Team Approach to Foodborne Outbreak Response

PER-298

Course Design Document

Version 2.0DR
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Team Approach to Foodborne Outbreak Response

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FEMA’s National Training and Education Division (NTED) offers a full catalog of courses at no cost to help build critical skills that responders need to function effectively in mass-consequence events. Course subjects range from weapons of mass destruction (WMD), terrorism, cyber security, and agro-terrorism to citizen preparedness and public works. NTED courses include multiple delivery methods: instructor-led (direct deliveries), train-the-trainer (indirect deliveries), customized (conferences and seminars), and web-based. Instructor-led courses are offered in residence (at a training facility) or through mobile programs, in which courses are brought to state and local jurisdictions that request the training. A full list of NTED courses can be found at http://www.firstrespondertraining.gov.
Course Description

Overview

This course addresses the training needs of staff who have a role in foodborne outbreak response. Participants include individuals from state and local government agencies with experience in foodborne disease outbreak response and knowledge of their agency’s outbreak investigation capabilities. Partners from federal agencies and the food industry will also benefit from participation in this course, since it identifies how the skills, resources, and expertise of all levels of government can be coordinated within an integrated national food system.

Local government agencies are often the first responders and lead investigators on local outbreaks. They typically have regulatory jurisdiction over significant portions of the retail food industry. They are also typically the most aware of specific conditions and effects of foodborne illness outbreak on individuals, families, and communities. They usually have relationships with local medical providers who treat and report illness cases. During multijurisdictional outbreaks, local responders are actively involved with state and federal agencies.

State government agencies coordinate multijurisdictional outbreak investigations and typically have regulatory jurisdiction over farms, food processors, and food distributors. They often have detailed knowledge of distribution networks, supply chains, and interdependencies of components of the food supply. They provide consultation and investigational support to local responders as needed. They also interface with federal public health and food regulatory agencies.

Federal government agencies coordinate multistate outbreak investigations and have regulatory jurisdiction over food and animal feeds moving in interstate commerce. They often have extensive knowledge of national distribution networks and valuable relationships with national public health and food industry associations and subject matter experts. They interface with other governments and international trade organizations.

Food industry subject matter experts have detailed knowledge about production, processing, storage, and distribution practices used across the farm-to-fork continuum. Food industry specialists have a shared interest in rapidly identifying and controlling sources of foodborne illness outbreaks so consumer confidence is not threatened.

Knowing how and when to engage the expertise of these specialists can save time during investigations, which can mean fewer illnesses and deaths. This course provides strategies for leveraging resources at all levels of government to build investigation and response capabilities.

Core Capabilities

The terminal learning objectives of this course align with the following core capabilities:

- Community Resilience
- Economic Recovery
- Environmental Response/Health and Safety
Team Approach to Foodborne Outbreak Response

Course Design Document (CDD)

- Forensics and Attribution
- Infrastructure Systems
- Intelligence and Information Sharing (Prevention and Protection)
- Interdiction and Disruption (Protection)
- Long-term Vulnerability Reduction
- Operational Communications
- Operations Coordination
- Physical Protective Measures
- Planning
- Public Health, Healthcare, and Emergency Medical Services
- Public Information and Warning
- Risk and Disaster Resilience Assessment
- Risk Management for Protection Programs and Activities
- Screening, Search, and Detection (Prevention and Protection)
- Situational Assessment
- Supply Chain Integrity and Security

Scope

This course is a performance-level, instructor-led course that addresses ways to help entities function as a team during a foodborne outbreak response.

This course has the following option for delivery:

**Direct Delivery (DD) format** is taught by NCBRT instructors; this format is appropriate for anyone who is interested in the content of the course. Participants receive credit for the course but are not certified to instruct.

Target Audience

The primary target audience for this course includes federal, state, tribal, and local public health, healthcare, and public works professionals engaged in the following disciplines: environmental health, epidemiology, and laboratory sciences. These may include environmental health inspectors, sanitarians, epidemiologists, public health personnel, nurses, food regulatory agency personnel, and laboratorians.

Additionally, other professionals who may benefit from this course include food industry workers, territorial and tribal health personnel, federal and state partners, infectious disease personnel, public health emergency preparedness coordinators, public information officers, and other various food safety personnel.

Prerequisites

Course participants must have knowledge appropriate to their discipline with respect to foodborne disease outbreaks and, ideally, at the Journeyman level, with 2 or more years of practical experience. Participants are required to have awareness-level knowledge of the food
supply chain and associated vulnerabilities; the types of incidents, threat agents, and available vulnerability assessment tools associated with a food defense incident; information-sharing networks at the federal, state, and local levels; roles and authorities of federal agencies and industry during a post-harvest food incident; food surveillance, epidemiological investigation, and response efforts; basic principles associated with NIMS and the Incident Command System; and the key activities of an active Emergency Operations Center (EOC). In addition, ICS 100, 200, 700, and 800 are highly recommended.

To enroll in this course, participants must be US citizens and must possess or obtain a FEMA student identification number (SID).

**Course Length**

This course is designed for presentation over two days. Beginning and ending time for instruction can be adjusted to accommodate local requirements at the training location. However, the schedule should permit one 10-minute break approximately every hour and a one-hour lunch break. Total instructional time is 16 hours for 11 standard modules.

**Required Materials and Facilities**

**NCBRT-Provided**

The following equipment and materials are required to support instruction in this course:

- Instructor Guide
- Instructor ID
- Presentation slides
- Audiovisual kit
- Projection screen
- Attendance sheet
- Black markers
- Pre-test answer sheet
- Post-test answer sheet
- One environmental collection kit per group containing:
  - Gloves
  - Collection sponge on a stick
  - Plastic bag
  - Vial of water
- One per participant of the following items:
  - Participant Guide
  - Registration form and test answer sheet
  - DHS Student Assessment of Course and Instructors evaluation form
  - Pre-test
  - Post-test
  - Pencil
  - Tent name card
  - Instructor bios
**Host-Provided**

The host agency will be required to provide the following classroom and logistical needs:

- 40-person classroom (for 30 participants plus instructional support personnel), environmentally controlled (heating, ventilation, and air conditioning [HVAC]); with round or rectangular tables allowing class participants to work in groups (not an auditorium with fixed seating)
- Three additional tables for display materials and as a projector surface
- Two easels and easel pads with markers
- Audiovisual equipment: projection screen or area in classroom for projection
- Eight power outlets in the classroom for audiovisual components and computers used by the instructional support personnel and participants during the course
- Instructor access the day before the class start date for classroom setup
- Adequate security to prevent having to reset the classroom daily
- Adequate participant and instructor parking

**Testing and Certification**

Participants will take two tests—a pre-test administered during the first module (prior to instruction), and a post-test administered during the last module after completion of instruction. Each test will include questions that reflect the course objectives and assess participants’ understanding of the learning objectives. Participants who perform successfully on the post-test (scoring 70% or better) will receive a Certificate of Completion. Participants who do not achieve a passing score can re-test. Participants may request a Certificate of Attendance if they require documentation of their presence at the class.

Instructors will evaluate individual participation in classroom activities and discussions to determine participants’ achievement of affective goals. Active participation and expressed understanding for and appreciation of the contributions of all emergency response agencies will be accepted as reflecting achievement of affective goals.

**Reference List**


Team Approach to Foodborne Outbreak Response

Course Design Document (CDD)


**Federal Food Safety and Security System: Fundamental Restructuring Is Needed to Address Fragmentation and Overlap; Testimony Before the Subcommittee on Civil Service and Agency Organization, Committee on Government Reform, House of Representatives.** 2004. 108th Cong., 2nd session. (Statement of Lawrence J. Dyckman, Director Natural Resources and Environment).


International Association for Food Protection. 1999. Procedures to Investigate Foodborne Illness. 5th ed. Des Moines, IA: International Association for Food Protection.


Evaluation Strategy

Participants are required to complete a course evaluation at the end of the course, which focuses on the following issues:

- Value of materials in supporting the course goal and module objectives
- Effectiveness of instruction (instructors presented content in an understandable manner, used relevant examples, encouraged participation, and answered questions in a clear and concise manner)
- Relevance of instruction to each participant’s assessment of real-world requirements and concerns
Course Structure/Content Outline

Module 1: Course Overview

Terminal Learning Objective
At the end of this module, participants will be able to become acquainted with their peers in an interactive setting by completing the Module 1 classroom activity, will complete a registration form and pre-test as directed by instructors, and will identify the impact of foodborne disease outbreaks.

Enabling Learning Objectives
At the end of this module, participants will be able to
1-1 share something they want to learn from this course and something they know about the training topic with their peers,
1-2 fill out a complete and accurate registration form,
1-3 assess their baseline knowledge of course content by completing a pre-test, and
1-4 identify the impact of foodborne outbreaks.

Module 2: Foodborne Outbreak and the Burden of Disease

Terminal Learning Objective
At the end of this module, participants will be able to examine the burden of foodborne illness in the United States.

Enabling Learning Objectives
At the end of this module, participants will be able to
2-1 identify the burden of foodborne illness in the United States,
2-2 describe pathogens that can cause foodborne illness,
2-3 examine nodes for potential food contamination along the farm to fork continuum, and
2-4 describe the cost of foodborne illness to affected individuals and the food industry.

Module 3: Team Dynamics

Terminal Learning Objective
At the end of this module, participants will be able to recognize the characteristics of effective teams.

Enabling Learning Objectives
At the end of this module, participants will be able to
3-1 list the elements of effective teams,
3-2 examine the disciplines that make up a foodborne outbreak investigation team,
3-3 describe the benefits of an effective foodborne outbreak investigation team,
3-4 identify how teams may be scaled based on foodborne outbreak scenarios, and
3-5 discuss communication methods among team members.

Module 4: Surveillance and Detection

Terminal Learning Objective
At the end of this module, participants will be able to examine strategies to effectively use surveillance data from multiple disciplines as a trigger to initiate a foodborne outbreak investigation.

Enabling Learning Objectives
At the end of this module, participants will be able to
4-1 distinguish between an outbreak and a cluster,
4-2 identify surveillance types and describe their strengths and weaknesses,
4-3 describe discipline-specific surveillance systems, and
4-4 identify triggers for foodborne outbreak response.

Module 5: Epidemiology Response

Terminal Learning Objective
At the end of this module, participants will be able to review the tools and activities used by the epidemiology discipline during a foodborne outbreak investigation.

Enabling Learning Objectives
At the end of this module, participants will be able to
5-1 review data collection activities such as interviewing and case finding,
5-2 discuss how epidemiologists organize data by using tools such as epi curves, symptom profiles, and case definitions,
5-3 describe three epidemiological study types and provide examples of when each study should be used,
5-4 interpret epidemiological study data,
5-5 review considerations regarding illness clusters, and
5-6 discuss how epidemiologists work with the outbreak investigation team to implement control measures such as exclusion policies.

Module 6: Laboratory Response

Terminal Learning Objective
At the end of this module, participants will be able to review laboratory requirements for testing specimens and samples and discuss procedures for testing samples submitted during a foodborne illness investigation.
Enabling Learning Objectives
At the end of this module, participants will be able to
6-1 describe collection methods for clinical specimens,
6-2 describe collection methods for food and environmental samples,
6-3 describe the chain of custody, and
6-4 discuss procedures used for identification of suspected agents.

Module 7: Environmental Health Response

Terminal Learning Objective
At the end of this module, participants will be able to review the tools and activities used by the environmental health discipline during a foodborne outbreak investigation.

Enabling Learning Objectives
At the end of this module, participants will be able to
7-1 describe how the environmental assessment aids in foodborne outbreak investigation,
7-2 identify the role of contributing factors and environmental antecedents to the contamination of food products,
7-3 discuss the role of product tracing in foodborne outbreak response, and
7-4 identify control strategies to reduce additional foodborne illnesses.

Module 8: Expanding Team Response during a Complex Outbreak

Terminal Learning Objective
At the end of this module, participants will be able to review the progression of an outbreak and identify when the response needs to expand to include local, state, or federal partners.

Enabling Learning Objectives
At the end of this module, participants will be able to
8-1 describe the different types of complex outbreaks that may arise,
8-2 describe the difference between routine and complex outbreak response,
8-3 discuss how team composition may change when events escalate to the point where complex outbreak response is needed (scaling team horizontally or vertically), and
8-4 list various reasons to implement the Incident Command System (ICS).

Module 9: Overcoming Barriers to an Effective Team Response

Terminal Learning Objective
At the end of this module, participants will be able to examine potential barriers to effective foodborne outbreak response and strategies to overcome those barriers.
Enabling Learning Objectives
At the end of this module, participants will be able to
9-1 describe legal issues and limitations and how they may affect team members,
9-2 describe political challenges and identify ways to address them,
9-3 identify management and resource limitations that may hinder effective response, and
9-4 identify strategies to support effective internal and external communication.

Module 10: Learning from Experience

Terminal Learning Objective
At the end of this module, participants will be able to share and apply lessons learned regarding foodborne outbreak response.

Enabling Learning Objectives
At the end of this module, participants will be able to
10-1 describe steps to achieve consistent and structured debriefing and documentation,
10-2 list six points to be included in final written outbreak report,
10-3 list required reports,
10-4 review CIFOR’s performance indicators, and
10-5 describe how outbreak findings can prevent future illnesses.

Module 11: Testing and Evaluation

Terminal Learning Objective
At the end of this module, participants will be able to complete a comprehensive post-test and course evaluation.

Enabling Learning Objectives
At the end of this module, participants will be able to
11-1 complete a comprehensive post-test successfully and
11-2 provide feedback by completing a course evaluation form.
Course Design Matrix

Module 1: Course Overview

Scope Statement
In this module, participants and instructors introduce themselves by engaging in a brief opening activity. Participants complete a registration form and take a pre-test. The pre-test is a self-evaluation to assist participants in determining their level of knowledge regarding the course material before the course begins. Instructors introduce the course modules by name and describe the primary focus of the modules briefly.

Terminal Learning Objective
At the end of this module, participants will be able to become acquainted with their peers in an interactive setting by completing the Module 1 classroom activity, will complete a registration form and pre-test as directed by instructors, and will identify the impact of foodborne disease outbreaks.

Enabling Learning Objectives
At the end of this module, participants will be able to
1-1 share something they want to learn from this course and something they know about the training topic with their peers,
1-2 fill out a complete and accurate registration form,
1-3 assess their baseline knowledge of course content by completing a pre-test, and
1-4 identify the impact of foodborne outbreaks.

Lesson Topics
Welcome, Introductions Activity, Registration Form, Testing, Course Overview, Impact of Foodborne Outbreaks, Summary

Instructional Strategy
Lecture, Pre-Test

Assessment Strategy
- Instructor observation of participants' involvement in the classroom discussion
- Instructor-led discussion to ensure participants understand how instructors will evaluate performance
- Instructor administration of a pre-test to assess participants' prior knowledge of course materials

Practical Exercise Statement
Not applicable
Module 2: Foodborne Outbreak and the Burden of Disease

Scope Statement
This module will discuss the burden of foodborne illness in the United States and introduce the pathogens that can cause foodborne illness. This module will also discuss the various nodes along the farm-to-fork continuum where food contamination can occur. Participants will explore the cost of foodborne disease from the human illness and the market economy perspectives. Additionally, this module will explore existing resources available to local jurisdictions to assist them in improving foodborne outbreak response.

Terminal Learning Objective
At the end of this module, participants will be able to examine the burden of foodborne illness in the United States.

Enabling Learning Objectives
At the end of this module, participants will be able to
2-1 identify the burden of foodborne illness in the United States,
2-2 describe pathogens that can cause foodborne illness,
2-3 examine nodes for potential food contamination along the farm to fork continuum, and
2-4 describe the cost of foodborne illness to affected individuals and the food industry.

Lesson Topics

Instructional Strategy
Lecture, Table Group Activity

Assessment Strategy
- Instructor observation of participants' involvement in the classroom discussion
- Instructor administration of a post-test to assess knowledge participants have gained from each module

Practical Exercise Statement
Not applicable
Module 3: Team Dynamics

Scope Statement
This module identifies the elements necessary for developing an effective response team. It demonstrates that response is improved when the three primary response disciplines—epidemiology, laboratory, and environmental health—understand their relationships with each other during an outbreak. This module introduces team-building concepts and applies a team-building approach to a foodborne outbreak response. An essential component of team building is deciding which disciplines are needed and to what extent. This module also introduces the concept of scalability—expanding a team beyond primary response disciplines.

Terminal Learning Objective
At the end of this module, participants will be able to recognize the characteristics of effective teams.

Enabling Learning Objectives
At the end of this module, participants will be able to
3-1 list the elements of effective teams,
3-2 examine the disciplines that make up a foodborne outbreak investigation team,
3-3 describe the benefits of an effective foodborne outbreak investigation team,
3-4 identify how teams may be scaled based on foodborne outbreak scenarios, and
3-5 discuss communication methods among team members.

Lesson Topics
Team Overview, Team Effectiveness, Building an Effective Foodborne Outbreak Response Team, Discipline Discussion, Team Design, Communication Methods Among Team Members, Demonstrating the Importance of a Complete Team, Summary

Instructional Strategy
Lecture, Class Discussion, Table Group Activity

Assessment Strategy
- Instructor observation of participants' involvement in the classroom discussion
- Instructor administration of a post-test to assess knowledge participants have gained from each module

Practical Exercise Statement
Not applicable
Module 4: Surveillance and Detection

Scope Statement
This module will discuss types of surveillance, introduce discipline-specific surveillance systems, limitations of surveillance data, and demonstrate how foodborne outbreak response teams can use these systems to detect outbreaks. The module defines and compares the concepts of outbreak and cluster. Additionally, this module will examine triggers that initiate outbreak response and cross-disciplinary communication.

Terminal Learning Objective
At the end of this module, participants will be able to examine strategies to effectively use surveillance data from multiple disciplines as a trigger to initiate a foodborne outbreak investigation.

Enabling Learning Objectives
At the end of this module, participants will be able to:
4-1 distinguish between an outbreak and a cluster,
4-2 identify surveillance types and describe their strengths and weaknesses,
4-3 describe discipline-specific surveillance systems, and
4-4 identify triggers for foodborne outbreak response.

Lesson Topics
Identifying a Foodborne Outbreak, Cluster or Outbreak? Surveillance, Discipline-Specific Surveillance Systems, Complaint Log Review, Cross-Disciplinary Response Triggers, Identifying Triggers, Foodborne Outbreak Exercise, Summary

Instructional Strategy
Lecture, Table Group Activity, Pair Activity

Assessment Strategy
- Instructor observation of participants’ involvement in the classroom discussion
- Instructor administration of a post-test to assess knowledge participants have gained from each module

Practical Exercise Statement
Not applicable
Module 5: Epidemiology Response

Scope Statement
This module will focus on the tools epidemiologists use to characterize time, person, and place components of illness clusters. The module examines tools such as epi curves, line lists, and analytical studies used during foodborne outbreak response. Epidemiology tools can help the outbreak investigation team understand the suspected etiology and vehicle that caused an outbreak and can guide decision-making regarding control measures to prevent additional illness.

Terminal Learning Objective
At the end of this module, participants will be able to review the tools and activities used by the epidemiology discipline during a foodborne outbreak investigation.

Enabling Learning Objectives
At the end of this module, participants will be able to
5-1 review data collection activities such as interviewing and case finding,
5-2 discuss how epidemiologists organize data by using tools such as epi curves, symptom profiles, and case definitions,
5-3 describe three epidemiological study types and provide examples of when each study should be used,
5-4 interpret epidemiological study data,
5-5 review considerations regarding illness clusters, and
5-6 discuss how epidemiologists work with the outbreak investigation team to implement control measures such as exclusion policies.

Lesson Topics
Epidemiology Investigator, Data Collection, Data Analysis, Data Interpretation, Epidemiological Studies, A Memorial Day to Remember, Church Supper Outbreak, Data-Driven Response, Epidemiologic Response, Summary

Instructional Strategy
Lecture, Video, Class Activity, Table Group Activity

Assessment Strategy
- Instructor observation of participants’ involvement in the classroom discussion
- Instructor administration of a post-test to assess knowledge participants have gained from each module

Practical Exercise Statement
Not applicable
Module 6: Laboratory Response

Scope Statement
The laboratory is responsible for providing guidance on appropriate clinical and food specimen collection and transport, and for identifying the causative agent of foodborne illness. This module will discuss obtaining clinical specimens and environmental samples, testing methods used by the laboratory, and interpretation of results.

Terminal Learning Objective
At the end of this module, participants will be able to review laboratory requirements for testing specimens and samples and discuss procedures for testing samples submitted during a foodborne illness investigation.

Enabling Learning Objectives
At the end of this module, participants will be able to
6-1 describe collection methods for clinical specimens,
6-2 describe collection methods for food and environmental samples,
6-3 describe the chain of custody, and
6-4 discuss procedures used for identification of suspected agents.

Lesson Topics
Laboratory Investigation, Collection Specimens and Samples for Submission to the Laboratory, Chain of Custody, Testing Laboratory Submissions, Subtyping Isolates, Laboratory Response, Summary

Instructional Strategy
Lecture, Video, Table Group Activity

Assessment Strategy
- Instructor observation of participants' involvement in the classroom discussion
- Instructor administration of a post-test to assess knowledge participants have gained from each module

Practical Exercise Statement
Not applicable
Module 7: Environmental Health Response

Scope Statement
This module will focus on the tools used by environmental health specialists to investigate foodborne illness. The module will cover tools such as environmental assessments, product tracing, and control strategies used by the environmental health discipline during foodborne outbreak response. Implementing these tools can help the outbreak investigation team better understand the factors that contributed to contamination and guide decision making regarding control measures to prevent illness.

Terminal Learning Objective
At the end of this module, participants will be able to review the tools and activities used by the environmental health discipline during a foodborne outbreak investigation.

Enabling Learning Objectives
At the end of this module, participants will be able to
7-1 describe how the environmental assessment aids in foodborne outbreak investigation,
7-2 identify the role of contributing factors and environmental antecedents to the contamination of food products,
7-3 discuss the role of product tracing in foodborne outbreak response, and
7-4 identify control strategies to reduce additional foodborne illnesses.

Lesson Topics
The Environmental Investigator, Environmental Antecedents, The Process, Product Tracing, Control Strategies, The Role of the Private Sector, Environmental Health Response, Summary

Instructional Strategy
Lecture, Table Group Activity, Facilitated Class Discussion

Assessment Strategy
- Instructor observation of participants’ involvement in the classroom discussion
- Instructor administration of a post-test to assess knowledge participants have gained from each module

Practical Exercise Statement
Not applicable
Module 8: Expanding Team Response during a Complex Outbreak

Scope Statement
This module identifies the characteristics of a complex foodborne outbreak response. The focus of this module will be on outbreaks that require the response team to expand vertically or horizontally. Participants will discuss implications of a complex response including changes in the team composition and redeployment of resources. Finally, this module examines the use of the Incident Command System (ICS) in foodborne outbreak response.

Terminal Learning Objective
At the end of this module, participants will be able to review the progression of an outbreak and identify when the response needs to expand to include local, state, or federal partners.

Enabling Learning Objectives
At the end of this module, participants will be able to
8-1 describe the different types of complex outbreaks that may arise,
8-2 describe the difference between routine and complex outbreak response,
8-3 discuss how team composition may change when events escalate to the point where complex outbreak response is needed (scaling team horizontally or vertically), and
8-4 list various reasons to implement the Incident Command System (ICS).

Lesson Topics
Complex Foodborne Outbreak Response, Complex Outbreak Response Team Composition, Implications of Responding to Complex Outbreaks, Complex Outbreak Response Exercise, Changes in Response Approaches with Complex Outbreaks, Response to a Multijurisdictional Cluster, Multistate Outbreaks, Implications of an Intentional Incident, NIMS and ICS, Complex Outbreak Response, Summary

Instructional Strategy
Lecture, Case Study, Facilitated Class Discussion, Table Group Activity

Assessment Strategy
• Instructor observation of participants’ involvement in the classroom discussion
• Instructor administration of a post-test to assess knowledge participants have gained from each module

Practical Exercise Statement
Not applicable
Module 9: Overcoming Barriers to an Effective Team Response

Scope Statement
This module will identify barriers to effective team function and discuss how to overcome those barriers to improve response to a foodborne outbreak. Barriers to effective foodborne outbreak response include legal limitations, political pressures, management beliefs, and resource limitations. Communication during a response is critical. This module will address communication tools and risk communication techniques that may save time during a foodborne outbreak response.

Terminal Learning Objective
At the end of this module, participants will be able to examine potential barriers to effective foodborne outbreak response and strategies to overcome those barriers.

Enabling Learning Objectives
At the end of this module, participants will be able to:
9-1 describe legal issues and limitations and how they may affect team members,
9-2 describe political challenges and identify ways to address them,
9-3 identify management and resource limitations that may hinder effective response, and
9-4 identify strategies to support effective internal and external communication.

Lesson Topics
Reporting, Disclosure, and Privacy of Health Information, Overcoming Political Challenges Associated with Foodborne Outbreak Response, Overcoming Management and Resource Limitations, Mobilization of Resources, Communication Associated with an Outbreak Response, Social Media, Overcoming Barriers to an Effective Foodborne Outbreak Response, Summary

Instructional Strategy
Lecture, Facilitated Class Discussion, Table Group Activity

Assessment Strategy
- Instructor observation of participants’ involvement in the classroom discussion
- Instructor administration of a post-test to assess knowledge participants have gained from each module

Practical Exercise Statement
Not applicable
Module 10: Learning from Experience

Scope Statement
This module identifies how the results of foodborne outbreak responses can be documented and shared to improve response team performance and prevent future outbreaks. Participants will review national reporting systems and identify performance indicators. Instructors will present strategies for using investigation findings for prevention at the national, state, and local levels. Participants will discuss the most effective uses of investigational findings.

Terminal Learning Objective
At the end of this module, participants will be able to share and apply lessons learned regarding foodborne outbreak response.

Enabling Learning Objectives
At the end of this module, participants will be able to
10-1 describe steps to achieve consistent and structured debriefing and documentation,
10-2 list six points to be included in final written outbreak report,
10-3 list required reports,
10-4 review CIFOR's performance indicators, and
10-5 describe how outbreak findings can prevent future illnesses.

Lesson Topics
Foodborne Outbreak Response Teams in the Spotlight, Composing Reports, Using Investigation Findings for Prevention, Summary

Instructional Strategy
Lecture

Assessment Strategy
- Instructor observation of participants' involvement in the classroom discussion
- Instructor administration of a post-test to assess knowledge participants have gained from each module

Practical Exercise Statement
Not applicable
Module 11: Testing and Evaluation

Scope Statement
In this module, participants complete an objectives-based post-test. They must score a 70% or greater to receive a Certificate of Completion. Participants who do not achieve a passing score can re-test. (They may also request a Certificate of Attendance as documentation of class attendance.) Participants also complete a course evaluation form and provide feedback on the course instruction, content, and materials.

Terminal Learning Objective
At the end of this module, participants will be able to complete a comprehensive post-test and course evaluation.

Enabling Learning Objectives
At the end of this module, participants will be able to
11-1 complete a comprehensive post-test successfully and
11-2 provide feedback by completing a course evaluation form.

Lesson Topics
Introduction, Course Conclusion, Post-Test, Course Evaluation

Instructional Strategy
Lecture, Post-Test, Course Evaluation

Assessment Strategy
- Instructor administration of a post-test to assess knowledge participants have gained from each module

Practical Exercise Statement
Not applicable
## Course Agenda

### Day 1

<table>
<thead>
<tr>
<th>Module</th>
<th>Title</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Course Overview</td>
<td>1.25 h</td>
</tr>
<tr>
<td>2</td>
<td>Foodborne Outbreak and the Burden of Disease</td>
<td>1.5 h</td>
</tr>
<tr>
<td>3</td>
<td>Team Dynamics</td>
<td>1.25 h</td>
</tr>
<tr>
<td>4</td>
<td>Surveillance and Detection</td>
<td>1.5 h</td>
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<tr>
<td>5</td>
<td>Epidemiology Response</td>
<td>2.5 h</td>
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### Day 2

<table>
<thead>
<tr>
<th>Module</th>
<th>Title</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>Laboratory Response</td>
<td>2.0 h</td>
</tr>
<tr>
<td>7</td>
<td>Environmental Health Response</td>
<td>1.5 h</td>
</tr>
<tr>
<td>8</td>
<td>Expanding Team Response during a Complex Outbreak</td>
<td>1.5 h</td>
</tr>
<tr>
<td>9</td>
<td>Overcoming Barriers to an Effective Team Response</td>
<td>1.0 h</td>
</tr>
<tr>
<td>10</td>
<td>Learning from Experience</td>
<td>1.0 h</td>
</tr>
<tr>
<td>11</td>
<td>Testing and Evaluation</td>
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