiliations).

To help you understand what is included in this Focus Area, review the following goals and keys to success.

GOALS FOR COMPLAINT SYSTEMS:

Agency/jurisdiction receives and processes individual reports of possible foodborne illness(es) from the public in a way that allows timely follow-up of possible food safety problems and the detection of clusters.

KEYS TO SUCCESS FOR COMPLAINT SYSTEMS:

"Keys to success" are activities, relationships, and resources that are critical to achieving success in a Focus Area. Determining whether an agency/jurisdiction has a particular key to success in place is somewhat subjective. Metrics, such as measures of time (e.g., rapidly, timely, and quickly), have not been defined. Your workgroup should provide its own definitions for these terms, as is appropriate for your agency/jurisdiction, and use its best judgment in deciding whether a particular key to success is fully or partially in place.

Soliciting and receiving reports

- ○ Agency/jurisdiction has an established process for receiving reports about possible foodborne illness(es) from the public.
- ○ Public knows how to report possible foodborne illnesses to the agency/jurisdiction.
- ○ Agency/jurisdiction solicits reports of possible foodborne illness from other agencies and organizations likely to receive these reports (e.g., poison control center, industry) inside and outside the jurisdiction.
- ○ Agency/jurisdiction works with the local media to solicit reports of possible foodborne illness from the public.

Detection of clusters/outbreaks

- ○ Staff collect specified pieces of information about each foodborne illness report and record the information in an electronic data system.
- ○ Staff regularly review reports of foodborne illness to identify cases with common characteristics or suspicious exposures that might represent a common source outbreak.

Responding to complaints

- ○ Staff triage and respond to complaints in a manner consistent with the likely resulting public health intervention (e.g., investigate reports of group illnesses more aggressively than isolated illnesses).

Making changes

- ○ Agency/jurisdiction has performance indicators related to complaint systems and routinely evaluates its performance in this Focus Area.

1. DESCRIBE YOUR CURRENT ACTIVITIES AND PROCEDURES IN THIS FOCUS AREA.

Considering the keys to success on the previous page, describe your agency's/jurisdiction's current activities and procedures in this Focus Area. Refer to written protocols, if available, and materials related to ongoing efforts in capacity development or quality improvement (e.g., FDA Retail and Manufactured Food Regulatory Program Standards). As you list current activities and procedures related to this Focus Area, indicate those which could be changed to improve your agency's/jurisdiction's response to foodborne disease outbreaks.

Activity/Procedure	Needs Improvement? ✓
	☐
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2. PRIORITIZE CIFOR RECOMMENDATIONS TO ADDRESS NEEDED IMPROVEMENTS.

Having identified activities and procedures in need of improvement, review the CIFOR recommendations related to this Focus Area (listed below). Rate the priority for implementing each recommendation based on its likely impact on foodborne outbreak response at your agency/jurisdiction and available resources. Use a scale of 1 to 5 to rate each recommendation (1=Low priority for implementation and 5=High priority for implementation). If a recommendation is already in place in your agency/jurisdiction, check the appropriate box. If a recommendation is not relevant to your agency/jurisdiction, select N/A. **Refer to the blue underlined section number following each recommendation to view the recommendation as it appears in the CIFOR Guidelines**.

	Already in place	Priority for Implementation or Improvement in Your Agency/Jurisdiction (LOW → HIGH)
Soliciting and receiving reports		
Establish a formal system for receiving reports about possible foodborne illness from the public. (3.4) (4.3.9.1)	☐	1 2 3 4 5 N/A
To increase reporting from the public, make the reporting process as simple as possible. (4.3.9.9)	☐	1 2 3 4 5 N/A
Use one 24/7 toll-free telephone number or one website address that easily can be remembered or found in the telephone directory or by using an internet search engine. (4.3.9.9) (4.3.9.10)	☐	1 2 3 4 5 N/A
Routinely distribute press releases about food safety that include the telephone number or website address for reporting to encourage reporting by the public. (4.3.9.10)	☐	1 2 3 4 5 N/A
Identify and regularly communicate with agencies, organizations, and businesses that receive possible foodborne illness complaints (e.g., agriculture agencies, facility licensing agencies, poison control centers, restaurants) and ensure that they have current contact information for your staff. (4.3.9.7)	☐	1 2 3 4 5 N/A
Establish methods for sharing information with other agencies or organizations that receive possible foodborne illness complaints such as a database that public health agencies can access and review. (4.3.9.7)	☐	1 2 3 4 5 N/A
Train food managers and workers about the importance of reporting illnesses among workers or customers and food code requirements for disease reporting. (4.3.9.10)	☐	1 2 3 4 5 N/A
Additional ideas:	☐	○ ○ ○ ○ ○ ○
Detection of clusters/outbreaks		
Use a standard process to collect information from individuals reporting a possible foodborne illness, including use of a standard interview form that solicits information on both food and nonfood exposures. (3.4) (4.3.9.1)	☐	1 2 3 4 5 N/A
Collect as much information as possible during the initial report. Food histories and other exposures are critical to detecting clusters. (3.4)	☐	1 2 3 4 5 N/A

	Already in place	Priority for Implementation or Improvement in Your Agency/Jurisdiction LOW HIGH
Detection of clusters/outbreaks (cont'd)		
Set up the reporting process so all reports go through one person or one person routinely reviews all reports to increase the likelihood that patterns among individual complaints will be detected. (3.4) (4.3.9.11)	☐	1 2 3 4 5 N/A
Compile interview data in a log or database to facilitate examination of reports for exposure clustering, trends, or commonalities. A database with templates for rapid data entry and analysis will streamline the data-management process. (3.5.2.2) (4.3.9.6)	☐	1 2 3 4 5 N/A
Review complaints regularly (daily) to recognize multiple persons with a similar illness or a common exposure. (3.4) (4.3.9.6)	☐	1 2 3 4 5 N/A
Compare exposure information collected through the complaint system with data from pathogen-specific surveillance to reveal potential connections between cases and increase the likelihood of detecting an outbreak. (4.3.9.6) (3.4)	☐	1 2 3 4 5 N/A
Check complaint information against national databases (e.g., USDA/FSIS Consumer Complaint Monitoring System) to identify cases with similar characteristics or exposures. (4.3.9.8)	☐	1 2 3 4 5 N/A
Additional ideas:		

Responding to individual complaints		
For individual complaints, collect a detailed exposure history for the 5 days before onset of illness. If norovirus is highly suspected, collect an exposure history for the 24 to 48 hours before onset of illness. (4.3.9.1)	☐	1 2 3 4 5 N/A
Train staff to give appropriate instructions to persons reporting a possible foodborne illness about prevention of secondary spread and seeking health care. (3.4)	☐	1 2 3 4 5 N/A
Guide staff on how to respond to and communicate with upset members of the public. (3.6.2.5)	☐	1 2 3 4 5 N/A
Decide whether to routinely collect clinical specimens from independent complaints or encourage patients to seek health care. (4.3.9.1)	☐	1 2 3 4 5 N/A
Prioritize the investigation of establishments named in individual complaints based on whether the complainant's illness is consistent with foods eaten at the establishment, whether a food preparation or serving problem was reported, and the number of persons (with no other shared food history) implicating the establishment. (4.3.9.2)	☐	1 2 3 4 5 N/A
Additional ideas:		

Responding to group complaints	Already in place	Priority for Implementation or Improvement in Your Agency/Jurisdiction LOW HIGH
Investigate more aggressively reports of illness among groups who ate together than complaints involving only one ill individual or ill individuals all from the same household. (4.3.9.3)	☐	1 2 3 4 5 N/A
Investigate cases of serious illness that are likely to result in a public health intervention (e.g., bloody diarrhea, neurological symptoms) more aggressively than cases of illness. (4.3.9)	☐	1 2 3 4 5 N/A
Focus interviews associated with group complaints on the event shared by members of the group. Be sure to determine whether the group might have had other exposures in common. (4.3.9.3)	☐	1 2 3 4 5 N/A
Obtain and test clinical specimens from members of the ill group. Establishment of an etiology will help investigators understand the outbreak and establish links to other outbreaks or sporadic cases. (4.3.9.4) (4.3.9.5)	☐	1 2 3 4 5 N/A
While awaiting confirmation of the etiologic agent, use predominant signs and symptoms, incubation period, illness duration, and suspect food item to provide clues about the agent and better focus investigation activities. (2.4.3.2)	☐	1 2 3 4 5 N/A
If the presumed exposure involves food, collect and store—but do not test—food from the implicated event. Test only after epidemiologic or environmental investigations implicate the food. (4.3.9.4)	☐	1 2 3 4 5 N/A
Store food specimens as appropriate to the sample. Refrigerate perishable food samples but keep foods that are frozen when collected frozen until examined. In general, if perishable food samples cannot be analyzed within 48 hours after receipt, freeze them (–40 to –80^{o} C). (4.3.9.4)	☐	1 2 3 4 5 N/A
Test foods for outbreaks thought to involve preformed toxins (e.g., enterotoxins of *Staphylococcus aureus* or *Bacillus cereus*), because detection of toxin or toxin-producing organisms in clinical specimens can be problematic. (4.3.9.4)	☐	1 2 3 4 5 N/A

Additional ideas:

3. MAKE PLANS TO IMPLEMENT SELECTED CIFOR RECOMMENDATIONS.

For each CIFOR recommendation selected in the previous step (or idea formulated by the workgroup), identify who will take the lead in implementing the recommendation and the timeframe for implementation (e.g., a specific completion date or whether the change is likely to require short, mid- or long-term efforts). If certain actions must precede others, make a note of this and adjust the timeframe. In addition, consider factors that could positively or negatively influence implementation of the recommendation and ways to incorporate the recommendation into your agency's/jurisdiction's standard operating procedures.

One person should be given responsibility for monitoring progress in implementing the above CIFOR recommendations. Follow-up should occur at specified checkpoints (e.g., 3, 6, 9, and 12 months after the start of the Toolkit process) and results should be shared with the entire workgroup.

CIFOR recommendations or other ideas from previous step	Lead person	Timeframe for implementation	Notes (e.g., necessary antecedents, factors that might influence implementation, ways to incorporate the recommendation into standard operating procedures)

DATE WORKSHEET COMPLETED: _____

NEXT DATE FOR FOLLOW-UP ON PROGRESS: _____

Focus Area 5 Worksheet:

Pathogen-Specific Surveillance

CIFOR Council to Improve Foodborne Outbreak Response

Detect • Investigate • Control • Prevent

FOCUS AREA 5: PATHOGEN-SPECIFIC SURVEILLANCE

Complete this worksheet if "Pathogen-Specific Surveillance" is a high priority Focus Area for efforts to improve foodborne disease outbreak response in your agency/jurisdiction. (NOTE: The term "agency/jurisdiction" refers to the entity for which your workgroup is making decisions. See your completed "Document D: Preliminaries" worksheet for a definition.)

List the individuals participating in the discussion of this Focus Area (and their affiliations).

To help you understand what is included in this Focus Area, review the following goals and keys to success.

GOALS FOR PATHOGEN-SPECIFIC SURVEILLANCE:

Agency/jurisdiction receives reports from health-care providers and laboratories on all cases of disease when certain foodborne pathogens are identified and obtains case information in a way that allows timely follow-up of patients and quick detection and investigation of possible outbreaks.

KEYS TO SUCCESS FOR PATHOGEN-SPECIFIC SURVEILLANCE:

"Keys to success" are activities, relationships, and resources that are critical to achieving success in a Focus Area. Determining whether an agency/jurisdiction has a particular key to success in place is somewhat subjective. Metrics, such as measures of time (e.g., rapidly, timely, and quickly), have not been defined. Your workgroup should provide its own definitions for these terms, as is appropriate for your agency/jurisdiction, and use its best judgment in deciding whether a particular key to success is fully or partially in place.

Reporting/submission of isolates

- State has mandatory reporting of diseases that are likely to have been foodborne, as well as mandatory submission of pathogen isolates or clinical specimens associated with these disease cases.
- Staff actively solicit case reports and submission of specimens/isolates to improve completeness of reporting.
- Agency/jurisdiction has a system to rapidly transport specimens/isolates from clinical laboratories to the public health laboratory.

Testing of specimens

- Public health laboratory has the capacity to quickly process and test specimens/isolates submitted by clinical laboratories, including pathogen confirmation and subtyping.

Collection of exposure information

- Staff collect sufficient demographic and exposure information from patients to recognize possible patterns and associations between cases in a timely fashion.

Detection of clusters/outbreaks

- Staff analyze case information (e.g., demographics, exposure information, subtyping results) to rapidly identify possible clusters or outbreaks.

Communication

- Public health laboratory shares test results with epidemiology staff in a timely fashion.
- Public health laboratory reports test results to national databases in a timely fashion.

Making changes

- Agency/jurisdiction has performance indicators related to pathogen-specific surveillance and routinely evaluates its performance in this Focus Area.

1. DESCRIBE YOUR CURRENT ACTIVITIES AND PROCEDURES IN THIS FOCUS AREA.

Considering the keys to success on the previous page, describe your agency's/jurisdiction's current activities and procedures in this Focus Area. Refer to written protocols, if available, and materials related to ongoing efforts in capacity development or quality improvement (e.g., Epidemiology and Laboratory Capacity Grants). As you list current activities and procedures related to this Focus Area, indicate those which could be changed to improve your agency's/jurisdiction's response to foodborne disease outbreaks.

Activity/Procedure	Needs Improvement? ✓
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2. PRIORITIZE CIFOR RECOMMENDATIONS TO ADDRESS NEEDED IMPROVEMENTS.

Having identified activities and procedures in need of improvement, review the CIFOR recommendations related to this Focus Area (listed below). Rate the priority for implementing each recommendation based on its likely impact on foodborne outbreak response at your agency/jurisdiction and available resources. Use a scale of 1 to 5 to rate each recommendation (1=Low priority for implementation and 5=High priority for implementation). If a recommendation is already in place in your agency/jurisdiction, check the appropriate box. If a recommendation is not relevant to your agency/jurisdiction, select N/A. **Refer to the blue underlined section number following each recommendation to view the recommendation as it appears in the CIFOR Guidelines**.

	Already in place	Priority for Implementation or Improvement in Your Agency/Jurisdiction (LOW → HIGH)
Reporting/submission of isolates		
Encourage health-care providers to test patient specimens as part of the routine diagnostic process for possible foodborne diseases. (4.2.10.1)	☐	1 2 3 4 5 N/A
Due to culture-independent diagnostics, amend reporting rules to include patient specimens (not just isolates) among the required clinical materials that must be submitted to the public health laboratory. (4.2.10.2)	☐	1 2 3 4 5 N/A
Increase reporting of cases and submission of clinical materials by health-care providers and clinical laboratories through regulatory action. (4.2.10.1)	☐	1 2 3 4 5 N/A
Increase reporting of cases and submission of clinical materials by health-care providers and clinical laboratories through simplifying the process. (4.2.9.3.1) (4.2.10.1)	☐	1 2 3 4 5 N/A
Increase reporting of cases and submission of clinical materials by health-care providers and clinical laboratories through education and regular feedback to reporters. (4.2.10.1)	☐	1 2 3 4 5 N/A
Increase reporting of cases and submission of clinical materials by clinical laboratories through laboratory audits. (4.2.10.1)	☐	1 2 3 4 5 N/A
Reconcile case reports submitted to the epidemiology unit and laboratory samples submitted to the public health laboratory to identify unreported cases. (4.2.5)	☐	1 2 3 4 5 N/A
Additional ideas:		
Testing of specimens		
Confer with the public health laboratory to determine subtyping methods available for the pathogen under study. (4.2.10.2)	☐	1 2 3 4 5 N/A
Streamline the process from submission of specimens to testing by the public health laboratory to decrease the time between onset of illness in the patient and confirmation of the case as part of an outbreak. (4.2.6)	☐	1 2 3 4 5 N/A

	Already in place	Priority for Implementation or Improvement in Your Agency/Jurisdiction LOW HIGH
Testing of specimens (cont'd)		
Conduct subtyping as the specimens are submitted. Do not wait for a specific number of specimens to accumulate before testing. (4.2.10.2)	☐	1 2 3 4 5 N/A
Perform tests such as PFGE and serotyping concurrently. (4.2.10.2)	☐	1 2 3 4 5 N/A
Except for single cases of botulism and occasionally other diseases with known high-risk exposures (e.g., pet reptiles for *Salmonella* or raw milk or ground beef for STEC), do not test food or environmental specimens for cases reported through pathogen-specific surveillance without strong epidemiologic or environmental evidence implicating a food item. (4.2.5.2)	☐	1 2 3 4 5 N/A
Additional ideas:	☐	○ ○ ○ ○ ○ ○
Collection of exposure information		
Investigate cases of serious diseases or diseases that are likely to result in a public health intervention (e.g., *E. coli* O157:H7 infection) more aggressively than other diseases. (4.2.10)	☐	1 2 3 4 5 N/A
Interview patients as soon as possible after cases are reported or isolates are received, when patient recall and motivation to cooperate with investigators is the greatest. (4.2.9.3.1) (4.2.10.3)	☐	1 2 3 4 5 N/A
Obtain an exposure history from the patient consistent with the incubation period of the pathogen. (4.2.10.3)	☐	1 2 3 4 5 N/A
Collect a detailed exposure history at the time of initial report. (4.2.10.3)	☐	1 2 3 4 5 N/A
Where insufficient resources exist to collect detailed exposure histories at the time of the initial report, use a two-step interview process: 1) interview all cases about a limited number of high-risk exposures specific to the pathogen when reported and 2) if circumstances indicate that the case is part of a cluster, re-interview the case using a detailed exposure history questionnaire. (4.2.10.3)	☐	1 2 3 4 5 N/A
In collecting a detailed exposure history, use a mix of question types including: • Close-ended questions about exposures previously linked to outbreaks or that could plausibly be associated with the pathogen; • Broad open-ended questions to capture exposures that might not have been considered; and • Questions that elicit more specific information about high-frequency exposures such as brand and place of purchase. (4.2.10.3)	☐	1 2 3 4 5 N/A
In collecting an exposure history, routinely ask patients about group exposures, such as banquets and other events. (4.2.9.3)	☐	1 2 3 4 5 N/A
In collecting an exposure history, collect information about recent travel. (3.1.3.3)	☐	1 2 3 4 5 N/A

	Already in place	Priority for Implementation or Improvement in Your Agency/Jurisdiction
Collection of exposure information (cont'd)		LOW HIGH
Use standard forms that include standard "core" questions and data elements to enhance data sharing and comparisons across jurisdictions. (4.2.9.3.2) (4.2.10.3)	☐	1 2 3 4 5 N/A
Train staff in the use of standard forms for proper completion. (3.5.2.1)	☐	1 2 3 4 5 N/A
If investigations are infrequent, centralize the interview process to use more experienced interviewers. (4.2.10.3)	☐	1 2 3 4 5 N/A
Create data systems to easily enter, tabulate, and analyze exposure information so that clusters (based on a common exposure) can be more easily recognized. (4.2.10.3)	☐	1 2 3 4 5 N/A
Determine how confidential information will be stored and whether and how it can be shared. (3.6.2.2)	☐	1 2 3 4 5 N/A
Be familiar with and follow state and federal laws and practices that protect confidential information from disclosure. (5.1.2.6)	☐	1 2 3 4 5 N/A
Additional ideas:		
Detection of clusters/outbreaks		
Use daily, automated laboratory reporting and analysis systems to compare the frequency of disease agents to historical frequencies and national trends. (4.2.10.4)	☐	1 2 3 4 5 N/A
To identify clusters, compare disease agent frequencies at multiple levels of specificity (e.g., subtype, more stringent subtype) and in subgroups of population (defined by selected characteristics). (4.2.9.2) (4.2.10.4)	☐	1 2 3 4 5 N/A
Triage clusters on the basis of • the novelty of a subtype pattern, • increased occurrence of relatively common subtypes based on historical frequencies or national trends, • geographic or temporal clustering, or • unexpected demographic distribution of cases. (4.2.10.4)	☐	1 2 3 4 5 N/A
Obtain tools to analyze surveillance data (e.g., Epi Info, SAS). (3.5.2.2)	☐	1 2 3 4 5 N/A
Ensure that staff are trained to use these tools. (3.5.2.2)	☐	1 2 3 4 5 N/A
Compare exposure information obtained through pathogen-specific surveillance with data obtained through local complaint systems to increase the likelihood of detecting outbreaks. (4.3.9.6)	☐	1 2 3 4 5 N/A
Additional ideas:		

	Already in place	Priority for Implementation or Improvement in Your Agency/Jurisdiction
Communication		LOW HIGH
Identify individuals with clinical training to communicate with patients and describe actions patients should take to protect their and their family's health. Provide these individuals with training in communication for high stress/high outrage situations. (3.6.2.6)	☐	1 2 3 4 5 N/A
Establish and use routine procedures for communicating among epidemiology, laboratory, and environmental health units within an agency and between local and state agencies. (4.2.10.5)	☐	1 2 3 4 5 N/A
Immediately report clusters of cases identified by the public health laboratory to the epidemiology unit. (4.2.5)	☐	1 2 3 4 5 N/A
Rapidly post subtyping results to PulseNet and other national databases. (4.2.10.2) (4.2.10.5)	☐	1 2 3 4 5 N/A
Rapidly report the detection of clusters to PulseNet and foodborne outbreak electronic mailing lists, (4.2.10.5)	☐	1 2 3 4 5 N/A

Additional ideas:

3. MAKE PLANS TO IMPLEMENT SELECTED CIFOR RECOMMENDATIONS.

For each CIFOR recommendation selected in the previous step (or idea formulated by the workgroup), identify who will take the lead in implementing the recommendation and the timeframe for implementation (e.g., a specific completion date or whether the change is likely to require short, mid- or long-term efforts). If certain actions must precede others, make a note of this and adjust the timeframe. In addition, consider factors that could positively or negatively influence implementation of the recommendation and ways to incorporate the recommendation into your agency's/jurisdiction's standard operating procedures.

One person should be given responsibility for monitoring progress in implementing the above CIFOR recommendations. Follow-up should occur at specified checkpoints (e.g., 3, 6, 9, and 12 months after the start of the Toolkit process) and results should be shared with the entire workgroup.

CIFOR recommendations or other ideas from previous step	Lead person	Timeframe for implementation	Notes (e.g., necessary antecedents, factors that might influence implementation, ways to incorporate the recommendation into standard operating procedures)

DATE WORKSHEET COMPLETED: _____

NEXT DATE FOR FOLLOW-UP ON PROGRESS: _____

Focus Area 6 Worksheet:

Initial Steps

CIFOR Council to Improve Foodborne Outbreak Response

Detect • Investigate • Control • Prevent

FOCUS AREA 6: INITIAL STEPS

Complete this worksheet if "Initial Steps" is a high priority Focus Area for efforts to improve foodborne disease outbreak response in your agency/jurisdiction. (NOTE: The term "agency/jurisdiction" refers to the entity for which your workgroup is making decisions. See your completed "Document D: Preliminaries" worksheet for a definition.)

List the individuals participating in the discussion of this Focus Area (and their affiliations).

To help you understand what is included in this Focus Area, review the following goals and keys to success.

GOALS FOR INITIAL STEPS:

Agency/jurisdiction determines the likely occurrence of a foodborne outbreak based on case reports and characterizes the nature of the outbreak so that necessary resources can be mobilized and appropriate actions can be initiated.

KEYS TO SUCCESS FOR INITIAL STEPS:

"Keys to success" are activities, relationships, and resources that are critical to achieving success in a Focus Area. Determining whether an agency/jurisdiction has a particular key to success in place is somewhat subjective. Metrics, such as measures of time (e.g., rapidly, timely, and quickly), have not been defined. Your workgroup should provide its own definitions for these terms, as is appropriate for your agency/jurisdiction, and use its best judgment in deciding whether a particular key to success is fully or partially in place.

Initial steps

- ○ Agency/jurisdiction has processes for the response to a possible outbreak including who is to be notified and/or involved in the investigation and specific actions. Processes are written and easily accessible by staff.
- ○ Agency/jurisdiction has established criteria for determining the scale of the response to a possible foodborne outbreak based on the likely pathogen, number of cases, distribution of cases, hypothesized source, and agencies likely to be involved.
- ○ Staff can prioritize the response to a possible outbreak based on agency/jurisdiction criteria and know what outbreak circumstances require an immediate response, a more moderate response, or no response at all.
- ○ Staff have access to historical trends or other data to determine whether case counts exceed the expected number for a particular period and population.
- ○ Staff develop hypotheses about the source of an outbreak early in the investigation to guide investigation steps.

Requests for assistance

- ○ Local agencies notify state agencies as soon as an outbreak is suspected.
- ○ Agency/jurisdiction asks for help as soon as the need is recognized.

Making changes

- ○ Agency/jurisdiction conducts a debriefing among investigators following each outbreak response and refines outbreak response protocols based on lessons learned.
- ○ Agency/jurisdiction has performance indicators related to the initial steps of an outbreak investigation and routinely evaluates its performance in this Focus Area.

1. DESCRIBE YOUR CURRENT ACTIVITIES AND PROCEDURES IN THIS FOCUS AREA.

Considering the keys to success on the previous page, describe your agency's/jurisdiction's current activities and procedures in this Focus Area. Refer to written protocols, if available, and materials related to ongoing efforts in capacity development or quality improvement (e.g., FDA Retail and Manufactured Food Regulatory Program Standards). As you list current activities and procedures related to this Focus Area, indicate those which could be changed to improve your agency's/jurisdiction's response to foodborne disease outbreaks.

Activity/Procedure	Needs Improvement? ✓
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2. PRIORITIZE CIFOR RECOMMENDATIONS TO ADDRESS NEEDED IMPROVEMENTS.

Having identified activities and procedures in need of improvement, review the CIFOR recommendations related to this Focus Area (listed below). Rate the priority for implementing each recommendation based on its likely impact on foodborne outbreak response at your agency/jurisdiction and available resources. Use a scale of 1 to 5 to rate each recommendation (1=Low priority for implementation and 5=High priority for implementation). If a recommendation is already in place in your agency/jurisdiction, check the appropriate box. If a recommendation is not relevant to your agency/jurisdiction, select N/A. **Refer to the blue underlined section number following each recommendation to view the recommendation as it appears in the CIFOR Guidelines**.

	Already in place	Priority for Implementation or Improvement in Your Agency/Jurisdiction LOW HIGH
Initial steps		
Determine whether reported illnesses or cases are suggestive of an outbreak. Indicators include • Multiple cases with a shared exposure and incubation period and symptoms consistent with illness resulting from the exposure (5.2.1.1); • Confirmed cases clearly in excess of the expected number; or • Demographic features or known exposures among cases suggestive of a common source. (5.2.1.2)	☐	1 2 3 4 5 N/A
Examine subsets of cases using specific agent classifications (e.g., subtyping results) or certain time, place, or person characteristics to identify outbreaks among more common pathogens. (4.2.9.2)	☐	1 2 3 4 5 N/A
Alert the outbreak response team leader as soon as a potential outbreak is suspected. (5.2.2.1)	☐	1 2 3 4 5 N/A
To help assess the priority of investigating an outbreak and likely resources needed, review the descriptive features of the outbreak and relevant background information about the etiologic agent, establishment, or event. (5.2.2.2)	☐	1 2 3 4 5 N/A
Prioritize investigations, giving highest priority to outbreaks that • Are caused by a severe or life-threatening illness. • Affect populations at high risk for complications of the illness. • Affect a large number of persons. • May be associated with a food-service establishment in which ill food workers are a continuing source of infection. • May be associated with an adulterated food product in commercial distribution that is still being consumed. (5.2.2.2)	☐	1 2 3 4 5 N/A
When an investigation is deemed appropriate, assemble and brief the outbreak response team on the outbreak, team members, and their individual roles in the investigation. (5.2.2.3)	☐	1 2 3 4 5 N/A
Assess the availability of appropriate staff to conduct the investigation. (5.2.2.3)	☐	1 2 3 4 5 N/A
If staff with the needed skills are not available, request external assistance. (5.2.2.3) (See below.)	☐	1 2 3 4 5 N/A

	Already in place	Priority for Implementation or Improvement in Your Agency/Jurisdiction
Initial steps (cont'd)		LOW HIGH
Consider indicators suggestive of a multijurisdictional outbreak and respond accordingly. (7.2) (Table 7.3)	☐	1 2 3 4 5 N/A
If an agency/jurisdiction has decided to apply the incident command system (ICS) to its foodborne disease outbreak response, activate the ICS as early as possible in the response to an outbreak. (3.10.3)	☐	1 2 3 4 5 N/A
If a person who claims to have tampered with food contacts an agency, or in any outbreak in which intentional contamination is suspected, notify law enforcement officials and assess the credibility of the threat. (3.10.3)	☐	1 2 3 4 5 N/A
Establish the goals and objectives for the investigation early in the investigation. (5.2.3)	☐	1 2 3 4 5 N/A
Generate hypotheses about the potential source of an outbreak during the earliest stages of the investigation and refine hypothesis as more information becomes available. Key steps include • Review identified risk factors and exposures for the disease; • Examine the descriptive epidemiology of cases to identify person, place, or time characteristics that might suggest an exposure; and • Interview in detail affected persons to identify unusual exposures or commonalities among cases. (5.1.2.4)	☐	1 2 3 4 5 N/A
Interview patients associated with the outbreak as soon as possible because recall will be better and cases will be more motivated to share information closer to the time of their illness. (4.2.9.3.1) (4.2.10.3)	☐	1 2 3 4 5 N/A
For group illnesses associated with an event or establishment, obtain clinical specimens from ill members for laboratory testing as soon as possible. (4.3.9.4) (4.3.9.5)	☐	1 2 3 4 5 N/A
While awaiting confirmation of the etiologic agent, use signs/symptoms, incubation period, illness duration, and suspect food to provide clues about the agent and better focus investigation activities. (2.4.3.2)	☐	1 2 3 4 5 N/A
For group illnesses associated with an event or establishment, collect food samples and store, but do not test them until implicated through epidemiologic or environmental investigations. (4.3.9.4)	☐	1 2 3 4 5 N/A
Additional ideas:		

Requests for assistance		
Request assistance in the response to an outbreak as soon as the need is recognized. (3.9.1) (5.2.2.3) Request external assistance if the • Scale or complexity of outbreak will overwhelm agency resources; • Outbreak is likely to affect multiple counties, states, or countries; • Investigation points to a commercially distributed product; • Nature of the response is beyond experience of agency staff; • Specific technical support (e.g., laboratory testing) is needed. (3.9.2)	☐	1 2 3 4 5 N/A

	Already in place	Priority for Implementation or Improvement in Your Agency/Jurisdiction
Requests for assistance (cont'd)		LOW HIGH
At the local level, call the State Epidemiologist (or his/her surrogate) to request external assistance. (3.9.3)	☐	1 2 3 4 5 N/A
At the state level, call the most appropriate office at CDC or the CDC emergency response number to request external assistance. (3.9.3)	☐	1 2 3 4 5 N/A
If the suspected food falls under the jurisdiction of a food-regulatory agency, call that agency to request external assistance. (3.9.3)	☐	1 2 3 4 5 N/A
Share as much information about the outbreak as possible when requesting external assistance. (3.9.3)	☐	1 2 3 4 5 N/A

Additional ideas:

Communication		
Contact people internal and external to the agency who should be notified in the event of an outbreak following agency/jurisdiction protocols. (3.6.2.2) (3.6.2.3)	☐	1 2 3 4 5 N/A
Identify persons who will be responsible for communication on behalf of their organizational unit and for the outbreak response team. (3.6.2.2)	☐	1 2 3 4 5 N/A
Coordinate activities and set up good lines of communication between individuals and agencies involved in the investigation. (5.1.2.3)	☐	1 2 3 4 5 N/A
If the outbreak is suspected to be multijurisdictional, notify agencies that might need to participate in the investigation or be affected by the outbreak immediately including surrounding jurisdictions, the state health department, and the appropriate food-regulatory agency. (7.2) (7.4)	☐	1 2 3 4 5 N/A
If particular food/food products are suspected, communicate with industry as early as possible to prevent misconceptions in data analysis and interpretation. (5.1.1) (6.5.4)	☐	1 2 3 4 5 N/A
Inform the public and provide information needed for the public to protect itself as soon as possible. Update recommendations rapidly as new information becomes available. (5.1.2.2) (5.2.5) (6.2.2.2.2)	☐	1 2 3 4 5 N/A

Additional ideas:

3. MAKE PLANS TO IMPLEMENT SELECTED CIFOR RECOMMENDATIONS.

For each CIFOR recommendation selected in the previous step (or idea formulated by the workgroup), identify who will take the lead in implementing the recommendation and the timeframe for implementation (e.g., a specific completion date or whether the change is likely to require short, mid- or long-term efforts). If certain actions must precede others, make a note of this and adjust the timeframe. In addition, consider factors that could positively or negatively influence implementation of the recommendation and ways to incorporate the recommendation into your agency's/jurisdiction's standard operating procedures.

One person should be given responsibility for monitoring progress in implementing the above CIFOR recommendations. Follow-up should occur at specified checkpoints (e.g., 3, 6, 9, and 12 months after the start of the Toolkit process) and results should be shared with the entire workgroup.

CIFOR recommendations or other ideas from previous step	Lead person	Timeframe for implementation	Notes (e.g., necessary antecedents, factors that might influence implementation, ways to incorporate the recommendation into standard operating procedures)

DATE WORKSHEET COMPLETED: _____

NEXT DATE FOR FOLLOW-UP ON PROGRESS: _____

Focus Area 7 Worksheet:

Epidemiology Investigation

CIFOR Council to Improve Foodborne Outbreak Response

Detect • Investigate • Control • Prevent

FOCUS AREA 7: EPIDEMIOLOGY INVESTIGATION

Complete this worksheet if "Epidemiology Investigation" is a high priority Focus Area for efforts to improve foodborne disease outbreak response in your agency/jurisdiction. (NOTE: The term "agency/jurisdiction" refers to the entity for which your workgroup is making decisions. See your completed "Document D: Preliminaries" worksheet for a definition.)

List the individuals participating in the discussion of this Focus Area (and their affiliations).

To help you understand what is included in this Focus Area, review the following goals and keys to success.

GOALS FOR THE EPIDEMIOLOGY INVESTIGATION:

During an outbreak investigation, agency/jurisdiction staff collect, analyze, and interpret exposure (and other) information from cases (and comparison groups, where appropriate) to determine the etiologic agent, persons at risk, mode of transmission, and the vehicle of the outbreak.

KEYS TO SUCCESS FOR THE EPIDEMIOLOGY INVESTIGATION:

"Keys to success" are activities, relationships, and resources that are critical to achieving success in a Focus Area. Determining whether an agency/jurisdiction has a particular key to success in place is somewhat subjective. Metrics, such as measures of time (e.g., rapidly, timely, and quickly), have not been defined. Your workgroup should provide its own definitions for these terms, as is appropriate for your agency/jurisdiction, and use its best judgment in deciding whether a particular key to success is fully or partially in place.

Staff skills and expertise

- Staff have good interviewing skills and can collect complete and accurate exposure information from cases and controls, where appropriate (or have access to staff in other agencies with this expertise).
- Staff have expertise in epidemiologic study design (or have access to staff in other agencies with this expertise).

Outbreak investigation

- Agency/jurisdiction has a written protocol outlining the steps in the epidemiologic investigation of a foodborne disease outbreak. Staff have easy access to the protocol and have been trained in its implementation.
- Staff interview cases about exposures as soon as possible after the case is reported.
- Staff have access to standard epidemiologic questionnaires used by other investigators in similar outbreaks.

Communication

- Staff communicate in a timely fashion and coordinate activities with environmental health and laboratory staff.

Making changes

- Agency/jurisdiction conducts a debriefing among investigators following each outbreak response and refines outbreak response protocols based on lessons learned.
- Agency/jurisdiction has performance indicators related to the epidemiologic investigation and routinely evaluates its performance in this Focus Area.

1. DESCRIBE YOUR CURRENT ACTIVITIES AND PROCEDURES IN THIS FOCUS AREA.

Considering the keys to success on the previous page, describe your agency's/jurisdiction's current activities and procedures in this Focus Area. Refer to written protocols, if available, and materials related to ongoing efforts in capacity development or quality improvement (e.g., CIFOR target ranges for selected performance measures). As you list current activities and procedures related to this Focus Area, indicate those which could be changed to improve your agency's/jurisdiction's response to foodborne disease outbreaks.

Activity/Procedure	Needs Improvement? ✓
	☐
	☐
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2. PRIORITIZE CIFOR RECOMMENDATIONS TO ADDRESS NEEDED IMPROVEMENTS.

Having identified activities and procedures in need of improvement, review the CIFOR recommendations related to this Focus Area (listed below). Rate the priority for implementing each recommendation based on its likely impact on foodborne outbreak response at your agency/jurisdiction and available resources. Use a scale of 1 to 5 to rate each recommendation (1=Low priority for implementation and 5=High priority for implementation). If a recommendation is already in place in your agency/jurisdiction, check the appropriate box. If a recommendation is not relevant to your agency/jurisdiction, select N/A. **Refer to the blue underlined section number following each recommendation to view the recommendation as it appears in the CIFOR Guidelines**.

	Already in place	Priority for Implementation or Improvement in Your Agency/Jurisdiction
Staff skills and expertise		LOW HIGH
Ensure that the epidemiologic investigator on the outbreak response team has the necessary training and skills to plan and conduct epidemiologic studies during an outbreak investigation (e.g., expertise in interviews, study design, questionnaire development, and data analysis). (3.2.2.2)	☐	1 2 3 4 5 N/A
Ensure that the epidemiologic investigator knows how to collect clinical specimens and store and transport them properly. (3.2.2.4)	☐	1 2 3 4 5 N/A
Provide continuing education to the epidemiologic investigator to maintain and improve skills in their specialty. (3.2.3.4)	☐	1 2 3 4 5 N/A
Train the epidemiologic investigator in the agency's/jurisdiction's outbreak response protocols and the epidemiologic investigator's role in an investigation. (3.2.3.4)	☐	1 2 3 4 5 N/A
Assemble a reference library with information about foodborne diseases, enteric illnesses, and control measures. Where possible include electronic resources that can be accessed during field investigations. (3.3.2.6) (3.2.3.3)	☐	1 2 3 4 5 N/A
Assemble a list of resource persons who have expertise in specific disease agents and epidemiologic investigation methodologies. (3.2.3.3)	☐	1 2 3 4 5 N/A
Exercise outbreak response team members together to ensure that each team member can perform his or her role according to agency-specific protocols and legal authorities and understands the roles and responsibilities of other team members. (3.2.3.4)	☐	1 2 3 4 5 N/A
Ensure that all outbreak response team members regularly participate in outbreak investigation and control efforts, even if it means working with another jurisdiction because the team's home jurisdiction does not have many outbreaks. (3.2.3.4)	☐	1 2 3 4 5 N/A
If investigations are infrequent, centralize processes that require substantial experience for proficiency (e.g., case interviews, study design). (4.2.10.3)	☐	1 2 3 4 5 N/A

Additional ideas:

	Already in place	Priority for Implementation or Improvement in Your Agency/Jurisdiction
Outbreak investigation		LOW HIGH
Prepare a written protocol outlining the steps in the epidemiologic investigation of a foodborne disease outbreak. (3.2.3.3)	☐	1 2 3 4 5 N/A
Have appropriate equipment (3.3.2.3) and supplies (3.3.2.4) ready for use by the epidemiologic investigator when needed.	☐	1 2 3 4 5 N/A
Data collection		
Use standard forms for collecting exposure information to ensure that pertinent information is collected from all cases. (3.5.2.1) (5.1.2.5)	☐	1 2 3 4 5 N/A
Use standard "core" questions and data elements on data collection forms to enhance data sharing and comparisons across jurisdictions. (4.2.9.3.2)	☐	1 2 3 4 5 N/A
Develop templates for data collection forms before an outbreak occurs. (For examples, see the CIFOR Clearinghouse at www.cifor.us/clearinghouse/) (5.1.2.5)	☐	1 2 3 4 5 N/A
Train interviewers in the use of the standard interview forms and interview techniques. (3.5.2.1) (5.1.2.5)	☐	1 2 3 4 5 N/A
Obtain tools to analyze outbreak data (e.g., Epi Info, SAS) before an outbreak occurs. (3.5.2.2)	☐	1 2 3 4 5 N/A
Ensure that staff are trained to use these tools. (3.5.2.2)	☐	1 2 3 4 5 N/A
Ensure that appropriate electronic record management procedures are in place during an outbreak investigation, including routine data backups, off-site redundant storage, and disaster recovery procedures. (3.5.2.2)	☐	1 2 3 4 5 N/A
Determine how confidential information will be stored and whether and how it can be shared with others in the outbreak response team. (3.6.2.2)	☐	1 2 3 4 5 N/A
Be familiar with and follow state and federal laws and practices that protect confidential information from disclosure. (5.1.2.6)	☐	1 2 3 4 5 N/A
Additional ideas:		
Identify etiologic agent (if unknown)		
Contact health-care providers of cases who have sought medical attention to determine if a diagnosis has been confirmed. (Table 5.1)	☐	1 2 3 4 5 N/A
Interview cases to characterize symptoms, incubation period, and duration of illness to provide clues to a possible etiology. (Table 5.1)	☐	1 2 3 4 5 N/A
Obtain stool samples from cases and establish an etiology through laboratory testing. (Table 5.1)	☐	1 2 3 4 5 N/A

	Already in place	Priority for Implementation or Improvement in Your Agency/Jurisdiction LOW HIGH
Outbreak investigation (cont'd) *Identify etiologic agent* (if unknown) (cont'd) Additional ideas:		
Identify persons at risk		
If an outbreak is related to an event or establishment, obtain a list of persons attending the event or patronizing the establishment during the outbreak period. (Table 5.1) Event planners and queries of social media might help identify persons attending an event.	☐	1 2 3 4 5 N/A
If an outbreak is related to an event or establishment, interview persons who attended the event or patronized the establishment to identify cases and determine attack rates by time. (Table 5.1)	☐	1 2 3 4 5 N/A
If the identified agent is reportable, review recently reported cases to identify possible exposures to the event or establishment. (Table 5.1)	☐	1 2 3 4 5 N/A
Review foodborne illness complaints to identify undiagnosed cases that could be linked to an outbreak. (5.2.4.1.4)	☐	1 2 3 4 5 N/A
Alert health-care providers of a possible outbreak and review laboratory reports to identify additional cases. (Table 5.1) (Table 5.2)	☐	1 2 3 4 5 N/A
Ask cases if they know of others who are ill. (Table 5.2)	☐	1 2 3 4 5 N/A
Depending on the nature of the outbreak, take additional steps to identify cases such as reviewing medical charts at hospitals or physicians' offices, reviewing employee or school absences, reviewing death certificates, surveying the affected population, or asking the public to contact the health department if they think they might have the illness under investigation. (Table 5.2)	☐	1 2 3 4 5 N/A
Additional ideas:		
Identify mode of transmission and vehicle		
Establish a case definition on the basis of the etiologic agent and/or clinical characteristics of the illness associated with the outbreak with restrictions by person, place, and time. (Table 5.1) (Table 5.2)	☐	1 2 3 4 5 N/A
Characterize cases by person, place, and time, and evaluate this descriptive epidemiology to identify patterns suggestive of particular food items or diets. (Table 5.2)	☐	1 2 3 4 5 N/A
Collect exposure histories from patients as soon as possible using techniques to improve food history recall. If there are sufficient resources, interview cases with a detailed exposure history questionnaire as they are reported (i.e., before an outbreak has been recognized). (4.2.10.3) (5.2.4.1.2.1) (5.2.4.1.1)	☐	1 2 3 4 5 N/A

Outbreak investigation (cont'd) *Identify mode of transmission and vehicle* (cont'd)	Already in place	Priority for Implementation or Improvement in Your Agency/Jurisdiction LOW HIGH
To improve food history recall, encourage cases to remember what they ate by looking at a calendar for the appropriate period and elaborating on where they ate, with whom, and events associated with the meal. (5.2.4.1.1)	☐	1 2 3 4 5 N/A
To help cases think about all exposures, provide a structured list of places where cases might get food including food pantries, farmers' markets, conference meetings, and caterers. (5.2.4.1.1)	☐	1 2 3 4 5 N/A
To improve food history recall, enlist the help of those preparing meals for case(s) during the period of interest. (5.2.4.1.1)	☐	1 2 3 4 5 N/A
To improve food history recall, obtain cash register or credit card receipts from cases to identify/verify food purchases and places where food was consumed. (Table 5.2) (5.2.4.1.1)	☐	1 2 3 4 5 N/A
To improve food recall, if the subject uses a grocery store shopper card, ask permission to obtain purchase records. Work with stores where cases purchased food to obtain shopper card purchase records. (5.2.4.1.1)	☐	1 2 3 4 5 N/A
Document brand names, product code information, purchase dates, and locations from patients for prepackaged food items. (Table 5.2) (5.2.4.1.3)	☐	1 2 3 4 5 N/A
Explore other sources of information (in addition to product information from cases) such as product distribution data obtained from the food distributor (4.2.4) or lists of suppliers from retailers, restaurants, and institutions. (5.2.4.1.3)	☐	1 2 3 4 5 N/A
Use a dynamic cluster investigation process to develop hypotheses about an outbreak. As new exposures are suggested during interviews with cases, re-interview previously interviewed cases to uniformly assess their exposure to the new exposure. Assess the new exposure for all newly reported cases. (5.2.4.1.2)	☐	1 2 3 4 5 N/A
Interview appropriate non-ill persons to obtain exposure information for comparison groups in case-control or cohort studies. (Table 5.1) (Table 5.2)	☐	1 2 3 4 5 N/A
Interview non-outbreak-associated ill persons (i.e., cases with microbial agents other than the agent under investigation from the same time period) to obtain exposure information for comparison groups for case-case analytic studies. (Table 5.2) (5.2.4.1.2.1)	☐	1 2 3 4 5 N/A
Compare exposure frequencies among cases against known or estimated background exposure rates, such as those found in the FoodNet Atlas of Exposures at www.cdc.gov/foodnet/studies/population-surveys.html, to identify suspected food items using a binominal distribution probability model. (Table 5.2) (5.2.4.1.5)	☐	1 2 3 4 5 N/A

	Already in place	Priority for Implementation or Improvement in Your Agency/Jurisdiction LOW HIGH
Outbreak investigation (cont'd) *Identify mode of transmission and vehicle* (cont'd)		
In the absence of survey data or data from a control group, use common sense estimates of the prevalence of a given exposure to identify exposures of interest among cases. (5.2.4.1.5)	☐	1 2 3 4 5 N/A
Conduct an investigational traceback to determine whether a suspected food vehicle from multiple cases has a distribution or other point in common. Because traceback investigations can be resource intensive, the decision to conduct one should be based on input from public health and regulatory agencies. (5.2.4.1.7)	☐	1 2 3 4 5 N/A
Additional ideas:		
Determine potential for ongoing transmission		
Create an epidemic curve, and on the basis of the agent, incubation period, and likelihood of secondary spread, evaluate the course of the epidemic to determine whether cases may still be occurring. (Table 5.1) (Table 5.2)	☐	1 2 3 4 5 N/A
If the outbreak appears to be ongoing, continue surveillance and review potential abatement procedures. (Table 5.1) (Table 5.2)	☐	1 2 3 4 5 N/A
Additional ideas:		
Communication		
Ensure that the epidemiologic investigator knows the other members of the outbreak response team before an outbreak occurs. (3.6.2.2)	☐	1 2 3 4 5 N/A
Establish and use routine procedures for communicating among outbreak response team members and their organizational units before an outbreak occurs. (3.6.2.2)	☐	1 2 3 4 5 N/A
Maintain close communication and coordination with members of the outbreak response team during an investigation. Update all members of the outbreak response team daily. Make sure suspicious new exposures are adequately considered by all team members and that the public information officer is routinely updated to ensure appropriate messaging to the public and media. (5.1.2.3) (5.2.5) (6.5.1)	☐	1 2 3 4 5 N/A
Submit preliminary reports of outbreaks to CDC's National Outbreak Reporting System (NORS) while the investigation is ongoing to identify potentially related outbreaks occurring in multiple places and facilitate further investigation of the outbreaks. (5.2.9)	☐	1 2 3 4 5 N/A
Additional ideas:		

Making changes (cont'd)	Already in place	Priority for Implementation or Improvement in Your Agency/Jurisdiction LOW HIGH
Participate in a debriefing following each outbreak investigation with all members of the outbreak response team to identify lessons learned and compare notes on ultimate findings. Identify factors that compromised the investigation and clarify changes to procedures, resources, training, and agency structure to optimize future investigations. (6.7) (3.2.3.4) (5.2.8)	☐	1 2 3 4 5 N/A
Work with outbreak response team to summarize investigation findings, conclusions, and recommendations in a written report, consistent with the size and complexity of the investigation including lessons learned and action items for follow-up and quality improvement. (3.7.2) (5.2.9) (6.8)	☐	1 2 3 4 5 N/A
Work with outbreak response team to submit summary data about the outbreak to CDC's NORS database using CDC's form 52.13. Make every effort to complete both Part 1 and Part 2. (5.2.9)	☐	1 2 3 4 5 N/A

Additional ideas:

3. MAKE PLANS TO IMPLEMENT SELECTED CIFOR RECOMMENDATIONS.

For each CIFOR recommendation selected in the previous step (or idea formulated by the workgroup), identify who will take the lead in implementing the recommendation and the timeframe for implementation (e.g., a specific completion date or whether the change is likely to require short, mid- or long-term efforts). If certain actions must precede others, make a note of this and adjust the timeframe. In addition, consider factors that could positively or negatively influence implementation of the recommendation and ways to incorporate the recommendation into your agency's/jurisdiction's standard operating procedures.

One person should be given responsibility for monitoring progress in implementing the above CIFOR recommendations. Follow-up should occur at specified checkpoints (e.g., 3, 6, 9, and 12 months after the start of the Toolkit process) and results should be shared with the entire workgroup.

CIFOR recommendations or other ideas from previous step	Lead person	Timeframe for implementation	Notes (e.g., necessary antecedents, factors that might influence implementation, ways to incorporate the recommendation into standard operating procedures)

DATE WORKSHEET COMPLETED: _____

NEXT DATE FOR FOLLOW-UP ON PROGRESS: _____

Focus Area 8 Worksheet: Environmental Health Investigation

CIFOR Council to Improve Foodborne Outbreak Response

Detect • Investigate • Control • Prevent

FOCUS AREA 8: ENVIRONMENTAL HEALTH INVESTIGATION

Complete this worksheet if "Environmental Health Investigation" is a high priority Focus Area for efforts to improve foodborne disease outbreak response in your agency/jurisdiction. (NOTE: The term "agency/jurisdiction" refers to the entity for which your workgroup is making decisions. See your completed "Document D: Preliminaries" worksheet for a definition.)

List the individuals participating in the discussion of this Focus Area (and their affiliations).

To help you understand what is included in this Focus Area, review the following goals and keys to success.

GOALS FOR THE ENVIRONMENTAL HEALTH INVESTIGATION:

Agency/jurisdiction staff collect, analyze, and interpret information from the implicated facility or production site to determine the etiologic agent, mode of transmission and vehicle, source of contamination, contributing factors, environmental antecedents, and food supply chain.

KEYS TO SUCCESS FOR THE ENVIRONMENTAL HEALTH INVESTIGATION:

"Keys to success" are activities, relationships, and resources that are critical to achieving success in a Focus Area. Determining whether an agency/jurisdiction has a particular key to success in place is somewhat subjective. Metrics, such as measures of time (e.g., rapidly, timely, and quickly), have not been defined. Your workgroup should provide its own definitions for these terms, as is appropriate for your agency/jurisdiction, and use its best judgment in deciding whether a particular key to success is fully or partially in place.

Staff skills and expertise

- Staff have expertise in food production processes, HACCP, and environmental health assessments.
- Staff have expertise in traceback and traceforward investigations (or have access to staff in other agencies with this expertise).
- Staff have good interviewing skills to solicit information from facility managers and food workers.

Investigation

- Agency/jurisdiction has a written protocol outlining the steps in the environmental health investigation of a foodborne disease outbreak. Staff have easy access to the protocol and are trained in its implementation.
- Staff undertake environmental health assessments at facilities or production sites implicated during a foodborne outbreak (not routine food establishment licensing inspections) and identify appropriate contributing factors and environmental antecedents.
- Staff undertake traceback and traceforward investigations (or have access to staff in other agencies that undertake these investigations).

Communication

- Staff communicate in a timely fashion and coordinate activities with epidemiology and laboratory staff.

Making changes

- Agency/jurisdiction conducts a debriefing among investigators following each outbreak response and refines outbreak response protocols based on lessons learned.
- Agency/jurisdiction has performance indicators related to the environmental health investigation and routinely evaluates its performance in this Focus Area.

1. DESCRIBE YOUR CURRENT ACTIVITIES AND PROCEDURES IN THIS FOCUS AREA.

Considering the keys to success on the previous page, describe your agency's/jurisdiction's current activities and procedures in this Focus Area. Refer to written protocols, if available, and materials related to ongoing efforts in capacity development or quality improvement (e.g., FDA Retail and Manufactured Food Regulatory Program Standards). As you list current activities and procedures related to this Focus Area, indicate those which could be changed to improve your agency's/jurisdiction's response to foodborne disease outbreaks.

Activity/Procedure	Needs Improvement? ✓
	☐
	☐
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2. PRIORITIZE CIFOR RECOMMENDATIONS TO ADDRESS NEEDED IMPROVEMENTS.

Having identified activities and procedures in need of improvement, review the CIFOR recommendations related to this Focus Area (listed below). Rate the priority for implementing each recommendation based on its likely impact on foodborne outbreak response at your agency/jurisdiction and available resources. Use a scale of 1 to 5 to rate each recommendation (1=Low priority for implementation and 5=High priority for implementation). If a recommendation is already in place in your agency/jurisdiction, check the appropriate box. If a recommendation is not relevant to your agency/jurisdiction, select N/A. **Refer to the blue underlined section number following each recommendation to view the recommendation as it appears in the CIFOR Guidelines**.

	Already in place	Priority for Implementation or Improvement in Your Agency/Jurisdiction (LOW 1 2 3 4 5 HIGH N/A)
Staff skills and expertise		
Ensure that the environmental health investigator on the outbreak response team has a good understanding of foodborne agents, factors necessary to cause illness, food vehicles, and possible risk factors in the environment or operation that can contribute to the transmission of the disease agent. (5.2.4.1.5.2)	☐	1 2 3 4 5 N/A
Ensure that the environmental health investigator knows how to collect environmental specimens and store and transport them properly. (3.2.2.4)	☐	1 2 3 4 5 N/A
Provide continuing education to the environmental health investigator to maintain and improve skills within their specialty. (3.2.3.4)	☐	1 2 3 4 5 N/A
Train the environmental health investigator in the agency's/jurisdiction's outbreak response protocols and the environmental health investigator's team role. (3.2.3.4)	☐	1 2 3 4 5 N/A
Assemble a reference library with information about foodborne diseases, enteric illnesses, and control measures. Where possible include electronic resources that can be accessed in the field. (3.3.2.6) (3.2.3.3)	☐	1 2 3 4 5 N/A
Assemble a list of resource persons with expertise in specific disease agents and environmental health investigation methodologies. (3.2.3.3)	☐	1 2 3 4 5 N/A
Exercise outbreak response team members together to ensure each team member can perform his or her role according to agency-specific protocols and legal authorities, and understands the roles and responsibilities of other team members. (3.2.3.4)	☐	1 2 3 4 5 N/A
Ensure that all outbreak response team members regularly participate in outbreak investigation and control efforts, even if it means working with another jurisdiction because the team's home jurisdiction does not have many outbreaks. (3.2.3.4)	☐	1 2 3 4 5 N/A
If investigations are infrequent, centralize processes that require substantial experience for proficiency (e.g., regulatory tracebacks). (4.2.10.3)	☐	1 2 3 4 5 N/A

Additional ideas:

	Already in place	Priority for Implementation or Improvement in Your Agency/Jurisdiction
Outbreak Investigation		LOW HIGH
Prepare a written protocol outlining the steps in the environmental health investigation of a foodborne disease outbreak. (3.2.3.3)	☐	1 2 3 4 5 N/A
Have appropriate equipment (3.3.2.3) and supplies (3.3.2.4) ready for use by the environmental health investigator when needed.	☐	1 2 3 4 5 N/A
Send environmental investigators into the field as soon as possible to interrupt continued exposure to the source of the outbreak and practices or environmental conditions that led to the outbreak. (6.0)	☐	1 2 3 4 5 N/A
Send at least two environmental health investigators to a food establishment implicated in an outbreak. One investigator can make certain that food about to be served is safe and the second investigator can initiate the investigation. (6.1.1)	☐	1 2 3 4 5 N/A
Use epidemiologic information to initiate and guide the environmental health investigation of a foodborne disease outbreak. Once an investigation begins, sources of information include product information; written policies or procedures; direct observations and measurements; interviews with employees and managers; and laboratory testing of suspected foods, ingredients, or environmental surfaces. (5.2.4.1.6.1)	☐	1 2 3 4 5 N/A
Data collection Use standardized forms to collect environmental health information to provide comparable data for investigations that may involve multiple establishments. (3.5.2.1) (5.1.2.5)	☐	1 2 3 4 5 N/A
Develop templates for forms before an outbreak occurs. (See Environmental Health Specialists Network [EHS-Net] website at http://www.cdc.gov/nceh/ehs/EHSNet/ for examples). (5.1.2.5)	☐	1 2 3 4 5 N/A
Train staff in the use of the standardized forms to ensure proper completion. (3.5.2.1) (5.1.2.5)	☐	1 2 3 4 5 N/A
Determine how confidential information will be stored and whether and how it can be shared with others in the outbreak response team. (3.6.2.2) (3.5.2.1)	☐	1 2 3 4 5 N/A
Be familiar with and follow state and federal laws and practices that protect confidential information from disclosure. (5.1.2.6)	☐	1 2 3 4 5 N/A
Additional ideas:		

Outbreak Investigation (cont'd) *Identify the etiologic agent (if unknown)*	Already in place	Priority for Implementation or Improvement in Your Agency/Jurisdiction LOW HIGH
Obtain clinical specimens from members of the ill group. (4.3.9.4) (4.3.9.5)	☐	1 2 3 4 5 N/A
Interview management from the implicated facility to determine if it has noticed ill employees or circumstances that could be the cause of a foodborne illness. (Table 5.1)	☐	1 2 3 4 5 N/A
Interview food workers to determine whether they have been ill and the clinical characteristics of their illness. (Table 5.1)	☐	1 2 3 4 5 N/A
Obtain stool from ill or all food workers to establish an etiology through laboratory testing. (Table 5.1)	☐	1 2 3 4 5 N/A
Collect and store samples of suspect food items and ingredients (using proper techniques) as soon as possible. Test when food has been implicated by epidemiologic or environmental health investigations. (Table 5.1) (4.3.9.4) (6.2.1.2)	☐	1 2 3 4 5 N/A
Work with appropriate regulatory authority to ensure that food samples are collected and maintained with appropriate chain of custody. (Table 5.2)	☐	1 2 3 4 5 N/A
Notify the facility from which the food samples are collected so that they have the opportunity to collect companion samples. (6.2.1.2)	☐	1 2 3 4 5 N/A
Determine whether the setting or suspect food item suggest a likely pathogen. (Table 5.1) (2.4.3.2.2)	☐	1 2 3 4 5 N/A
Additional ideas:		
Identify persons at risk		
For establishment-related outbreaks, obtain a list of reservations, credit card receipts, receipts for take-out orders, or guest lists for events to identify exposed persons and additional cases. Where possible, obtain information electronically. (Table 5.1)	☐	1 2 3 4 5 N/A
Review foodborne illness complaints to identify undiagnosed cases that could be linked to the outbreak. (4.3.9.6) (Table 5.2)	☐	1 2 3 4 5 N/A
Contact restaurants, grocery stores, or other points of final service visited by multiple cases to identify employee illnesses or foodborne illness complaints from patrons. (Table 5.2)	☐	1 2 3 4 5 N/A
Additional ideas:		

	Already in place	Priority for Implementation or Improvement in Your Agency/Jurisdiction
Outbreak Investigation (cont'd) *Identify mode of transmission, vehicle, and source of contamination*		LOW HIGH
For **event or establishment-related outbreaks**, conduct an environmental health assessment of the food preparation site as early as possible: (5.2.4.1.6.1) (Table 5.1) • Obtain a menu from the event or establishment. • Interview food workers to determine their food-preparation responsibilities and practices before the outbreak exposure, whether they have been ill, and the clinical characteristics of their illness. • Observe procedures to make implicated food and reconstruct the food flow for the implicated meal or food item. • Evaluate the food flow for the implicated meal or food item to identify a contamination event. • Identify contributing factors and environmental antecedents. • Collect samples of implicated food or ingredients using proper techniques. Work with appropriate regulatory authority to ensure maintenance of the appropriate chain of custody. Notify the facility from which the food samples are collected so that they have the opportunity to collect companion samples. • As appropriate, collect clinical specimens from people in contact with the suspected food vehicle or the environment in which it was produced or used (e.g., food workers). • Collect and review documents on source of food.	☐	1 2 3 4 5 N/A
For **event or establishment related outbreaks**, if no contamination event is identified at food preparation site, trace ingredients of implicated food back through distribution to source of production to identify contamination event. Conduct an an environmental health assessment of the likely source of contamination. (Table 5.1) (5.2.4.1.6)	☐	1 2 3 4 5 N/A
For **outbreaks identified through pathogen-specific surveillance**: (Table 5.2) • Contact restaurants, grocery stores, and other locations identified by multiple cases to verify food choices and distributors and/or source(s) for ingredients and foods of interest. • Obtain samples of suspected food items. Work with regulatory authority to ensure maintenance of the appropriate chain of custody. Notify the facility from which the food samples are collected so that they have the opportunity to collect companion samples. • Conduct an investigational traceback to determine whether a suspected food vehicle from multiple cases has a distribution or other point in common. Because these investigations can be resource intensive, the decision to conduct a traceback should be based on input from public health and regulatory agencies. (5.2.4.1.7) • Conduct an environmental health assessment of the likely source of contamination. (5.2.4.1.6)	☐	1 2 3 4 5 N/A
If a specific food item is implicated, work with appropriate regulatory agency to conduct a formal regulatory traceback/traceforward of the implicated food item or ingredient. (Table 5.2)	☐	1 2 3 4 5 N/A

Additional ideas:

	Already in place	Priority for Implementation or Improvement in Your Agency/Jurisdiction
Determine potential for ongoing transmission and need for abatement procedures.		LOW HIGH
Verify that food workers who might have been infected during the outbreak and pose a risk for transmission have been excluded or restricted from food preparation, as needed. Ensure that infected food workers are aware of food code or local rules for returning to work. (Table 5.1) (Table 5.2)	☐	1 2 3 4 5 N/A
Verify that potentially contaminated foods have been removed from distribution. (Table 5.1) (Table 5.2)	☐	1 2 3 4 5 N/A
Verify that food contact surfaces and potential environmental reservoirs have been adequately cleaned and sanitized. (Table 5.1) (Table 5.2)	☐	1 2 3 4 5 N/A
Train food workers on safe food-preparation practices. (Table 5.1) (Table 5.2)	☐	1 2 3 4 5 N/A
Modify food-production and food-preparation processes with appropriate preventive controls. (Table 5.1) (Table 5.2)	☐	1 2 3 4 5 N/A
Modify menu. (Table 5.1) (Table 5.2)	☐	1 2 3 4 5 N/A

Additional ideas:

Communication

Guide staff on how to respond to and communicate with angry food-service workers and managers. (3.6.2.5)	☐	1 2 3 4 5 N/A
Determine when and how to share outbreak information with the person or organization in charge of the facility implicated in an outbreak. (3.5.2)	☐	1 2 3 4 5 N/A
Ensure the environmental health investigator knows the other members of the outbreak response team before an outbreak occurs. (3.6.2.2)	☐	1 2 3 4 5 N/A
Establish and use routine procedures for communicating with outbreak response team members and their organizational units before an outbreak occurs. (3.6.2.2)	☐	1 2 3 4 5 N/A

	Already in place	Priority for Implementation or Improvement in Your Agency/Jurisdiction
Communication (cont'd)		LOW HIGH
Maintain close communication and coordination with members of the outbreak response team during an investigation. Update all members of the outbreak response team daily. Make sure suspicious new exposures are adequately considered by all team members and that the public information officer is routinely updated to ensure appropriate messaging to the public and media. (5.1.2.3) (5.2.5) (6.5.1)	☐	1 2 3 4 5 N/A
Additional ideas:		

Making changes

Participate in a debriefing following each outbreak investigation with all members of the outbreak response team to identify lessons learned and compare notes on ultimate findings. Identify factors that compromised the investigation and clarify changes to procedures, resources, training, and agency structure to optimize future investigations. (6.7) (3.2.3.4) (5.2.8)	☐	1 2 3 4 5 N/A
Work with outbreak response team to summarize investigation findings, conclusions, and recommendations in a written report, consistent with the size and complexity of the investigation including lessons learned and action items for follow-up and quality improvement. (3.7.2) (5.2.9) (6.8)	☐	1 2 3 4 5 N/A
Work with outbreak response team to submit summary data about the outbreak to CDC's National Outbreak Reporting System (NORS) database using CDC's form 52.13. Make every effort to complete both Part 1 and Part 2. (5.2.9)	☐	1 2 3 4 5 N/A

3. MAKE PLANS TO IMPLEMENT SELECTED CIFOR RECOMMENDATIONS.

For each CIFOR recommendation selected in the previous step (or idea formulated by the workgroup), identify who will take the lead in implementing the recommendation and the timeframe for implementation (e.g., a specific completion date or whether the change is likely to require short, mid- or long-term efforts). If certain actions must precede others, make a note of this and adjust the timeframe. In addition, consider factors that could positively or negatively influence implementation of the recommendation and ways to incorporate the recommendation into your agency's/jurisdiction's standard operating procedures.

One person should be given responsibility for monitoring progress in implementing the above CIFOR recommendations. Follow-up should occur at specified checkpoints (e.g., 3, 6, 9, and 12 months after the start of the Toolkit process) and results should be shared with the entire workgroup.

CIFOR recommendations or other ideas from previous step	Lead person	Timeframe for implementation	Notes (e.g., necessary antecedents, factors that might influence implementation, ways to incorporate the recommendation into standard operating procedures)

DATE WORKSHEET COMPLETED: _____

NEXT DATE FOR FOLLOW-UP ON PROGRESS: _____

Focus Area 9 Worksheet: Laboratory Investigation

CIFOR Council to Improve Foodborne Outbreak Response

Detect • Investigate • Control • Prevent

FOCUS AREA 9: LABORATORY INVESTIGATION

Complete this worksheet if "Laboratory Investigation" is a high priority Focus Area for efforts to improve foodborne disease outbreak response in your agency/jurisdiction. (NOTE: The term "agency/jurisdiction" refers to the entity for which your workgroup is making decisions. See your completed "Document D: Preliminaries" worksheet for a definition.)

List the individuals participating in the discussion of this Focus Area (and their affiliations).

To help you understand what is included in this Focus Area, review the following goals and keys to success.

GOALS FOR THE LABORATORY INVESTIGATION:

Agency/jurisdiction staff provide guidance on collection, storage, and shipment of patient specimens and food/environmental samples. Agency/jurisdiction staff test patient specimens and suspect vehicles to identify the etiologic agent, mode of transmission, and vehicle in an outbreak and explore the ability of the agent to survive and grow in the implicated vehicle and how the vehicle might have become contaminated.

KEYS TO SUCCESS FOR THE LABORATORY INVESTIGATION:

"Keys to success" are activities, relationships, and resources that are critical to achieving success in a Focus Area. Determining whether an agency/jurisdiction has a particular key to success in place is somewhat subjective. Metrics, such as measures of time (e.g., rapidly, timely, and quickly), have not been defined. Your workgroup should provide its own definitions for these terms, as is appropriate for your agency/jurisdiction, and use its best judgment in deciding whether a particular key to success is fully or partially in place.

Staff skills and expertise

- Staff have expertise in appropriate laboratory testing methodologies and access to necessary equipment, reagents, and supplies to perform testing.

Specimen collection and testing

- In collaboration with laboratory staff, epidemiology and environmental health staff collect appropriate clinical specimens and food and environmental samples and store and transport them properly.
- Staff link patient and clinical specimen information.
- Staff isolate etiologic agent (if necessary) and characterize isolates (e.g., subtyping) in a timely fashion.
- Staff use standardized (currently approved) methods to analyze specimens/samples and subtype isolates.

Communication

- Staff communicate in a timely fashion and coordinate activities with epidemiology and environmental health staff.
- Staff report results of laboratory tests to epidemiologic and environmental health investigators, regulatory personnel (if applicable), and appropriate national databases in a timely fashion.

Making changes

- Agency/jurisdiction conducts a debriefing among investigators following each outbreak response and refines outbreak response protocols based on lessons learned.
- Agency/jurisdiction has performance indicators related to the laboratory investigation and routinely evaluates its performance in this Focus Area.

1. DESCRIBE YOUR CURRENT ACTIVITIES AND PROCEDURES IN THIS FOCUS AREA.

Considering the keys to success on the previous page, describe your agency's/jurisdiction's current activities and procedures in this Focus Area. Refer to written protocols, if available, and materials related to ongoing efforts in capacity development or quality improvement (e.g., FDA Retail and Manufactured Food Regulatory Program Standards). As you list current activities and procedures related to this Focus Area, indicate those which could be changed to improve your agency's/jurisdiction's response to foodborne disease outbreaks.

Activity/Procedure	Needs Improvement? ✓
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2. PRIORITIZE CIFOR RECOMMENDATIONS TO ADDRESS NEEDED IMPROVEMENTS.

Having identified activities and procedures in need of improvement, review the CIFOR recommendations related to this Focus Area (listed below). Rate the priority for implementing each recommendation based on its likely impact on foodborne outbreak response at your agency/jurisdiction and available resources. Use a scale of 1 to 5 to rate each recommendation (1=Low priority for implementation and 5=High priority for implementation). If a recommendation is already in place in your agency/jurisdiction, check the appropriate box. If a recommendation is not relevant to your agency/jurisdiction, select N/A. **Refer to the blue underlined section number following each recommendation to view the recommendation as it appears in the CIFOR Guidelines**.

	Already in place	Priority for Implementation or Improvement in Your Agency/Jurisdiction LOW HIGH
Staff skills and expertise		
Ensure that laboratory investigators have the necessary training and skills to analyze and interpret clinical specimens and food and environmental samples as is appropriate for a particular outbreak and can guide other outbreak response team members on optimal specimen type and collection, transport, and storage conditions. (3.2.2.4) (4.2.10.2)	☐	1 2 3 4 5 N/A
Provide continuing education to the laboratory investigator to maintain and improve skills in their specialty. (3.2.3.4)	☐	1 2 3 4 5 N/A
Train the laboratory investigator in the agency's/jurisdiction's outbreak response protocols and the laboratory investigator's role in an investigation. (3.2.3.4)	☐	1 2 3 4 5 N/A
Assemble a reference library with information about foodborne diseases, enteric illnesses, and laboratory-testing methodologies. (3.2.3.3)	☐	1 2 3 4 5 N/A
Assemble a list of resource persons who have expertise in specific disease agents and laboratory-testing methodologies. (3.2.3.3)	☐	1 2 3 4 5 N/A
Exercise outbreak response team members together to ensure that each team member understands and can perform his or her role according to agency-specific protocols and legal authorities and understands the roles and responsibilities of other team members. (3.2.3.4)	☐	1 2 3 4 5 N/A
Ensure that all outbreak response team members regularly participate in outbreak investigation and control efforts, even if it means working with another jurisdiction because the team's home jurisdiction does not have many outbreaks. (3.2.3.4)	☐	1 2 3 4 5 N/A
Additional ideas:		
Specimen collection and testing		
Ensure that epidemiologic and environmental health investigators know how to collect appropriate clinical specimens and food and environmental samples and store and transport them properly. (3.2.2.4)	☐	1 2 3 4 5 N/A

	Already in place	Priority for Implementation or Improvement in Your Agency/Jurisdiction LOW HIGH
Specimen collection and testing (cont'd) Ensure that necessary laboratory supplies and equipment are available and are routinely assessed and replaced. (3.3.2.4)	☐	1 2 3 4 5 N/A
Contact clinical laboratories that may have performed primary cultures on cases and obtain patient specimens or isolates. (Table 5.1) (Table 5.2)	☐	1 2 3 4 5 N/A
Contact clinical laboratories to identify additional stool specimens being cultured to better determine persons at risk for the outbreak exposure and whether outbreak-related transmission is ongoing. (Table 5.1) (Table 5.2)	☐	1 2 3 4 5 N/A
If an outbreak is related to an event or establishment, establish the etiology through testing of clinical specimens (or food item, if implicated by epidemiology or environmental investigations) to better understand the outbreak and establish links to other outbreaks or cases. (Table 5.1)	☐	1 2 3 4 5 N/A
Store food or environmental samples, pending results of epidemiologic and environmental investigations. Test when food has been implicated by these investigations. (Table 5.2) (4.3.9.4)	☐	1 2 3 4 5 N/A
Refrigerate perishable food samples but keep foods that are frozen when collected frozen until examined. In general, if perishable food samples cannot be analyzed within 48 hours after receipt, freeze them (-40 to -80°C). Note: The allowable length of refrigeration and desirability of freezing is pathogen and food dependent. (4.3.9.4)	☐	1 2 3 4 5 N/A
Test foods (rather than clinical specimens) for outbreaks thought to involve preformed toxins, because detection of toxin or toxin-producing organisms in clinical specimens can be problematic. (4.3.9.4)	☐	1 2 3 4 5 N/A
Work with the appropriate regulatory authority to ensure that food samples are collected and maintained with appropriate chain of custody. (Table 5.2)	☐	1 2 3 4 5 N/A
Use official reference testing methods for regulated food products. (4.3.9.4)	☐	1 2 3 4 5 N/A
Streamline submission and testing of specimens to reduce turnaround time. (4.2.6)	☐	1 2 3 4 5 N/A
Undertake subtyping as isolates are submitted to reduce turnaround time. (4.2.10.2)	☐	1 2 3 4 5 N/A
Undertake PFGE and serotyping concurrently to reduce turnaround time. (4.2.10.2)	☐	1 2 3 4 5 N/A
Maintain a laboratory tracking and analysis log/database. (4.2.5)	☐	1 2 3 4 5 N/A
Rapidly post subtyping results to PulseNet. (4.2.10.5)	☐	1 2 3 4 5 N/A

	Already in place	Priority for Implementation or Improvement in Your Agency/Jurisdiction
Specimen collection and testing (cont'd)		LOW HIGH
Evaluate results of all outbreak-associated cultures to highlight possible relationships among isolates from clinical, food, and environmental samples. (Table 5.1) (Table 5.2)	☐	1 2 3 4 5 N/A
Conduct applied food-safety research to determine the ability of the agent to survive or multiply in the implicated vehicle and how the vehicle might have become contaminated with the agent. (Table 5.1) (Table 5.2)	☐	1 2 3 4 5 N/A
Additional ideas:		
Communication		
Ensure that the laboratory investigator knows the other members of the outbreak response team before an outbreak occurs. (3.6.2.2)	☐	1 2 3 4 5 N/A
Establish and use routine procedures for communicating with outbreak response team members and their organizational units before an outbreak occurs. (3.6.2.2)	☐	1 2 3 4 5 N/A
Maintain close communication and coordination with members of the outbreak response team during an investigation. Update all members of the outbreak response team daily. (5.1.2.3) (5.2.5) (6.5.1)	☐	1 2 3 4 5 N/A
Help outbreak response team members interpret results of testing. Provide background statistics on pathogen prevalence and problems with interpretation of food testing results. (Table 5.2) (3.2.2.4)	☐	1 2 3 4 5 N/A
Additional ideas:		
Making changes		
Participate in a debriefing following each outbreak investigation with all members of the outbreak response team to identify lessons learned and compare notes on ultimate findings. Identify factors that compromised the investigation and clarify changes to procedures, resources, training, and agency structure to optimize future investigations. (6.7) (3.2.3.4) (5.2.8)	☐	1 2 3 4 5 N/A
Work with outbreak response team to summarize investigation findings, conclusions, and recommendations in a written report, consistent with the size and complexity of the investigation including lessons learned and action items for follow-up and quality improvement. (3.7.2) (5.2.9) (6.8)	☐	1 2 3 4 5 N/A
Work with outbreak response team to submit summary data about the outbreak to CDC's National Outbreak Reporting System (NORS) database using CDC's form 52.13. Make every effort to complete both Part 1 and Part 2. (5.2.9)	☐	1 2 3 4 5 N/A
Additional ideas:		

3. MAKE PLANS TO IMPLEMENT SELECTED CIFOR RECOMMENDATIONS.

For each CIFOR recommendation selected in the previous step (or idea formulated by the workgroup), identify who will take the lead in implementing the recommendation and the timeframe for implementation (e.g., a specific completion date or whether the change is likely to require short, mid- or long-term efforts). If certain actions must precede others, make a note of this and adjust the timeframe. In addition, consider factors that could positively or negatively influence implementation of the recommendation and ways to incorporate the recommendation into your agency's/jurisdiction's standard operating procedures.

One person should be given responsibility for monitoring progress in implementing the above CIFOR recommendations. Follow-up should occur at specified checkpoints (e.g., 3, 6, 9, and 12 months after the start of the Toolkit process) and results should be shared with the entire workgroup.

CIFOR recommendations or other ideas from previous step	Lead person	Timeframe for implementation	Notes (e.g., necessary antecedents, factors that might influence implementation, ways to incorporate the recommendation into standard operating procedures)

DATE WORKSHEET COMPLETED: _____

NEXT DATE FOR FOLLOW-UP ON PROGRESS: _____

Focus Area 10 Worksheet: Control of Source and Secondary Spread

CIFOR
Council to Improve Foodborne Outbreak Response
Detect • Investigate • Control • Prevent

Complete this worksheet if "Control of Source and Secondary Spread"[1] is a high priority Focus Area for efforts to improve foodborne disease outbreak response in your agency/jurisdiction. (NOTE: The term "agency/jurisdiction" refers to the entity for which your workgroup is making decisions. See your completed "Document D: Preliminaries" worksheet for a definition.)

List the individuals participating in the discussion of this Focus Area (and their affiliations).

To help you understand what is included in this Focus Area, review the following goals and keys to success.

GOALS FOR CONTROL OF SOURCE AND SECONDARY SPREAD:

Agency/jurisdiction works with the facility or production site implicated in an outbreak to ensure that actions are taken to quickly stop exposure to contaminated food and prevent similar food safety problems in the future. Agency/jurisdiction also works with health-care providers, the public, and managers in settings where transmission of disease easily could occur (e.g., food establishments, health-care institutions, and child-care settings) to prevent secondary spread of disease from persons infected from the original source of the outbreak.

KEYS TO SUCCESS FOR CONTROL SOURCE AND SECONDARY SPREAD:

"Keys to success" are activities, relationships, and resources that are critical to achieving success in a Focus Area. Determining whether an agency/jurisdiction has a particular key to success in place is somewhat subjective. Metrics, such as measures of time (e.g., rapidly, timely, and quickly), have not been defined. Your workgroup should provide its own definitions for these terms, as is appropriate for your agency/jurisdiction, and use its best judgment in deciding whether a particular key to success is fully or partially in place.

Control measures

- o Agency/jurisdiction works with the facility or production site, appropriate regulatory agency, and industry representatives in determining the desired control measures.
- o Agency/jurisdiction has legal authority to require the desired control measures.
- o Staff consider a variety of control measures to address the food safety problem (e.g., removing the vehicle from consumption, cleaning the environment, educating food workers, modifying food preparation, excluding ill staff).
- o Staff work with the implicated facility to implement control measures as soon as sufficient information is available to do so.
- o Agency/jurisdiction works with settings in which transmission easily can occur to prevent secondary spread.

Communication

- o Outbreak response team members share information from the outbreak response with each other in a timely fashion.
- o Staff effectively communicate necessary control measures to the facility manager, facility workers, and others involved in the implementation of control measures and provide education, as needed.
- o Agency/jurisdiction has staff trained in communicating with the media and risk communication.

[1]In the 2011 version of the CIFOR Toolkit (companion to the 2009 CIFOR *Guidelines*), this Focus Area was split into two Focus Areas (Focus Area 10: Control of Source and Focus Area 12: Control of Secondary Spread).

- Agency/jurisdiction has means to alert health-care providers about the outbreak and provide specific information about treatment and infection control.
- Agency/jurisdiction has ongoing communication with the public.
- Agency/jurisdiction has pre-existing relationships with the media to ensure rapid and accurate communication of information to the public.

Monitoring

- Staff monitor the implementation of control measures at the implicated facility and the effectiveness of those control measures.
- Staff monitor the population at risk to ensure that the outbreak has ended and the source has been eliminated.

Making changes

- Agency/jurisdiction conducts a debriefing among investigators following each outbreak response and refines outbreak response protocols based on lessons learned.
- Agency/jurisdiction has performance indicators related to control of the source at the implicated facility and routinely evaluates its performance in this Focus Area.

1. DESCRIBE YOUR CURRENT ACTIVITIES AND PROCEDURES IN THIS FOCUS AREA.

Considering the keys to success on the previous page, describe your agency's/jurisdiction's current activities and procedures in this Focus Area. Refer to written protocols, if available, and materials related to ongoing efforts in capacity development or quality improvement (e.g., FDA Retail and Manufactured Food Regulatory Program Standards). As you list current activities and procedures related to this Focus Area, indicate those which could be changed to improve your agency's/jurisdiction's response to foodborne disease outbreaks.

Activity/Procedure	**Needs Improvement?** (Check)
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2. PRIORITIZE CIFOR RECOMMENDATIONS TO ADDRESS NEEDED IMPROVEMENTS.

Having identified activities and procedures in need of improvement, review the CIFOR recommendations related to this Focus Area (listed below). Rate the priority for implementing each recommendation based on its likely impact on foodborne outbreak response at your agency/jurisdiction and available resources. Use a scale of 1 to 5 to rate each recommendation (1=Low priority for implementation and 5=High priority for implementation). If a recommendation is already in place in your agency/jurisdiction, check the appropriate box. If a recommendation is not relevant to your agency/jurisdiction, select N/A. ***Refer to the blue underlined section number following each recommendation to view the recommendation as it appears in the CIFOR Guidelines****.*

	Already in place	Priority for Implementation or Improvement in Your Agency/Jurisdiction LOW HIGH
Control of source		
Initiate control measures as soon as possible, concurrent with ongoing investigations. (6.1.1)	☐	1 2 3 4 5 N/A
Solicit input from the entire outbreak response team (and possibly legal advisors, companies, trade associations, or other industry and academic experts) before implementing interventions that might have major legal or economic consequences (e.g., closure of an establishment or general food recall). (6.1.2)	☐	1 2 3 4 5 N/A
Before a specific food is implicated, implement non-specific control measures based on good public health practice, suspicions about the likely pathogen, and the history of the establishment. (6.2.1.1) (6.2.1.2)	☐	1 2 3 4 5 N/A
Adjust control measures as information on the causative agent and implicated food item becomes available. (6.2.1.2)	☐	1 2 3 4 5 N/A
Embargo, hold, or stop the sale of food suspected to be the source of an outbreak. (6.2.2.1.1)	☐	1 2 3 4 5 N/A
Issue a written hold or embargo order to establish a clear expectation and regulatory requirement for holding the food to prevent the owner from serving or destroying the food before the investigation is complete. (6.2.2.1.1)	☐	1 2 3 4 5 N/A
Fully document the information that led to the decision (whether to remove or not remove food) and the process used to make the decision. (6.2.2.1.1)	☐	1 2 3 4 5 N/A
Ensure that the facility and all equipment are thoroughly cleaned and sanitized, followed by microbial verification of the effectiveness of the cleaning and sanitizing processes. This is particularly important if *Salmonella, Listeria monocytogenes,* or norovirus are suspected. Consult industry guidance documents and the FDA's Food Code in Annex 4 for cleaning, sanitizing, and microbial verification protocols. (6.2.2.1.2)	☐	1 2 3 4 5 N/A
Ensure that staff at the implicated facility are trained/retrained on proper cleaning and maintenance procedures for all equipment. (6.2.2.1.2)	☐	1 2 3 4 5 N/A

	Already in place	Priority for Implementation or Improvement in Your Agency/Jurisdiction LOW HIGH
Control of source (cont'd) Require that staff at the implicated facility be trained/retrained on general practices of safe food preparation including thorough hand washing, not working when ill, no bare-hand contact with ready-to-eat foods, proper use of gloves and utensils, proper holding temperatures, proper procedures for rapid cooling, and thorough cooking and reheating of foods. (6.2.2.1.3) (6.4.4)	☐	1 2 3 4 5 N/A
If the pathogen is known, educate staff at the implicated facility about the disease (e.g., symptoms, mode of transmission, and prevention) and practices specific to control of that pathogen. (6.2.2.1.3) (6.4.4)	☐	1 2 3 4 5 N/A
Customize training at the facility to support the desired behavioral changes among staff. (6.6.3)	☐	1 2 3 4 5 N/A
Require the facility manager to document training of both current and newly hired staff. (6.2.2.1.3)	☐	1 2 3 4 5 N/A
Work with the facility to modify food-production or food-preparation processes, if needed, to reduce risk, such as changing a recipe, changing a process, reorganizing preparation processes, changing storage temperatures, or modifying instructions to consumers. Base decisions on the scientific evidence of the effectiveness of the changes to control the pathogen linked to the outbreak. (6.2.2.1.4)	☐	1 2 3 4 5 N/A
Work with the food establishment's person-in-charge (PIC) to implement active managerial controls and create a risk-control plan or consent agreement so the PIC knows exactly what steps need to be taken and has committed to control the situation and prevent additional outbreaks (6.2.2.1.4) (6.4.4)	☐	1 2 3 4 5 N/A
Eliminate implicated foods from the menu until control measures are in place. (6.2.2.1.5)	☐	1 2 3 4 5 N/A
Ensure that infected food workers are excluded from the workplace or restricted in accordance with the FDA Food Code or other regulatory requirements. Consult local ordinances and state statutes to understand the agency's legal authorities. If the outbreak response team believes a public health threat exists, the team should strongly recommend exclusion of infected food workers regardless of the legal authorities. (6.2.2.1.6) (6.4.3)	☐	1 2 3 4 5 N/A
If the facility owner is unable or unwilling to take immediate corrective action to eliminate food-safety hazards, consider closing the facility, following local regulations. (6.2.2.1.7)	☐	1 2 3 4 5 N/A
If the facility owner will not act voluntarily to close the facility, employ other control measures, such as cease-and-desist orders, permit action, and hearing in front of a judge. (6.2.2.1.7)	☐	1 2 3 4 5 N/A

	Already in place	Priority for Implementation or Improvement in Your Agency/Jurisdiction
Control of source (cont'd)		LOW HIGH
If the implicated facility provides food for an institution in which residents have no alternative food sources, work with institution staff to identify options for bringing in food or leave the facility open but eliminate high-risk items from the menu. (6.2.2.1.7)	☐	1 2 3 4 5 N/A
Establish a clear plan with criteria that need to be met, including actions that must be taken or results that must be achieved, for the facility to reopen. (6.2.2.1.7) (3.7.2)	☐	1 2 3 4 5 N/A
Remove restrictions at the facility when risk factors have been eliminated and testing indicates that the problem has been eliminated. (6.2.2.1.7) (6.6.2)	☐	1 2 3 4 5 N/A
Additional ideas:		
Communication with the implicated facility		
Understand the agency's legal framework so you know how to interact with personnel from the facility implicated in the outbreak. (6.5.4)	☐	1 2 3 4 5 N/A
Determine when and how to share outbreak information with the owner and/or manager of the implicated facility. Make contact as soon as possible and share as much information as possible. (6.5.4) (3.5.2.1)	☐	1 2 3 4 5 N/A
Notify owners and/or managers of the implicated facility that they must share any new reports of illness or other new information that could affect the investigation or food recall efforts. (6.5.1)	☐	1 2 3 4 5 N/A
Maintain communication with owners and/or managers of the implicated facility throughout and after the investigation, and tell them if additional information becomes available. Communicate possible outbreak control measures to the facility manager and workers and provide education as needed. (6.6.3)	☐	1 2 3 4 5 N/A
Guide agency staff on how to respond to and communicate with angry food-service workers and managers. (3.6.2.5)	☐	1 2 3 4 5 N/A
Additional ideas:		
Control of secondary spread		
Exclude or restrict ill (or recently ill) individuals working in settings where disease transmission can occur (e.g., food-preparation, health-care, child-care) from the workplace in accordance with the FDA Food Code or other regulatory requirements. Consult local ordinances and state statutes to understand the agency's legal authorities. If the outbreak response team believes a public health threat exists, the team should strongly recommend exclusion of ill or recently ill food workers regardless of their legal authority. (6.2.2.1.6) (6.4.3) (6.6.2)	☐	1 2 3 4 5 N/A

	Already in place	Priority for Implementation or Improvement in Your Agency/Jurisdiction
Control of secondary spread (cont'd)		LOW HIGH
Recommend the use of infection control precautions with hospitalized and institutionalized persons with infectious diarrhea (particularly easily transmissible infections such as *Salmonella*, *Shigella*, and norovirus) including isolation of patients; barrier nursing precautions; strict control of contaminated clothing, surfaces, and bedding; and strict observation of personal hygiene measures. (6.4.4)	☐	1 2 3 4 5 N/A
During a norovirus outbreak, recommend the use of chlorine solutions or other approved effective sanitizers or methods rather than standard cleaning chemicals. (6.4.4)	☐	1 2 3 4 5 N/A
Set up processes with area hospitals, physicians, local health departments, specialty clinics, or other health-care providers to provide prophylaxis before an outbreak occurs. Consider the number of people likely exposed and the anticipated response to the prophylaxis offer when planning, including community medical staff, vaccine/product supply, crowd control management, and health department phone staffing. (6.4.5)	☐	1 2 3 4 5 N/A
Test plans for large-scale prophylaxis before an outbreak occurs. (6.4.5)	☐	1 2 3 4 5 N/A
Develop processes to identify and communicate with persons who may need prophylaxis including groups at higher risk for severe illness and poor outcomes from foodborne diseases. (6.4.5)	☐	1 2 3 4 5 N/A
Additional ideas:		
Communication with health care providers		
Notify health-care providers about the outbreak and encourage them to report cases of the illness under investigation and collect appropriate patient specimens. (6.4.1)	☐	1 2 3 4 5 N/A
Provide health-care providers with information about the disease associated with the outbreak including specific treatments and follow-up of cases, infection control guidance for patients, and infection control precautions for hospitalized and institutionalized patients. (6.2.1.1) (6.4.1)	☐	1 2 3 4 5 N/A
Additional ideas:		
Communication with the public		
If the outbreak involves only one facility, determine whether public notification is necessary. Factors that support public notification include: • Medical treatment is needed by persons exposed to the etiologic agent; • Public reporting of suspected illness is important to the investigation; and • The risk of exposure still exists. (6.2.2.1.8)	☐	1 2 3 4 5 N/A

	Already in place	Priority for Implementation or Improvement in Your Agency/Jurisdiction LOW HIGH
Communication with the public (cont'd) If the outbreak involves a distributed product, notify the public. Provide information about how to handle the suspected product (e.g., discard, special preparation instructions, or return to place of purchase). (6.2.2.2.2)	☐	1 2 3 4 5 N/A
Identify an agency lead on interactions with the public, ideally someone trained in communication. (3.6.2.5)	☐	1 2 3 4 5 N/A
When developing messages for the public, seek assistance from the agency's public information officer or the public information officer at another agency, if the agency does not have this resource. (6.2.2.1.8)	☐	1 2 3 4 5 N/A
Establish procedures for coordinating communication with the public between agencies involved in an investigation to provide consistent messaging and accurate information flow. (3.6.2.5) (6.2.1) (6.2.2.2.2)	☐	1 2 3 4 5 N/A
Prepare messages for the public following good risk communication practices and agency communication protocols. Provide only objective information. Do not give preliminary, unconfirmed information. Provide clear actions the public should take to protect itself from infection. (6.2.1.1) (6.2.2.1.8) (6.2.2.2.2)	☐	1 2 3 4 5 N/A
Decide in advance how to communicate the naming of implicated establishments based on local legal guidelines and whether risk of transmission is ongoing.	☐	1 2 3 4 5 N/A
Use standard formats for reporting complex procedural, technical, or risk information to the public and actions the public should take during an outbreak (e.g., how to decrease the risk for illness, how to handle the suspected product, actions to take if illness occurs). (6.5.3)	☐	1 2 3 4 5 N/A
Test messages with representatives of the target population, if possible. (6.5.3)	☐	1 2 3 4 5 N/A
When communicating with the public about an outbreak, take advantage of a teachable moment to reinforce basic food-safety and public health messages (e.g., thorough hand washing, proper food preparation, and advice on personal hygiene) and how to contact appropriate authorities to report suspected foodborne illness. (6.2.1.1) (6.4.2)	☐	1 2 3 4 5 N/A
Use established channels of communication with the public. Means of notification depend on the public health risk and the target population and include press releases, radio, television, fax, telephone, e-mail, Web posting, social media, or letters. (6.2.2.2.2) (3.6.2.5) (6.5.3)	☐	1 2 3 4 5 N/A
Attempt to reach all members of the population at risk, including non-English-speaking and low-literacy populations. (6.2.2.2.2)	☐	1 2 3 4 5 N/A

	Already in place	Priority for Implementation or Improvement in Your Agency/Jurisdiction
Communication with the public (cont'd)		LOW HIGH
Consider whether special communications are needed for groups at higher risk than others for severe illness and poor outcomes from foodborne diseases (e.g., infants, pregnant women, and immune-compromised persons). (6.5.3)	☐	1 2 3 4 5 N/A
If the outbreak is large or the etiologic agent is highly virulent, consider setting up an emergency hotline so the public can call with questions. Persons answering the phones should be trained to give consistent responses. (6.2.2.2.2)	☐	1 2 3 4 5 N/A
Guide agency staff on how to respond to and communicate with angry members of the public. (3.6.2.5)	☐	1 2 3 4 5 N/A
Additional ideas:		
Communications with the media		
Obtain media training for primary agency spokespersons. (3.6.2.7)	☐	1 2 3 4 5 N/A
For each outbreak, identify an agency lead on media interactions, ideally someone trained as a public information officer. (3.6.2.7)	☐	1 2 3 4 5 N/A
Establish procedures for coordinating communication with the media to provide consistent messaging and accurate information flow. (3.6.2.7)	☐	1 2 3 4 5 N/A
Establish channels for communication with the media (e.g., website, telephone number) including primary contact persons for major local media outlets. Know routine deadlines and time frames for reporting news through major local media outlets (e.g., the deadline for having news from a press release appear in the evening newspaper). (3.6.2.7)	☐	1 2 3 4 5 N/A
Additional ideas:		
Monitoring		
Follow established agency/jurisdiction protocols for monitoring the implicated facility or food source. (3.7.2)	☐	1 2 3 4 5 N/A
Monitor implicated foods or facilities to make sure no further contamination is occurring, that modified processes have been implemented and are effective, and that long-term behavioral changes have occurred. (6.2.2.1.4) (6.6.3)	☐	1 2 3 4 5 N/A
Increase the number of routine inspections at the implicated facility to ensure that they comply with all required procedures. (6.6.3)	☐	1 2 3 4 5 N/A

	Already in place	Priority for Implementation or Improvement in Your Agency/Jurisdiction
Monitoring (cont'd)		LOW HIGH
Conduct post-outbreak monitoring of the population at risk for signs and symptoms of the illness under investigation to ensure that the outbreak has ended and the source has been eliminated. (6.6.3)	☐	1 2 3 4 5 N/A
Consider conducting active surveillance, working with health-care providers to increase their vigilance for cases and collecting stool samples from the population at risk, to ensure that the outbreak has ended and the source has been eliminated. (6.6.3)	☐	1 2 3 4 5 N/A

Additional ideas:

Making changes

Arrange a debriefing (after-action meeting) following each outbreak investigation with all investigators to assess the effectiveness of outbreak control measures and difficulties implementing them, identify measures to prevent future outbreaks at the implicated facility and other facilities, and identify long-term and structural control measures and plan their implementation. (6.6.3) (3.2.3.4) (5.2.8)	☐	1 2 3 4 5 N/A
Prepare summary reports for all outbreaks consistent with the size and complexity of the response. Use the reports as a continuous quality improvement opportunity. (6.8) (5.2.9)	☐	1 2 3 4 5 N/A
Identify issues that need follow-up research (e.g., the need for new measures to control certain pathogens in certain foods). (6.9.1)	☐	1 2 3 4 5 N/A
Identify the need for broad education of the public, the food-service and food-processing industries, or health-care providers to prevent similar outbreaks in the future. (6.9.3)	☐	1 2 3 4 5 N/A
Identify the need for new public health or regulatory policy at the local, state, or federal level. (6.9.4)	☐	1 2 3 4 5 N/A
Consult with other public health, environmental health, and food regulatory agencies on the need for new policy before presenting to the appropriate jurisdictional authority. (6.9.4)	☐	1 2 3 4 5 N/A

Additional ideas:

3. MAKE PLANS TO IMPLEMENT SELECTED CIFOR RECOMMENDATIONS.

For each CIFOR recommendation selected in the previous step (or idea formulated by the workgroup), identify who will take the lead in implementing the recommendation and the timeframe for implementation (e.g., a specific completion date or whether the change is likely to require short, mid- or long-term efforts). If certain actions must precede others, make a note of this and adjust the timeframe. In addition, consider factors that could positively or negatively influence implementation of the recommendation and ways to incorporate the recommendation into your agency's/jurisdiction's standard operating procedures.

One person should be given responsibility for monitoring progress in implementing the above CIFOR recommendations. Follow-up should occur at specified checkpoints (e.g., 3, 6, 9, and 12 months after the start of the Toolkit process) and results should be shared with the entire workgroup.

CIFOR recommendations or other ideas from previous step	Lead person	Timeframe for implementation	Notes (e.g., necessary antecedents, factors that might influence implementation, ways to incorporate the recommendation into standard operating procedures)

DATE WORKSHEET COMPLETED: _____

NEXT DATE FOR FOLLOW-UP ON PROGRESS: _____

Focus Area 11 Worksheet:

Food Recall

CIFOR Council to Improve Foodborne Outbreak Response

Detect • Investigate • Control • Prevent

FOCUS AREA 11: FOOD RECALL

Complete this worksheet if "Food Recall" is a high priority Focus Area for efforts to improve foodborne disease outbreak response in your agency/jurisdiction. (NOTE: The term "agency/jurisdiction" refers to the entity for which your workgroup is making decisions. See your completed "Document D: Preliminaries" worksheet for a definition.)

List the individuals participating in the discussion of this Focus Area (and their affiliations).

To help you understand what is included in this Focus Area, review the following goals and keys to success.

GOALS FOR FOOD RECALL:

Agency/jurisdiction ensures that the food implicated in an outbreak is removed from the market, retail establishments, and the homes of consumers as quickly as possible.

KEYS TO SUCCESS FOR FOOD RECALL:

"Keys to success" are activities, relationships, and resources that are critical to achieving success in a Focus Area. Determining whether an agency/jurisdiction has a particular key to success in place is somewhat subjective. Metrics, such as measures of time (e.g., rapidly, timely, and quickly), have not been defined. Your workgroup should provide its own definitions for these terms, as is appropriate for your agency/jurisdiction, and use its best judgment in deciding whether a particular key to success is fully or partially in place.

- ○ Agency/jurisdiction collaborates with state and federal agencies as well as the implicated facility or production site in the recall.
- ○ Agency/jurisdiction proactively embargoes or seizes the implicated food product while awaiting official recall.
- ○ Agency/jurisdiction has means to quickly notify retail establishments and other sites (e.g., food banks) under its jurisdiction about the recall.
- ○ Agency/jurisdiction has means to quickly notify the public about a recall.
- ○ Agency/jurisdiction monitors the effectiveness of the recall at all appropriate establishments.

Making changes

- ○ Agency/jurisdiction conducts a debriefing among investigators following each outbreak response and refines outbreak response protocols based on lessons learned.
- ○ Agency/jurisdiction has performance indicators related to food recall and routinely evaluates its performance in this Focus Area.

1. DESCRIBE YOUR CURRENT ACTIVITIES AND PROCEDURES IN THIS FOCUS AREA.

Considering the keys to success on the previous page, describe your agency's/jurisdiction's current activities and procedures in this Focus Area. Refer to written protocols, if available, and materials related to ongoing efforts in capacity development or quality improvement (e.g., FDA Retail and Manufactured Food Regulatory Program Standards). As you list current activities and procedures related to this Focus Area, indicate those which could be changed to improve your agency's/jurisdiction's response to foodborne disease outbreaks.

Activity/Procedure	Needs Improvement? ✓
	☐
	☐
	☐
	☐
	☐
	☐
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	☐
	☐
	☐
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	☐
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	☐

2. PRIORITIZE CIFOR RECOMMENDATIONS TO ADDRESS NEEDED IMPROVEMENTS.

Having identified activities and procedures in need of improvement, review the CIFOR recommendations related to this Focus Area (listed below). Rate the priority for implementing each recommendation based on its likely impact on foodborne outbreak response at your agency/jurisdiction and available resources. Use a scale of 1 to 5 to rate each recommendation (1=Low priority for implementation and 5=High priority for implementation). If a recommendation is already in place in your agency/jurisdiction, check the appropriate box. If a recommendation is not relevant to your agency/jurisdiction, select N/A. **Refer to the blue underlined section number following each recommendation to view the recommendation as it appears in the CIFOR Guidelines**.

	Already in place	Priority for Implementation or Improvement in Your Agency/Jurisdiction
Before a food event occurs		LOW HIGH
Know which regulators have responsibility over which food products. (3.1.2.6) (3.1.2.7)	☐	1 2 3 4 5 N/A
Work with manufacturers, processors, and retail establishments in the jurisdiction to prepare for a recall. Ask them to: • Maintain product source and shipping information for quick access; • Develop the ability to rapidly notify customers of a recall through established methods, such as blast e-mail, fax, text messaging, social media, phone calls, and mail for people who may have purchased recalled foods; and • Develop procedures to prevent recalled food from being put back into commerce. (Box 6.1)	☐	1 2 3 4 5 N/A
Develop materials to support businesses and the industry during a recall, including: • A list of control measures to implement immediately when an outbreak-related or illness-related recall has been identified; • Guidance for interacting with public health, environmental health, or agriculture officials investigating an outbreak including contact information for regulatory agencies; • Contact information for regulators at the local, state, and federal level; • Guidance for communicating with the news media; • Guidelines for mitigating the impact of the recall; and • Templates, message maps, or public information sheets for common foodborne disease agents. (6.2.2.2.1)	☐	1 2 3 4 5 N/A
Ensure that local food establishments are aware of the "CIFOR Foodborne Illness Response Guidelines for Owners, Operators and Managers of Food Establishments" and monitor their awareness of these guidelines. (6.2.2.2.1)	☐	1 2 3 4 5 N/A
Ensure that regulators responsible for food facilities have a means to notify all food facilities in their jurisdiction immediately through e-mail, blast fax, phone calls, or other means. Identifying subcategories of facilities (that use or sell particular food commodities) is highly recommended so notices can be targeted to specific facilities. (6.2.2.2.1)	☐	1 2 3 4 5 N/A

Additional ideas:

	Already in place	Priority for Implementation or Improvement in Your Agency/Jurisdiction
After a food event occurs		LOW HIGH
Contact the federal or state regulatory agency that has jurisdiction over the product implicated in an outbreak immediately since that agency will be responsible for working with the manufacturer/producer on the recall. (6.2.2.2)	☐	1 2 3 4 5 N/A
Work with the appropriate regulatory agency to determine whether to remove a food from the market. The decision should be based on the likelihood that consumers are still at risk for exposure to the food, the quality of the information implicating the food, and the virulence of the pathogen. (6.2.2.2)	☐	1 2 3 4 5 N/A
Fully document the information that led to the decision to recall the food and the process used to make the decision. (6.2.2.2)	☐	1 2 3 4 5 N/A
Once a decision is made to remove a food from the market, remove it as quickly and efficiently as possible, working closely with state and federal regulatory agencies and the implicated manufacturer/producer. (6.2.2.2.1)	☐	1 2 3 4 5 N/A
If your jurisdiction has legal authority to do so, embargo (impound) the food at the manufacturer/producer while awaiting the official recall. (6.2.2.2)	☐	1 2 3 4 5 N/A
If the implicated food is associated with a highly dangerous condition, consider the possibility of food seizure to ensure immediate and complete removal of the suspected food from the market. (Box 6.1)	☐	1 2 3 4 5 N/A
Advise a manufacturer/processor that refuses to recall a food that public health agencies or regulators might issue their own notice to the public, and that the notice might include the message that the firm declined to voluntarily recall the product. (6.2.2.2.2)	☐	1 2 3 4 5 N/A
Monitor recall efforts to ensure that the food is completely removed from distribution and that the recall is effective in stopping illnesses. If the recall is not effective, notify appropriate state, federal, and neighboring public health and food-regulatory agencies. Issue a public advisory if needed. (6.2.2.2.1)	☐	1 2 3 4 5 N/A
Obtain interim and final reports about the recall from the manufacturer/producer that recalls a product to determine the need for further recall actions. (6.2.2.2.3)	☐	1 2 3 4 5 N/A

Additional ideas:

	Already in place	Priority for Implementation or Improvement in Your Agency/Jurisdiction
Communication with public		LOW HIGH
If the outbreak involves a distributed product, notify the public. (6.2.2.2.2)	☐	1 2 3 4 5 N/A
Communicate with the public about food recalls using good risk communication practices. Provide only objective information. Do not give preliminary or unconfirmed information. Provide clear actions that the public should take (e.g., handling of the suspected product, actions to take if illness occurs). (6.2.2.2.2)	☐	1 2 3 4 5 N/A
Seek assistance from the agency's public information officer or the public information officer at another agency, if the agency does not have this resource, to help in developing messages for the public. (6.2.2.1.8)	☐	1 2 3 4 5 N/A
Use established channels of communication with the public. Means of notification depend on the public health risk and the target population and might include press releases, radio, television, fax, telephone, e-mail, Web posting, social media, or letters. (6.2.2.2.2) (3.6.2.5) (6.5.3)	☐	1 2 3 4 5 N/A
Attempt to reach all members of the population at risk, including non-English-speaking and low-literacy populations. (6.2.2.2.2)	☐	1 2 3 4 5 N/A
If the outbreak is large or the etiologic agent is highly virulent, consider setting up an emergency hotline so the public can call with questions. Train persons answering the hotline so that they will provide consistent messages. (6.2.2.2.2)	☐	1 2 3 4 5 N/A
If press releases are to be issued by the manufacturer or retail establishments, review and approve their statements before release. (6.2.2.2.2)	☐	1 2 3 4 5 N/A
Even if the affected industry or business is issuing a press release, consider issuing a release since local press releases often get better coverage from the local media. If time allows, give affected industry members or businesses an opportunity to comment on your release. (6.2.2.2.2)	☐	1 2 3 4 5 N/A
Coordinate press releases with others releasing messages about the recall (e.g., the manufacturer, retail establishments, regulatory agencies) to ensure consistency in the message. (6.2.2.2.2)	☐	1 2 3 4 5 N/A

Additional ideas:

3. MAKE PLANS TO IMPLEMENT SELECTED CIFOR RECOMMENDATIONS.

For each CIFOR recommendation selected in the previous step (or idea formulated by the workgroup), identify who will take the lead in implementing the recommendation and the timeframe for implementation (e.g., a specific completion date or whether the change is likely to require short, mid- or long-term efforts). If certain actions must precede others, make a note of this and adjust the timeframe. In addition, consider factors that could positively or negatively influence implementation of the recommendation and ways to incorporate the recommendation into your agency's/jurisdiction's standard operating procedures.

One person should be given responsibility for monitoring progress in implementing the above CIFOR recommendations. Follow-up should occur at specified checkpoints (e.g., 3, 6, 9, and 12 months after the start of the Toolkit process) and results should be shared with the entire workgroup.

CIFOR recommendations or other ideas from previous step	Lead person	Timeframe for implementation	Notes (e.g., necessary antecedents, factors that might influence implementation, ways to incorporate the recommendation into standard operating procedures)

DATE WORKSHEET COMPLETED: _____

NEXT DATE FOR FOLLOW-UP ON PROGRESS: _____

Sample Focus Area Worksheet: Completed by Public Health Seattle-King County

CIFOR Council to Improve Foodborne Outbreak Response

Detect • Investigate • Control • Prevent

FOCUS AREA 3: COMMUNICATION

Complete this worksheet if "Communication" is a high priority Focus Area for efforts to improve foodborne disease outbreak response in your agency/jurisdiction. (NOTE: The term "agency/jurisdiction" refers to the entity for which your workgroup is making decisions. See your completed "Document D: Preliminaries" worksheet for a definition.)

List the individuals participating in the discussion of this Focus Area (and their affiliations).

Laurie Stewart (Epidemiologist, Communicable Disease Epidemiology Section [CD],Public Health Seattle-King County [PHSKC]), Jenny Lloyd (Epidemiologist, CD, PHSKC), Tao Kwan-Gett (Medical Epidemiologist, CD, PHSKC), Craig Sivak (Public health nurse, CD, PHSKC), Jeff Duchin (Chief, CD, PHSKC), Hilary Karasz (Educator/consultant, Communications Team, PHSKC), Phil Wyman (Health and Environmental Investigator, Environmental Health Services, PHSKC), Nicola Marsden-Haug (Epidemiologist, Communicable Disease Epidemiology Section, Washington State Department of Health [WA DOH]), Brian Hiatt (Laboratorian, Public Health Laboratory, WA DOH)

To help you understand what is included in this Focus Area, review the following goals and keys to success.

GOALS FOR COMMUNICATION:

Agency/jurisdiction lays groundwork for good communication with key individuals, both internal and external to the agency, before an outbreak occurs.

KEYS TO SUCCESS FOR COMMUNICATION:

"Keys to success" are activities, relationships, and resources that are critical to achieving success in a Focus Area. Determining whether an agency/jurisdiction has a particular key to success in place is somewhat subjective. Metrics, such as measures of time (e.g., rapidly, timely, and quickly), have not been defined. Your workgroup should provide its own definitions for these terms, as is appropriate for your agency/jurisdiction, and use its best judgment in deciding whether a particular key to success is fully or partially in place.

Contact lists

- Agency/jurisdiction identifies key individuals and organizations related to outbreak response before an outbreak occurs including members of the outbreak response team, officials inside the agency, contacts at external agencies (i.e., other local, state, and federal agencies), and the media.
- Agency/jurisdiction establishes and frequently updates contact lists for key individuals and organizations.

Communication practices

- Agency/jurisdiction has procedures for communicating with key individuals and organizations. Procedures are written and easily accessible by staff.
- Agency/jurisdiction has staff trained in communicating with the media and risk communication.
- Agency/jurisdiction identifies a person(s) responsible for external communication on behalf of the agency/jurisdiction during each outbreak response.

Making changes

- Agency/jurisdiction conducts a debriefing among investigators following each outbreak response and refines outbreak response planning based on lessons learned.
- Agency/jurisdiction has performance indicators related to communication and routinely evaluates its performance in this Focus Area.

1. DESCRIBE YOUR CURRENT ACTIVITIES AND PROCEDURES IN THIS FOCUS AREA.

Considering the keys to success on the previous page, describe your agency's/jurisdiction's current activities and procedures in this Focus Area. Refer to written protocols, if available, and materials related to ongoing efforts in capacity development or quality improvement (e.g., FDA Retail and Manufactured Food Regulatory Program Standards). As you list current activities and procedures related to this Focus Area, indicate those which could be changed to improve your agency's/jurisdiction's response to foodborne disease outbreaks.

Activity/Procedure	Needs Improvement? ✓
Primary partners in foodborne outbreak response include PHSKC epidemiology investigation team, PHSKC Environmental Health Division, WA DOH Public Health Laboratory and Communicable Disease Epidemiology Section, PHSKC Communications Team, PHSKC Preparedness Section, FDA, Washington Department of Agriculture, Washington Shellfish Program. Secondary partners: local healthcare system, other Washington regulatory agencies and CDC.	
CD section staff have good relationships/communications with primary partners; section staff cross-trained in foodborne illness investigations and outbreak investigation so all have a good understanding of the response.	
Recent transfer of confirmatory laboratory testing of enteric pathogens from PHSKC to WA DOH PHL has resulted in PHSKC CD not receiving preliminary results for high-priority organisms (to allow early action by CD team if necessary); communication/collaboration with WA DOH laboratory might benefit from more frequent meetings.	✓
Staff less familiar with WA Department of Agriculture and U.S. FDA	
Section maintains contact list for key individuals/organizations but list is not updated at specified intervals.	✓
Criteria for engagement/notification of partners outside CD Section determined by Section staff based on "non-written protocol" as indicated on a case by case basis.	✓? (Not sure written protocols are necessary except for training)
No formal communication protocols exist. Section has many disease investigation protocols/procedures, some of which include communications considerations.	
CD section has access to communications experts at PHSKC. PHSKC Communication experts have good relationships with WA DOH communications staff. PHSKC Communications Team not as familiar as they would like regarding respective roles and responsibilities of various players in outbreak response.	✓
Some CD staff have had training in communications. Significant experience among staff in communication procedures based on frequency of outbreaks and longevity of senior staff	
Section routinely designates one individual for external communications during an outbreak response.	
Coordination and information-sharing among various external initiatives and special projects (e.g., FERN, FDA's RRT, LRN, CIFOR) not clear.	✓

2. PRIORITIZE CIFOR RECOMMENDATIONS TO ADDRESS NEEDED IMPROVEMENTS.

Having identified activities and procedures in need of improvement, review the CIFOR recommendations related to this Focus Area (listed below). Rate the priority for implementing each recommendation based on its likely impact on foodborne outbreak response at your agency/jurisdiction and available resources. Use a scale of 1 to 5 to rate each recommendation (1=Low priority for implementation and 5=High priority for implementation). If a recommendation is already in place in your agency/jurisdiction, check the appropriate box. If a recommendation is not relevant to your agency/jurisdiction, select N/A. **Refer to the blue underlined section number following each recommendation to view the recommendation as it appears in the CIFOR Guidelines**.

	Already in place	Priority for Implementation or Improvement in Your Agency/Jurisdiction					
Contact lists		LOW				HIGH	
Prepare contact information (including after-hours information) for people in the agency who should be contacted in the event of an outbreak, including backups. (3.6.2.1)	☑	1	2	3	4	5	N/A
Prepare contact information (including after-hours numbers) for contact people in external agencies (e.g., other local, state, and federal agencies). (3.6.2.1)	☑	1	2	3	4	5	N/A
Prepare contact information (including after-hours numbers) for important food industry contacts, including trade associations. (3.6.2.1)	☑	1	2	3	4	5	N/A
Ensure that all contact lists are updated at least twice yearly and, when feasible, made available to all stakeholders in both electronic and hard copy formats. (3.6.2.1)	☐	1	2	3	4	**5**	N/A
Distribute a list of your agency's contacts to other agencies, and obtain a list of their contacts. Provide the contact list in electronic and hard copy formats. (3.6.2.1) (3.6.2.3)	☑	1	2	3	4	5	N/A
Develop a group electronic distribution list for rapidly information sharing with those who should be contacted in the event of an outbreak.	☑	1	2	3	4	5	N/A

Additional ideas:
PHSKC Environmental Health Services and WA DOH have contact lists for important food industry contacts.

Communication practices – Internal (outbreak response team and their organizational units and agencies)							
Ensure that members of the outbreak response team know each other before an outbreak occurs. (3.6.2.2)*	☑	1	2	3	4	5	N/A
Establish and use routine procedures for communicating among outbreak response team members and their units and agencies before an outbreak occurs. (3.6.2.2)	☑	1	2	3	4	5	N/A
Define a formal communication process for agencies of the outbreak response team for use during outbreaks. Options include daily phone calls and routine e-mail alerts. (3.6.2.2)	☑	1	2	3	4	5	N/A

	Already in place	Priority for Implementation or Improvement in Your Agency/Jurisdiction					
Communication practices – Internal (cont'd)		LOW				HIGH	
Decide who will be notified when an outbreak is suspected on the basis of roles, including any changes in notification according to the nature of the outbreak (e.g., pathogen type, involvement of commercial product) and timing (weekends and holidays versus week days). (3.6.2.2)**	☑	1	2	3	4	5	N/A
Determine whether and how confidential information (e.g., from forms and questionnaires) can shared within the outbreak response team before an outbreak occurs. (3.5.2) (3.6.2.2)	☑	1	2	3	4	5	N/A
During an outbreak response, maintain close communication and coordination among response team members. (5.1.2.3) (5.2.5)	☑	1	2	3	4	5	N/A
During an outbreak response, identify persons who will be responsible for external communication on behalf of their organizational unit and for the outbreak response team. (3.6.2.2)	☑	1	2	3	4	5	N/A
During an outbreak response, communicate actions taken and new outbreak information to all members in the outbreak response team. Make sure public information officer is routinely updated to ensure appropriate messaging to the public and media. (6.4.1) (5.2.5)	☑	1	2	3	4	5	N/A
During an outbreak response, arrange for the outbreak response team to meet daily to update the entire team in a timely manner. (5.2.5)***	☑	1	2	3	4	5	N/A

Additional ideas:
*Provide Communications team information regarding roles, responsibilities, and procedures for investigations.
**Develop checklist of key agencies that can be used by staff to keep track of who has been contacted.
***Consider using web tools such as Twitter to keep outbreak response team up-to-date on new findings.

Communication practices – External agencies (other local, state, and federal agencies)							
Develop standardized processes (including notification triggers and timelines) for sharing information with other local, state, and federal agencies, including who will notify the next level of public health, environmental health, or food-regulatory agencies. Commit to notifying collaborating agencies as soon as possible in the outbreak investigation process. (3.6.2.3)	☑	1	2	3	4	5	N/A
Identify an agency lead on interactions with other agencies, ideally the lead investigator. Establish procedures for coordinating communication with these entities to provide consistent messaging and accurate information flow. (3.6.2.3)	☑	1	2	3	4	5	N/A
Foster working relationships with other agencies, holding joint meetings and planning sessions before an outbreak occurs. (3.6.2.3)	☑	1	2	3	4	5	N/A
Establish processes for participating in multiagency, multijurisdictional conference calls and train staff in conference call etiquette. (3.6.2.3). *WA DOH responsibility*	☐	1	2	3	4	5	**N/A**
Determine whether and how confidential information can be shared with other local, state and federal agencies. (3.6.2.3)	☑	1	2	3	4	5	N/A

	Already in place	Priority for Implementation or Improvement in Your Agency/Jurisdiction					
Communication practices – External agencies (cont'd)		LOW				HIGH	
Identify and regularly communicate with agencies or organizations that receive possible foodborne illness complaints (e.g., agriculture agencies, facility licensing agencies, poison control centers) and ensure that they have current contact information for your staff. (4.3.9.7)	☐	1	2	3	4	**5**	N/A
Rapidly post subtyping results to PulseNet and report newly detected clusters to PulseNet and Foodborne Outbreak listserves. (4.2.10.5) *WA DOH responsibility*	☐	1	2	3	4	5	**N/A**
Document every outbreak investigation using a standard form to facilitate inclusion in state and national outbreak databases. (5.2.9)	☑	1	2	3	4	5	N/A
Additional ideas:							

Communication practices – Public							
Establish standard channels of communication with the public before an outbreak occurs and use those same channels each time a public health issue arises about which the public may seek information. (3.6.2.5)	☑	1	2	3	4	5	N/A
Identify an agency lead on interactions with the public, ideally someone trained in communication. Establish procedures for coordinating communication with the public to provide consistent messaging and accurate information flow. (3.6.2.5)	☑	1	2	3	4	5	N/A
Create templates for communication with the public (e.g., fact sheets), focusing on the most common foodborne diseases before an outbreak occurs. (3.6.2.5)	☑	1	2	3	4	5	N/A
Establish relationships with consumer groups that might be helpful in disseminating information about foodborne disease outbreaks and disease prevention messages. (3.6.2.5)	☐	**1**	2	3	4	5	N/A
Periodically issue foodborne disease prevention messages or press releases to ensure that the public knows with whom to communicate and from where information will come during an outbreak. (3.6.2.5)	☑	1	2	3	4	5	N/A
Since the public obtains news from multiple sources, use all available sources to disseminate information (e.g., the Internet, television, radio, newspapers, and social media). (6.5.3)	☑	1	2	3	4	5	N/A
Create and test web-based tools for communication with the public (e.g., blast e-mails, survey instruments). (3.6.2.5)	☑	1	2	3	4	5	N/A
Adopt a standard format for reporting risk information to the public. (6.5.3) Decide in advance how to communicate the naming of implicated establishments based on local legal guidelines and whether risk of transmission is ongoing.	☑	1	2	3	4	5	N/A

	Already in place	Priority for Implementation or Improvement in Your Agency/Jurisdiction					
Communication practices – Public (cont'd)		LOW				HIGH	
Adopt standard scripts for reporting complex procedural or technical information to the public. (6.5.3)	☑	1	2	3	4	5	N/A
In communicating with the public during an outbreak provide practical measures that the public can take to decrease risk for illness (e.g., avoidance of known high-risk foods or special instructions for their preparation), as well as basic food-safety messages and information about how to contact public health authorities to report suspected related illnesses. (6.2.1)	☑	1	2	3	4	5	N/A
Test messages to the public with representatives of the target population before releasing them. (6.5.3)	☐	**1**	2	3	4	5	N/A
Guide staff on how to respond to and communicate with upset members of the public. (3.6.2.5)	☑	1	2	3	4	5	N/A
Make copies of summary reports from each outbreak response available to members of the public who request them. (5.2.10)	☑	1	2	3	4	5	N/A

Additional ideas:

Communication practices – Media							
Identify an agency lead on media interactions, ideally someone trained as a public information officer. (3.6.2.7)	☑	1	2	3	4	5	N/A
Obtain media training for primary agency spokespersons. (3.6.2.7)	☑	1	2	3	4	5	N/A
Establish procedures for coordinating agency communication with the media. (3.6.2.7)	☑	1	2	3	4	5	N/A
Establish standard channels of communication with the media (e.g., website, telephone number), and use those same channels each time a public health issue arises about which the public might seek information. Identify primary contact persons from major local media outlets. Know routine deadlines and time frames for reporting news through major local media outlets (e.g., the deadline for having news from a press release appear in the evening newspaper). (3.6.2.7)	☑	1	2	3	4	5	N/A
Periodically hold a media education event to teach new media professionals in the community's media market about public health and response to foodborne disease outbreaks. (3.6.2.7)	☑	1	2	3	4	5	N/A

Additional ideas:

Priority for Implementation

	Already in place	or Improvement in Your Agency/Jurisdiction					
Making changes		LOW				HIGH	
Conduct a debriefing following each outbreak response with all members of the outbreak response team to identify lessons learned. (6.7) (3.2.3.4) (5.2.8)****	☐	1	2	3	**4**	5	N/A
Prepare summary reports for all outbreaks consistent with the size and complexity of the response. Use the reports as a continuous quality improvement opportunity. (3.7.2) (5.2.9) (6.8)	☑	1	2	3	4	5	N/A
Make copies of summary reports available to all members of the outbreak response team and their units and agencies and persons responsible for implementing control measures. (5.2.10) (6.8)	☑	1	2	3	4	5	N/A

Additional ideas:

****Debriefings are part of CD's Incident Command System (ICS) but need to be done more consistently.

3. MAKE PLANS TO IMPLEMENT SELECTED CIFOR RECOMMENDATIONS.

For each CIFOR recommendation selected in the previous step (or idea formulated by the workgroup), identify who will take the lead in implementing the recommendation and the timeframe for implementation (e.g., a specific completion date or whether the change is likely to require short, mid- or long-term efforts). If certain actions must precede others, make a note of this and adjust the timeframe. In addition, consider factors that could positively or negatively influence implementation of the recommendation and ways to incorporate the recommendation into your agency's/jurisdiction's standard operating procedures.

One person should be given responsibility for monitoring progress in implementing the above CIFOR recommendations. Follow-up should occur at specified checkpoints (e.g., 3, 6, 9, and 12 months after the start of the Toolkit process) and results should be shared with the entire workgroup.

CIFOR recommendations or other ideas from previous step	Lead person	Timeframe for implementation	Notes (e.g., necessary antecedents, factors that might influence implementation, ways to incorporate the recommendation into standard operating procedures)
Ensure all contact lists are updated at least twice yearly and, when feasible, made available to all stakeholders in both electronic and hard copy formats.	Jenny & Laurie	September 30	
Conduct a debriefing following each outbreak response with all members of the outbreak response team to identify lessons learned	Tao	As needed	
Identify and regularly communicate with agencies or organizations that receive illness complaints (e.g., agriculture agencies, facility licensing agencies, poison control centers) and ensure they have current contact information for your staff	Craig	September 30	
Develop a checklist of key agencies and communication considerations during outbreaks	Laurie	October 31	
Provide information to PHSKC communications team regarding roles, responsibilities and procedures for outbreak investigations	Tao	October 31	

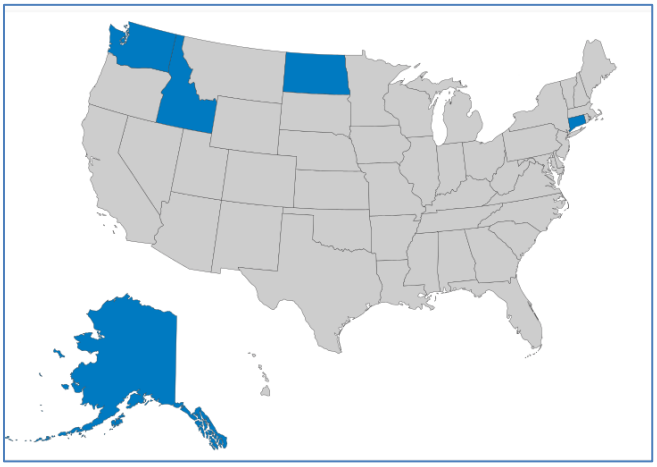
DATE WORKSHEET COMPLETED: July 20

NEXT DATE FOR FOLLOW-UP ON PROGRESS: November 15

Uses of the CIFOR Toolkit

The CIFOR *Guidelines* Toolkit was chiefly designed for use by individual agencies or jurisdictions to improve foodborne disease outbreak response in that agency or jurisdiction. An interdisciplinary workgroup (with knowledge of the jurisdiction and expertise and practical experience in epidemiology, environmental health, food regulation, laboratory science, and communication) follows a prescribed process, working through the Toolkit worksheets in a predetermined order. The end result is the identification of specific actions to be undertaken in that agency or jurisdiction to improve foodborne disease outbreak response and a plan for implementation of those actions.

Although designed for use by individual agencies and jurisdictions, the Toolkit can be used in other ways to improve foodborne outbreak response. During 2010-11, the Centers for Disease Control and Prevention (CDC) funded 22 states or large cities/counties[1] to bring foodborne outbreak investigation staff together to use the Toolkit and determine which recommendations in the CIFOR *Guidelines* would help those jurisdictions improve outbreak response.



Approaches used by five of the CDC-funded areas (Alaska, Connecticut, Idaho, North Dakota, and Washington State) demonstrate how the Toolkit can be used creatively to improve foodborne outbreak response across jurisdictions.

Alaska

The training took place at a pre-conference workshop before the 2011 Alaska Environmental Health Association Conference. Local public health nurses received special invitations to participate. Forty two people attended the pre-conference workshop including six epidemiologists, 12 environmental health practitioners, and 12 public health nurses.

The training was an introduction to the CIFOR *Guidelines* and Toolkit and was aimed at increasing participant familiarity with the materials. The planning committee completed the initial Toolkit worksheets before the training, and presenters used the Toolkit to help develop their respective presentations. During the workshop, presentations were made by state staff on 10 of the Toolkit Focus Areas. Workshop participants did not receive nor work through any Toolkit worksheets. To cover all of the material, some pieces of the workshop were more didactic than organizers would have liked, leaving less time for group discussion.

Continuing education credits for environmental health practitioners were already available through Conference registration; however, additional time-consuming efforts were made to provide continuing nursing education (CNEs) credits. Organizers thought that awarding CNEs increased attendance by public health nurses and was worth the trade-off.

Training organizers felt that this cross-disciplinary and multijurisdictional gathering was valuable and allowed the identification of communication problems and other issues. Organizers were able to take concrete actions based on the meeting such as the development/improvement of fact sheets and standard data collection forms. They also were able to assemble contact information for key players.

[1]Funded sites included Alaska, Arkansas, Connecticut, Cuyahoga County (Cleveland), Delaware, Florida, Idaho, Illinois, Iowa, Kansas, Kentucky, Knox County (Tennessee), Los Angeles, Maine, Michigan, Milwaukee, Nevada, North Dakota, Pennsylvania, Philadelphia, Washington (state), and West Virginia.

Connecticut

The training consisted of a one-day in-person "Foodborne Disease Outbreak Response Workshop," specifically organized for the purpose of the training. One hundred and thirty-three persons, representing state and local agencies and two tribal nations, were in attendance including 28 directors/assistant directors of health, 15 epidemiologists, 57 environmental health practitioners, and 13 public health nurses. Of the 77 local health departments in Connecticut, 43 (56%) sent representatives to the workshop.

Prior to the training, a subcommittee selected four Focus Areas to be covered during the workshop. Participants were provided an online link to the selected Focus Area worksheets prior to the meeting, although it was unknown how many reviewed the materials beforehand.

During the workshop, a knowledgeable and experienced public health practitioner (former State Epidemiologist) walked attendees through the selected Focus Areas, reviewing each topic area and working through the Toolkit worksheets. Because of his familiarity with state and local jurisdiction performance in outbreak response, the facilitator was able to zero in on known challenging areas. Participants were asked to comment on the CIFOR recommendations associated with the selected Focus Areas and collectively assessed the priority for implementation in Connecticut. The Toolkit worksheets were projected onto a screen for the entire group to view as were relevant comments made by participants.

Outcomes of the workshop were the identification of high priority CIFOR recommendations and the establishment of workgroups to further discuss and evaluate these recommendations for implementation. Although few local jurisdiction representatives chose to participate in these workgroups, the discussions did inform follow-up actions by the state and formed the basis for discussions during the 2013 Outbreak Response Training and rollout of the state's new foodborne disease outbreak investigations guidance manual for local health departments.

Idaho

The training took place during the 2011 Spring Idaho Epidemiology Conference. The second day of the conference was devoted to CIFOR. Forty-six people attended CIFOR Day including 27 epidemiologists and 14 environmental health practitioners, representing all seven public health districts in Idaho.

Before the training took place, a group of upper level state public health staff with experience in all disciplines necessary for foodborne disease investigation and control worked through the Toolkit and identified four Focus Areas in need of improvement across the state. The group also identified specific CIFOR recommendations that they thought would best address those needs.

The training consisted of a series of lectures related to the prioritized Focus Areas and associated recommendations and discussions among participants regarding implementation of the recommendations. Participants received copies of the worksheets for the prioritized Focus Areas to guide the discussion. Dr. Bill Keene, a recognized foodborne disease investigation expert from Oregon, was an invited speaker and shared his insights and best practices regarding foodborne disease investigation and response.

Organizers felt that the cross-disciplinary training stimulated good discussions among state and local public health and environmental health staff. The need for enhanced communication between these parties to improve success in outbreak identification, investigation, and response was solidified.

North Dakota

The training took place at a pre-conference workshop at a previously scheduled environmental health meeting. Fifteen people were in attendance representing local environmental health (five), state public health (two), state environmental health (two), department of agriculture (one), state laboratory (one) and North Dakota State University (three).

Disease control staff pre-selected three Focus Areas that would be covered. During the workshop, participants worked through the individual Focus Area worksheets to prioritize activities to improve outbreak investigation and response. Efforts were made to focus on activities that were important for all jurisdictions to have in place.

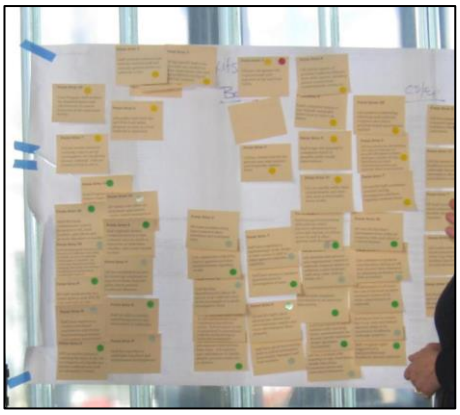
Due to the time required by participants to read through the worksheets, discussion time was limited. As a result, it was not possible to formulate specific action plans. The organizers felt that time could have been used more effectively if meeting participants had received and worked through the Toolkit worksheets before the meeting and if pre-workshop conference calls or webinars had been undertaken to provide background on the individual Focus Areas.

Nonetheless, organizers felt that the meeting facilitated good discussion across agencies and professional groups regarding opportunities to improve foodborne disease outbreak detection and response that would strengthen the North Dakota Foodborne Outbreak Response Protocol that was being drafted at the time.

Washington State

The training consisted of 11 regional meetings (held at sites across the state) involving public health and environmental health staff from surrounding local health jurisdictions. A total of 105 people attended these regional meetings including 8 epidemiologists, 47 environmental health practitioners, and 38 public health nurses. Five participants were from the Indian Health Service.

During these meetings, didactic presentations were limited to topics felt to be relevant to all participants including brief overviews of the CIFOR *Guidelines* and Toolkit and discussions of foodborne illness complaint notifications, notifiable disease reporting, and outbreak reporting.



Using a fictitious foodborne disease outbreak scenario, participating local health jurisdictions (working as jurisdictional teams) documented existing foodborne disease investigation/control procedures and activities in their jurisdiction. With this discussion as a background, local health jurisdictions then considered the keys to success for each of the Focus Areas included in the Toolkit, answering who was responsible for them in their local health jurisdiction and their perceived priority for improvement. (This was done with a set of cards listing each key to success and different colored dots [indicating the priority for improvement] to allow a visual representation of the Focus Areas in greatest need of improvement.)

Based on this exercise, each local health jurisdiction identified the highest priority Focus Area for improvement for their jurisdiction. They then completed the Toolkit worksheet for that Focus Area including the development of realistic and practical action steps.

Organizers felt that the trainings provided an excellent framework for jurisdictions to conduct a meaningful self-evaluation. The training also helped guide follow-up workshops designed to provide local health jurisdictions information on the roles of epidemiology, environmental health, and the laboratory in foodborne outbreak investigations, including multistate outbreak investigations.

Considerations

When using the CIFOR Toolkit for large scale trainings or in settings that involve staff from multiple jurisdictions, organizers should consider the following:

Ability to take advantage of target audience members already assembled for other purposes. Many state health departments and all national public health and environmental health organizations hold regular meetings, bringing together persons with particular professional backgrounds or job titles. Because travel is limited for many local and state agency staff, tacking a CIFOR Toolkit training or pre-conference workshop onto such a gathering can take advantage of planned travel at minimal added expense.

The downside of such add-on meetings, however, is that working through the Toolkit is most meaningful when undertaken by an interdisciplinary workgroup within a jurisdiction because it provides a broader context for assessing current foodborne disease outbreak response in that jurisdiction and needed areas for improvement.

For most effective use of the Toolkit in settings that attract primarily audience members with a particular professional background, it will be critical to invite others (representing other disciplines who might not have had plans to attend the originally scheduled meeting) to enrich the discussions. If this is not possible, organizers should recognize that use of the Toolkit in this manner will be more limited in scope and might best be viewed as the initial step for a more inclusive process that involves others at a later time.

Relevance of discussions across jurisdictional lines. The foodborne disease outbreak investigation practices used in any particular situation depend on a host of factors, including staff expertise, structure of the investigating agency, and agency resources. The value of the CIFOR *Guidelines* and Toolkit reside in the ability of the user to assess local practices and make decisions regarding implementation of recommendations appropriate to the agency or jurisdiction.

In settings where multiple jurisdictions come together to make decisions about their own practices, organizers should consider the following

- Grouping together jurisdictions of similar size, expertise, and resources that are likely to have similar challenges and
- Working on Focus Areas that are highly likely to be relevant to all jurisdictions present.

State staff, familiar with outbreak investigation performance across local jurisdictions, can help identify high priority Focus Areas. In addition, meeting participants could be asked to independently prioritize the Focus Areas before the meeting with the results being summarized and used to guide the focus of the meeting.

One site funded by CDC to undertake CIFOR *Guidelines* and Toolkit trainings, Los Angeles County Department of Public Health, conducted a pre-workshop assessment to prioritize Focus Areas. The assessment was modeled after the Toolkit prioritization worksheet and comprised an online survey launched via SurveyMonkey™. The survey link was e-mailed to prospective workshop participants as well as to those who might not have been able to attend the workshop but were interested in contributing to efforts to improve foodborne outbreak response.

Acknowledgements

The authors would like to thank the following individuals for sharing information about their CIFOR *Guidelines* and Toolkit Training efforts: Louisa Castrodale and Ginger Provo (Alaska Department of Health and Social Services), Randall Nelson and Quyen Phan (Connecticut Department of Public Health), Leslie Tengelsen (Idaho Department of Health and Welfare), Tracy K. Miller (North Dakota Department of Health), and Jasmine Matheson (Washington State Department of Health).

Toolkit Tips for Facilitators

CIFOR Council to Improve Foodborne Outbreak Response

Detect • Investigate • Control • Prevent

Facilitator role

Assist workgroups of local or state staff responsible for responding to foodborne disease outbreaks with assessing their current outbreak response capabilities and determining where and how to make improvements.

Facilitator experience

- Familiarity with the CIFOR *Guidelines*;
- Extensive experience in surveillance and outbreak detection, investigation, and control;
- Knowledge of local and state resources available to help implement and carry out surveillance, investigation, and control activities; and
- Familiarity with the CIFOR Toolkit materials and process.

Facilitation tips

- Read through the **"Toolkit User Instructions"** (Document B) and examine the worksheets before assembling the workgroup. Think about how these materials could help your outbreak response team prevent foodborne illnesses and deaths through more effective disease surveillance and response efforts.
- Be clear about the scope and intended goals for your agency's or jurisdiction's Toolkit process so that subsequent discussions can be scaled up or down according to available time and intended goals.
- Identify the local and state agencies in your jurisdiction that are involved in foodborne disease outbreak response.
- Identify who will participate in the workgroup. Remember to include representatives with different types of expertise, including epidemiology, environmental health, food regulation, laboratory science, health education, and communication as well as knowledge of the agency or jurisdiction and to include staff from other agencies, such as State officials.
- Make sure that the workgroup has access to all necessary materials including the entire CIFOR *Guidelines*, written agency protocols, after-action reports from recent foodborne disease outbreaks or exercises, data from pathogen-specific surveillance and foodborne disease complaint systems, and information on other quality improvement initiatives in which your agency might be involved.
- Before starting, ask participants to identify their agency's objectives for the workgroup, potential opportunities that will aid implementation of CIFOR recommendations, and any constraints workgroup members should be aware of.
- Help motivate workgroup members by sharing information on the occurrence of foodborne diseases in their jurisdiction and the agency's past performance in outbreak response. Be honest but stay positive. Do not blame or appear condescending.
- Walk the workgroup through the Toolkit process, step by step, using the **"Toolkit User Instructions (Cheat Sheet for Facilitators)"** (Document C).
- Describe the general layout of the worksheets for the 11 Focus Areas so they do not look so intimidating to workgroup members.
- Help the workgroup identify their high priority Focus Areas. Remind them to keep the goals of any capacity development or quality assurance initiatives in mind. If different agencies or units are involved in the process, anticipate that their representatives might identify areas of interest primarily to their agency as well as areas of shared interest.
- If workgroup members are having difficulty identifying areas of shared interest, use standard facilitation techniques such as having each person vote on his/her top three priorities for collaboration.

- Do not overplay the selection of priority Focus Areas, however, since most agencies and jurisdictions will benefit from improvements in a number of different (if not all) Focus Areas.
- Workgroups might want to focus initially on "Relationships with Relevant Agencies and Organizations" as a first step since that Focus Area will be relevant to all agencies and likely has broader-reaching ramifications due to its impact on multijurisdictional outbreaks. Remember that industry groups are among the relevant organizations with whom to develop working relationships.
- Keep the workgroup moving. Working through the materials for a Focus Area (e.g., viewing the keys to success and related CIFOR recommendations) alone will help workgroup members become more familiar with the CIFOR *Guidelines* as a resource.
- In selecting actions to address a particular target for improvement, help the workgroup focus on a few realistic goals as opposed to developing detailed expansive plans. Focusing efforts and energies on a few actions might allow the workgroup to demonstrate more immediate results that will fuel continued efforts toward improvement.
- Encourage all members of the workgroup to participate. Consider calling on individual members of the group, or otherwise encouraging quiet members to provide their input.
- Assure that the workgroup's findings and recommendations are accurately and concisely recorded.
- Assure that each specialty is reflected in workgroup recommendations (e.g., don't let all of the recommendations focus on just epidemiology or just environmental health).
- Assure that the workgroup develops an action plan for their recommendations, with the timeframe for implementation and assigned responsibilities.
- Identify how the recommended action plan will be coordinated with the right decision-makers to obtain the high-level support needed for implementation.
- Before the meeting is over, assure that specific plans have been developed for addressing any priorities that were not analyzed during this work session (e.g., setting a date for a subsequent meeting).

Participant Evaluation Form

CIFOR Council to Improve Foodborne Outbreak Response

Detect • Investigate • Control • Prevent

PARTICIPANT EVALUATION

Please take a moment to give us your feedback about the CIFOR Guidelines *Toolkit. You can also submit your thoughts about the Toolkit by going to www.CIFOR.us.*

Which of the following best describes your agency?

- ☐ Local public health agency
- ☐ Local environmental health agency
- ☐ Local public health laboratory
- ☐ State public health agency
- ☐ State environmental health agency
- ☐ State public health laboratory
- ☐ State agricultural agency
- ☐ Other (specify: _____)

Which of the following best describes your program area?

- ☐ Agriculture
- ☐ Communication
- ☐ Epidemiology
- ☐ Environmental health
- ☐ Food regulation
- ☐ Health education
- ☐ Laboratory
- ☐ Public health nursing
- ☐ Other (specify: _____)

How did you use the Toolkit?

- ☐ In a training/informational setting with individuals from multiple jurisdictions in your state or region
- ☐ Primarily with staff from your agency or jurisdiction
- ☐ Other (describe at end)

How much time was spent in this use of the Toolkit?

- ☐ Less than half a day
- ☐ Between a half and a full day
- ☐ More than a day

Which Focus Areas did you address? (Check all that apply.)

- ☐ Relationships with relevant agencies and organizations
- ☐ Necessary resources
- ☐ Communication
- ☐ Complaint systems
- ☐ Pathogen-specific surveillance
- ☐ Initial steps of an investigation
- ☐ Epidemiology investigation
- ☐ Environmental health investigation
- ☐ Laboratory investigation
- ☐ Control of source and secondary spread
- ☐ Food recall

Please rate your response to the following statements about the CIFOR Toolkit.

	Strongly Agree	Agree	Neither / Undecided	Disagree	Strongly Disagree	N/A
1. The CIFOR Toolkit process was easy to follow.	○	○	○	○	○	○
2. The CIFOR Toolkit process moved at an appropriate pace.	○	○	○	○	○	○
3. The CIFOR Toolkit process supported a meaningful examination of our outbreak response activities and needed changes.	○	○	○	○	○	○
4. The "Focus Areas" used to organize the CIFOR Toolkit process made sense.	○	○	○	○	○	○

Participant Evaluation Form

		Strongly Agree	Agree	Neither / Undecided	Disagree	Strongly Disagree	N/A
5.	The Focus Areas covered most major outbreak response activities.	○	○	○	○	○	○
6.	Which outbreak response activities were omitted from the Focus Areas?	Comments:					
7.	The worksheets made it easy to review outbreak response at our agency/ jurisdiction and identify activities and procedures in need of improvement.	○	○	○	○	○	○
8.	The keys to success helped us understand the critical aspects of outbreak response in the different Focus Areas.	○	○	○	○	○	○
9.	The worksheets helped us identify CIFOR recommendations to improve outbreak response appropriate for our agency/jurisdiction.	○	○	○	○	○	○
10.	The materials included in the CIFOR Toolkit were adequate to undertake the process.	○	○	○	○	○	○
11.	What additional materials would have made it easier?	Comments:					

Please share any other thoughts or ideas you have to improve the CIFOR Toolkit.

Your thoughts are important to us. Please send completed evaluations to:

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Participant Evaluation Form