

Epi-Ready

RESPONSE TEAMS – PLANNING AND PREPARATION

Module 3

Module Objectives

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By the end of this module, participants will be able to determine what is required to perform as an effective foodborne outbreak response team

- Identify the members of the foodborne outbreak response team
- Describe the agencies that may provide members to the team
- Explain the communication and coordination strategies used by effective outbreak response teams

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Performance Objective

By the end of this module, participants will be able to determine which elements are required to perform as an effective foodborne outbreak response team.

Enabling Learning Objectives

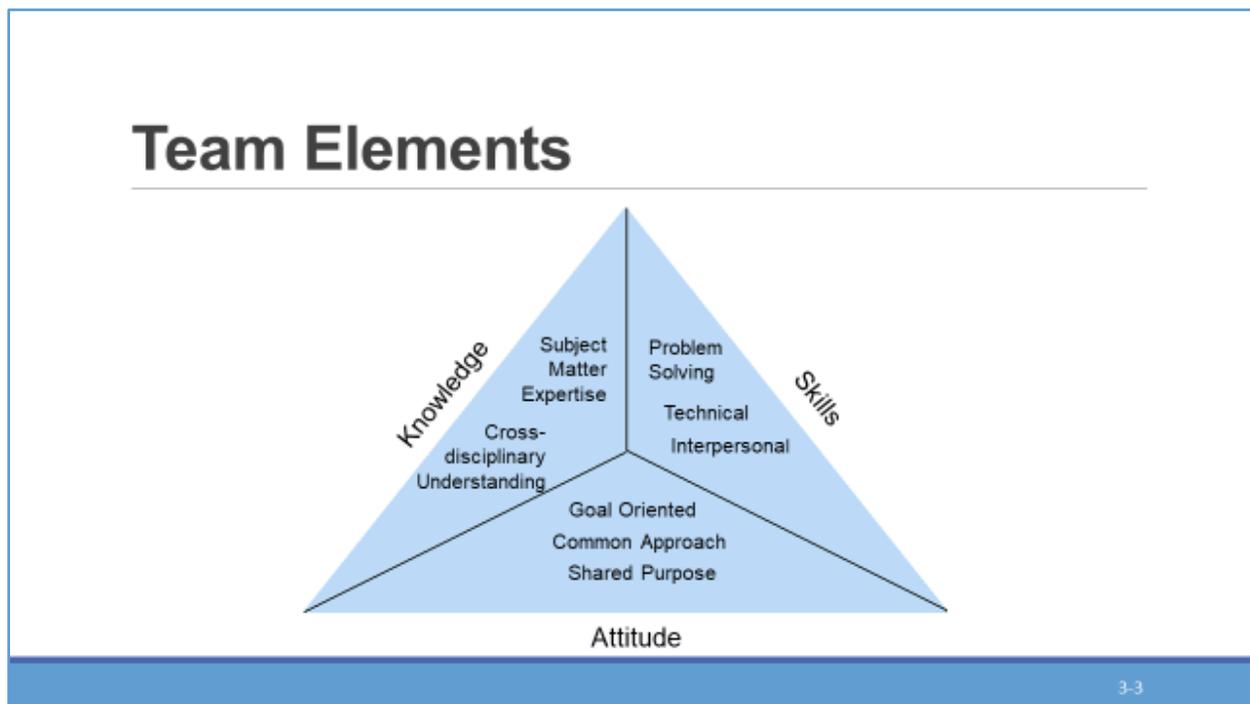
By the end of this module, the instructor shall accomplish the following learning objectives in support of the performance objective:

- Identify the members of the foodborne outbreak response team.
- Describe the agencies that may provide membership to the team.
- Explain the communication and coordination strategies used by effective outbreak response teams.

Foodborne Outbreak Response Team Members

“Teams outperform individuals acting alone or in larger organizational groupings, especially when performance requires multiple skills, judgements, and experiences.”

The Wisdom of Teams, Katzenbach and Smith 2003

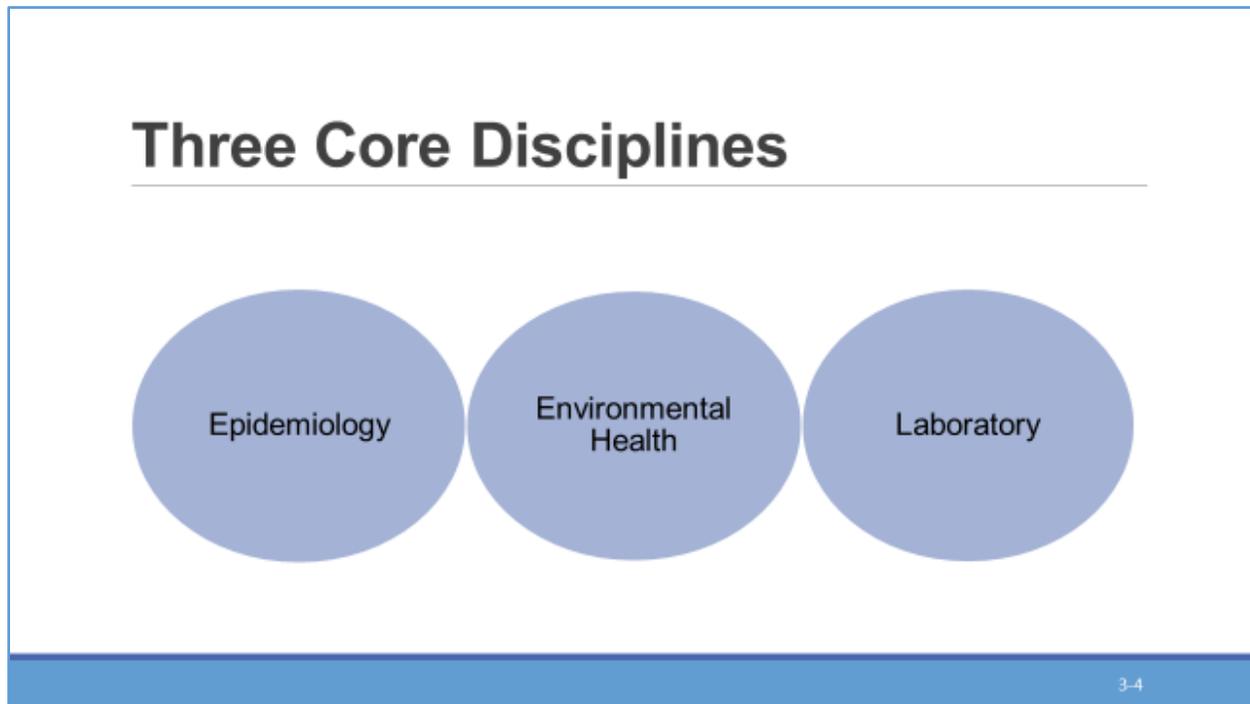


The ability to recognize foodborne illness, initiate a response, identify a source, and establish control measures requires a group of people from multiple disciplines to form a team and work together effectively. Effective foodborne outbreak response teams possess the following elements:

- Knowledge. They bring **subject matter expertise specific to their discipline** to the response. They need an **understanding of the subject matter expertise the other disciplines** bring to the response. This cross-disciplinary understanding allows team

members to communicate effectively and understand the capabilities of their response partners.

- Skills. Effective team are comprised of members that can work independently and collectively in support of team objectives. Team members are **problem solvers** and **bring technical skills** to perform the tasks that no other team disciplines can fulfill.
- Attitude. Effective teams are **goal oriented**. They understand the objectives of a response and **work together with a shared purpose**. Team member have a **common approach to their response elements** but also understand how their activities fit within the team's response.



The three core disciplines that make up an effective response team are the epidemiology, environmental health, and the laboratory and will be referred to by the job titles: epidemiologic investigator, environmental investigator, and laboratory investigator. These job titles should be broadly interpreted as there are many agency-specific job titles that would identify a discipline. Members may come from different programs within an agency or from different agencies. Membership in the outbreak response team can vary depending on the specific needs of the outbreak. These core disciplines are found at each level of government and their roles may vary from direct response activities to coordination of response efforts.

Instructional Note

The next three slides describe the three core disciplines of the foodborne outbreak response team. Each of the slides will present with the title of the slide. Before advancing to the responsibilities and skills, ask participants what job titles may be associated with the discipline. Some of the titles are listed in the participant manual. The next click will reveal the responsibilities and the final click will reveal the skills. Spend some time reviewing the responsibilities and skills of each discipline.

The Epidemiologic Investigator

Epidemiologic Investigator

Responsibilities <ul style="list-style-type: none">▪ Case-based surveillance▪ Identifies and interviews cases and controls▪ Develops hypotheses and strategies to test them▪ Collects and analyzes investigation data▪ Plans and conducts epidemiologic studies▪ Consults and coordinates with environmental and laboratory investigators	Skills: <ul style="list-style-type: none">▪ Critical thinking▪ Observation and interpretation▪ Positive communication/interview▪ Understands the host-pathogen relationship and associated illness
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Common Job Titles:

- Epidemiologist (usually with a Master, PhD, or MD degree)
- Public Health Nurse
- Environmental Health Specialist with advanced training
- Health Educator with advanced Training
- Veterinarians

Responsibilities:

- Conducts discipline-specific/case-based surveillance activities
- Identifies and interviews cases and controls
- Develops hypotheses and strategies to test them
- Collects and analyzes investigation data

- Plans and conducts epidemiologic studies
- Consults and coordinates with environmental and laboratory investigators

Desirable skills

- Critical thinking skills
- Observation and interpretation skills
- Positive communication/interview skills
- Understands the host-pathogen relationship and associated illness

Desired competencies of the epidemiologist can be found on the Council of State and Territorial Epidemiologists (CSTE) at <https://www.cste.org/page/CoreCompetencies> or the CDC website at <https://www.cdc.gov/appliedepicompencies/>.

Environmental Investigator

Environmental Investigator

<p>Responsibilities:</p> <ul style="list-style-type: none"> ▪ Investigates possible source of foodborne illness ▪ Collects environmental and food samples ▪ Interviews food employees and managers ▪ Reviews records ▪ Conducts product tracing ▪ Consults and coordinates with epidemiologic and laboratory investigators 	<p>Skills:</p> <ul style="list-style-type: none"> ▪ Critical thinking ▪ Positive communication/interview ▪ Observation and analytic ▪ Characterizes pathogens from a food-production and food-preparation perspective
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Common Job Titles:

- Environmental Health Investigator/Specialist
- Sanitarian/Registered Sanitarian
- Food Regulatory Official
- Agricultural Specialist/Regulatory Official
- Veterinarians

Responsibilities:

- Investigates possible source of foodborne illness such as food preparation sites, including sites involved with growing, raising, processing, manufacturing, packaging, storing, preparing, and serving food

- Coordinates and collects environmental and food samples and documents and maintains adequate chain of custody of the samples
- Interviews food employees and managers
- Reviews food-preparation and food-handling records
- Reviews food-inventory, food flow, and food-distribution records
- Conducts product tracing
- Consults and coordinates with epidemiologic and laboratory investigators

Desirable skills:

- Critical thinking
- Positive communication/interview
- Observation and analytic
- Characterizes pathogens from a food-production and food-preparation perspective

Laboratory Investigator

Laboratory Investigator

Responsibilities:

- Analyzes clinical specimens and food and environmental samples
- Interprets and reports test results and suggests follow-up testing
- Coordinates testing among laboratories
- Advises and coordinates with other team members

Skills:

- Understanding of microbiological techniques as epidemiologic tools
- Critical thinking as it applies to laboratory methods and quality assurance
- Understands pathogens by their cellular characteristics



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Common Job Titles:

- Laboratorian
- Microbiologist
- Virologist
- Molecular Microbiologist
- Research Scientists

Responsibilities:

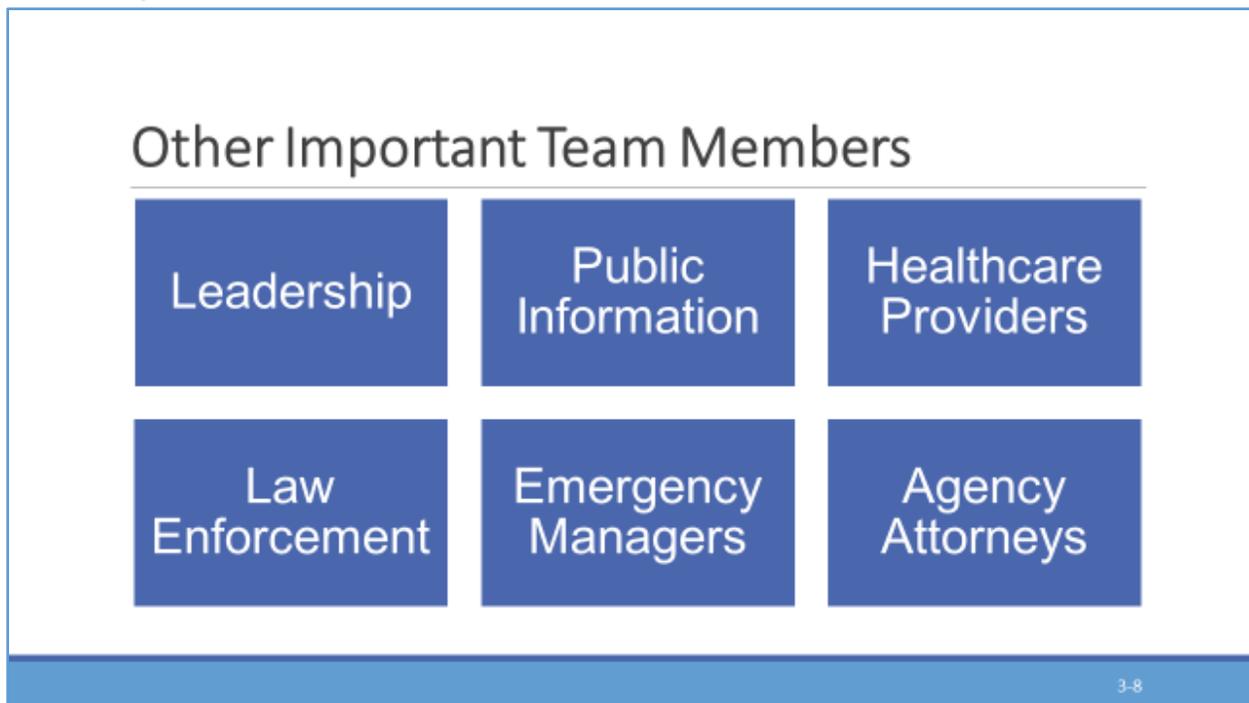
- Laboratory-based surveillance
- Analyzes clinical specimens and food and environmental samples

- Interprets and reports test results and suggests follow-up testing
- Coordinates testing among laboratories
- Advises and coordinates with other team members about sampling requirements and testing; including collection, handling, storage, and transport of specimens

Desirable skills

- Application of classical or molecular microbiology theory to practice
- Understands use of microbiological techniques as epidemiologic tools
- Critical thinking as it applies to laboratory methods and quality assurance
- Understands pathogens by their cellular characteristics

Other Important Team Members



Leadership

All effective response teams will have someone in a leadership role. **Leaders may be a core discipline operating as a response team member or may someone outside of the responding core disciplines such as an agency director.** A strong leader will have at least general knowledge of all elements of an outbreak investigation and the roles of each team member. They will also understand the roles and responsibilities of all agencies involved in investigation.

A strong leader sets and reinforces team objectives and priorities. They manage resources, especially the human resources assigned to the response. They communicate effectively to members of the team, their agencies and to the public as necessary. Leaders also understand the importance of working as a team and provides opportunities to build effective teams through training and evaluation.

Public Information Officer

The public information officer (PIO) is formal terminology used in the National Incident Management System (NIMS) but it is clearly the most explanatory term for the position. Whether formally trained or skilled through other means, **this person is the communication specialist for the outbreak team**. The PIO develops general and specific messages for the public to be delivered through the various media channels. The PIO conducts surveillance of the communication activity related to an event and disseminates the information to the appropriate response team members. The PIO coordinates communication with multiple agencies, adhering to the concept of “speak with one voice”.

The PIO **understands risk communication and applies this understanding to their communication with the team and to the public**. The PIO understands the mechanisms and protocols for relating to the news media, including press, radio, and television and has the ability to communicate with a diverse audience that has limited scientific knowledge.

Health Care Providers

Health care providers can be important members of the outbreak response team. Clinical laboratories should be considered front-line responders. They are responsible for the identification of pathogens for diagnostic purposes and provide microbiological isolates to the public health laboratory system for further laboratory investigation. **A strong partnership with clinical laboratories may result in better reporting times and more reliable isolates for advanced testing**. Health care providers can also be valuable front-line responders. Through the normal course of seeing the patient, a health care provider may recognize enteric disease that may be foodborne and timely report to the public health system. Suitably enlightened, the health care provider may prescribe analysis of stool specimens, providing valuable information to the outbreak response team.

Public Safety

In the unlikely event that foodborne **illness may be linked to a criminal or terrorist action, law enforcement will be a partner in the response**. Although they want similar result, stop the action causing illness, their methods are distinctly different than public health practitioners. They are not generally willing to disclose information to the public in fear that they may lose the suspect. They have different communication patterns and interview tactics. In an effort to facilitate the procedures of law enforcement and public health investigating together, the **CDC developed the Joint Criminal and Epidemiological Investigations Handbook**. The handbook can be found at: <https://www.cdc.gov/phlp/docs/crimepihandbook2016.pdf>.

Emergency Managers

Emergency managers may be able to provide resources when responses when they are lacking with the response agencies. Volunteers to assist with telephone banks or staff supportive services can be provided through emergency management agencies. Emergency managers may be the link to volunteer organizations active in disasters (VOAD) with trained volunteers in emergency response and volunteer health care providers.

Legal Staff/Agency Attorneys

Important members of your response team, and the one that can **keep the team from a legal mishap**, are the agency attorneys. Team members must get to know their attorneys and work with them on a day-to-day basis. **During outbreak responses, agency attorneys should be**

briefed early in the process and whenever the circumstances change as their counsel may be needed as the team moves through response activities.

Agencies Involved in Foodborne Outbreak Response

The roles, responsibilities, relationships and contributions made by entities involved in foodborne disease response differ widely. For state and local agencies, assignment of those responsibilities will vary depending on a particular state's organizational, legal, and regulatory structure; the distribution of responsibilities across different types of state and local agencies; and the size and capacity of the local agencies. This section will describe the activities of the agencies involved in foodborne outbreak response. Be aware that the description of the local system may vary greatly between states, and even between jurisdictions based on size and structure of the local public health system.

Local Public Health System

Local Public Health System

Authorities stem from constitutional, statutory, regulatory, judicial case law and general police powers

- Surveillance and control of communicable disease, including foodborne illness
- Receive and investigate complaints of illness
- Regulate and inspect food service establishments
- Manage public risk communication
- Communicate and coordinate activities with local healthcare professionals

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As **political subdivisions of state government**, local public health systems are charged with protecting and promoting the health of the public. The legal authority supporting the role of local public health stems from **constitutional, statutory, regulatory, and judicial case law, as well as from the general police powers**. These authorities provide the basis of surveillance and control of communicable disease, including foodborne illness. According to the National Association of County and City Health Officials (NACCHO), **79% of all local health departments regulate, inspect, or license food service establishments and 50% regulate, inspect, or license food manufacturers**.

Roles and responsibilities will vary but the majority of local public health departments will conduct the following activities:

- Conduct epidemiologic surveillance activities and investigation of reported illness
- Collection of clinical specimens for analysis

- Receive and investigate complaints of illness associated with food service (retail) establishments
- Regulate and inspect food service establishments
- Investigate reports of foodborne illness in food service establishments
- Collection of food and environmental samples for analysis
- Manage public risk communication during a foodborne outbreaks response
- Communicate and coordinate activities with local healthcare professionals

Laboratory function at the local public health system level involves the interaction with clinical laboratories. The NACCHO survey indicates that approximately 1 in 3 local public health systems have laboratory services and the capacity of these laboratories is not defined.

Resource contributions of local public health system include epidemiologic and environmental investigators with significant understanding of the surveillance and reporting systems as well as community businesses, health-care providers and community organizations, and other local resources. Local public health will usually be the first to respond to an outbreak and may be able take immediate action to mitigate, possibly eliminate, the threat of foodborne illness with specific or broad-based public health authority.

State Public Health Agencies

State Public Health Agencies

Authorities stem from constitutional, statutory, regulatory, judicial case law and general police powers

- Conduct statewide surveillance activities – some complaint-based activities
- Provide advanced laboratory testing
- Coordinate multi-jurisdictional or statewide investigations
- May conduct food safety regulatory programs

3-10

State agencies derive their authority to protect the public's health through **constitutional, statutory, regulatory, and judicial case law, as well as from the general police powers**. Food regulatory/response functions may be the responsibility of agencies not found within the state public health agency. These agencies will be described in this section but how these **duties are divided between agencies will vary state-to-state**.

State health department will be responsible for the following activities:

- Conduct statewide surveillance for communicable diseases with some states also conducting or coordinating state-wide complaint-based surveillance
- Provide advanced laboratory testing and surge capacity for local and statewide surveillance programs and investigations, including advanced molecular detection methods
- Coordinate multi-jurisdictional or statewide investigations of outbreaks of human illness including foodborne outbreaks
- Provide epidemiologic and laboratory support, technical assistance, and surge capacity for local agencies
- Coordinate outbreak-related communications between local and federal agencies and with neighboring states
- May conduct food safety regulatory programs and related activities where services are not provided by the local public health system

Resource contributions that can be expected from the state public health agencies include expertise with specific disease agents, assistance with surge capacity challenges of local public health, and advanced laboratory testing with expertise in microbial analyses and identification.

State Departments of Agriculture/Livestock

State Departments of Agriculture

- Pre and post-harvest food regulatory programs
- Statewide responsibilities for the safety of food and dairy products offered in intrastate commerce
- Monitors food and dairy safety by collecting and testing food, dairy, and environmental samples
- Conducts food safety regulatory programs at the food service (retail) level in certain circumstances

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These agencies use their resources and legal authorities to conduct diverse regulatory (licensing, permitting, inspection) and non-regulatory programs in areas directly or indirectly impacting food safety. These **activities including regulating food processing facilities and, in certain cases, food service establishments**. They are the primary state agency regulating agricultural inputs such as animal feed, animal health, and plant health.

These agencies are responsible for the following activities:

- Conducts a wide range of emergency preparedness, surveillance, investigation, control, and continuous process improvement programs related to their areas of responsibility
- State-level pre and post-harvest food regulatory programs are generally housed in these agencies
- Statewide responsibilities for the safety of food and dairy products offered in intrastate commerce, in coordination with local and federal food regulatory agencies
- Monitors food and dairy safety by collecting and testing food, dairy, and environmental samples
- Approximately one-half of the states have meat and or poultry inspection programs operating under authorities of federal meat and poultry inspection act with oversight by the corresponding federal agency
- Conduct food safety regulatory programs at the food service level and related activities where services are not provided by the local public health system or where statutorily established.

Resource contributions that can be expected are subject matter experts in pre-harvest food safety programs including understanding of on-farm production practices and working relationships with producers and stakeholders. These agencies have the capacity to perform specialized laboratory analysis of food and agricultural products sold or produced in the state. These agencies also have expertise in regulation, investigation, and control of food safety hazards in food and dairy product manufacturing, distribution and retail establishments.

Federal Agencies

There are three primary federal agencies associated with foodborne outbreak response. Each agency has specific duties although there is some overlap in discipline-specific activities that are mission critical to the organization.

The Food and Drug Administration (FDA)

Food and Drug Administration

- Conducts post-market surveillance and compliance of food industry
- Conducts and coordinates regulatory product tracing investigations
- Coordinates industry-initiated recalls of food products and regulatory-initiated recalls
- Coordinated Outbreak Response and Evaluation Network (CORE)
- Publishes the FDA Food Code



The FDA is **responsible for the safety of most foods moving in interstate commerce with the exception of meat, including Siluriformes fish (catfish), poultry, and pasteurized egg products**. Regulatory activities include: emergency preparedness, facility registration, routine risk-based inspections, food supply monitoring, investigations, and after action reviews as part of continuous process improvement efforts. Specific activities of the FDA include:

- Responsible for the safety of most foods moving in interstate commerce and imported except for meat, certain fish, poultry and pasteurized egg products
- Regulates dietary supplements, food additives, and food labeling for FDA-regulated foods, and oversees seafood and juice regulations
- Conducts research into foodborne contaminants
- Conducts post-market surveillance and compliance of food industry
- Oversight of imported food, with ability to conduct inspections and refuse admission of imported food products
- Conducts and coordinates regulatory product tracing investigations with local, state, and federal response partners
- Coordinates industry-initiated recalls of food products by regulated firms and has the authority to require recall of food in certain circumstances
- Publishes regulatory food safety standards for food service and retail food establishments known as the FDA Food Code
- Improves and standardizes laboratory testing methods for foodborne disease pathogens and provides advanced laboratory testing

An important resource of the FDA is the Coordinated Outbreak Response and Evaluation network (CORE). CORE is a dedicated multidisciplinary team of epidemiologists, laboratorians, environmental health specialists, and communications specialists who coordinate FDA's response to foodborne disease outbreak events. Core coordinates the response efforts of 12 human and animal health divisions and 8 food and feed laboratories within the FDA.

The FDA also administers a significant portion of the Food Safety Modernization Act (FSMA); a sweeping reform of the U.S. food safety laws. Since signed into law in 2011, the FSMA is focused on prevention of foodborne illness by focusing regulation and efforts in the following areas:

- Preventative controls for human food
- Produce safety standards
- Foreign supplier verification program
- Accreditation of third party auditors
- Sanitary transport of food and feed
- Intentional contamination/food defense

Food Safety and Inspection Service

- Conducts microbiological and chemical testing of meat, poultry products, Siluriformes fish, and egg products
- Conducts audits to determine the equivalency of foreign food-safety programs and inspects imported products under USDA-FSIS jurisdiction
- Assures state agencies operate at the “at least equal to” standard of the Federal Meat Inspection Act



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The USDA – FSIS is the public health agency within the U.S. Department of Agriculture that **ensures the nation’s commercial supply of meat, poultry, and pasteurized egg products is safe, wholesome, and correctly labeled and packaged through a national program of inspection, investigation, and enforcement.** Specific activities of the USDA-FSIS include:

- Approximately 9600 inspection program personnel provide daily regulatory oversight at more than 6000 FSIS-regulated establishments in all 50 states and Puerto Rico from pre-slaughter to retail.
- Conducts microbiological and chemical testing of meat, poultry products, Siluriformes fish, and egg products
- Conducts audits to determine the equivalency of foreign food- safety systems and re-inspecting imported products under USDA-FSIS jurisdiction
- FSIS also verifies that meat and poultry inspection programs administered by State agencies operate at the “at least equal to” standard of the Federal Meat Inspection Act

Resources of the USDA-FSIS include personnel with the training in foodborne outbreak response including traceback coordination, and epidemiologic consultation during investigations involving USDA-FSIS regulated meat, poultry, and egg products. The agency can perform laboratory testing of product from commerce or production at three field laboratories.

Another important resource co-coordinated by the FDA and USDA-FSIS is the Food Emergency Response Network (FERN). The FERN integrates the nation's food-testing laboratories at the federal, state, local, tribal, and territorial levels into a network that is able to respond to emergencies involving biological, chemical, or radiological contamination of food. There are 23 states with 26 awardees separated into 5 geographic regions involved in the program.

Centers for Disease Control and Prevention

- Coordinates and supports national surveillance
 - Laboratory-based Enteric Diseases Surveillance (LEDS)
 - Foodborne Diseases Active Surveillance Network (FoodNet)
 - PulseNet
 - Environmental Health Specialists Network (EHS-Net)
- Provides consultation, assistance, and leadership in outbreak investigations
- Facilitates coordination among jurisdictions with multijurisdictional outbreaks



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The CDC conducts national surveillance for illnesses caused by pathogens commonly transmitted through food and for coordinates the response to outbreaks of foodborne diseases of any cause. Specific activities include:

- **Coordinates and supports national surveillance and communication networks, including Laboratory-based Enteric Diseases Surveillance (LEDS), Foodborne Diseases Active Surveillance Network (FoodNet), PulseNet, Environmental Health Specialists Network (EHS-Net), and Foodborne Disease Outbreak Surveillance System (FDOSS)**
- Provides clinical, epidemiologic, and laboratory expertise in pathogens of public health importance
- Provides consultation, assistance, and leadership in outbreak investigations
- Facilitates coordination among jurisdictions within multijurisdictional outbreaks, where appropriate; and coordinates communication with other federal agencies
- Coordinates the Integrated Food Safety Centers of Excellence. These centers are partnerships between 6 state health departments and academic centers to provide technical assistance and training on epidemiologic, laboratory, and environmental investigations of foodborne illness outbreaks.

The resources available through the CDC include subject matter experts in clinical, epidemiological, laboratory, and environmental health to assist with foodborne outbreak response efforts. The CDC provides laboratory capacity in advanced molecular detection methods.

FoodCORE — Foodborne Diseases Centers for Outbreak Response Enhancement - is the CDC and 10 centers working together to develop new and better methods to detect, investigate, respond to, and control multistate outbreaks of foodborne diseases.

EHS-Net – the Environmental Health Specialist Network is a collaborative forum of environmental health specialist whose mission is to improve environmental public health practice. These specialists collaborate with core team members to identify and prevent contributing factors leading to foodborne illness. EHS-Net conducts environmental assessments to determine why the pathogen was present in the outbreak environment in such a way that exposed people to illness. The National Environmental Assessment Reporting System (NEARS) is a surveillance and reporting system maintained by EHS-Net. NEARS is the repository of environmental assessment data that can be routinely monitored by food-safety programs to prevent or reduce the risk for foodborne illness outbreaks associated with food-service establishments.

Agencies with Jurisdictional Authorities

Agencies with Jurisdictional Authorities

- Tribal Lands
- Military Bases/Posts
- National Park Service
- Prisons and other federal facilities

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Instructional Note

Ask participants if they have any federal lands/facilities in their jurisdictions. Ask how they interact with these jurisdictions.

In the United States, **there are three types of reserved federal lands: military, public, and Indian. These federally-held lands generally maintain their own sovereign government systems, including public health services,** but due to the movement of people in and out of

these lands, it is imperative that the governmental public health systems described in the previous sections work in concert with these sovereign government systems responding to foodborne illness outbreaks.

Established under treaty or other agreement with the United States, statute or other administrative order, an Indian reservation is sovereign land held in trust by the United States government. These tribal reservations are generally exempt from state and federal regulations, including public health authorities. There are no requirements to report foodborne illness to the state public health authorities and investigations may be conducted by tribal health staff or Indian Health Service (IHS) staff. Nontribal entities can become involved in a foodborne outbreak response only at the tribe's request. Tribes and local and state public health departments must establish a working relationship for reporting and coordinating response efforts.

The military also maintains autonomous authority over military bases/posts and jurisdiction over public health matters depends on the branch of military. Generally, the military branches maintain a public health system with the capacity to operate food safety programs and capable of responding foodborne illness outbreaks through the Veterinary Service of the Military Public Health system.

The National Park Service (NPS) also maintains public health services within national parks with varying levels of involvement with state and local public health agencies. With the exception of complaints of foodborne illness to the NPS, foodborne illness identified as a case of illness is not generally detected by the NPS and notification of illness flows through the local and state public health system. The NPS employ staff capable of investigating possible foodborne outbreaks with varying degrees of assistance by local, state, and federal assistance.

Federal and state prisons also maintain a somewhat autonomous food safety system and generally do not rely on local and state public health personnel to investigate possible foodborne outbreaks.

ACTIVITY

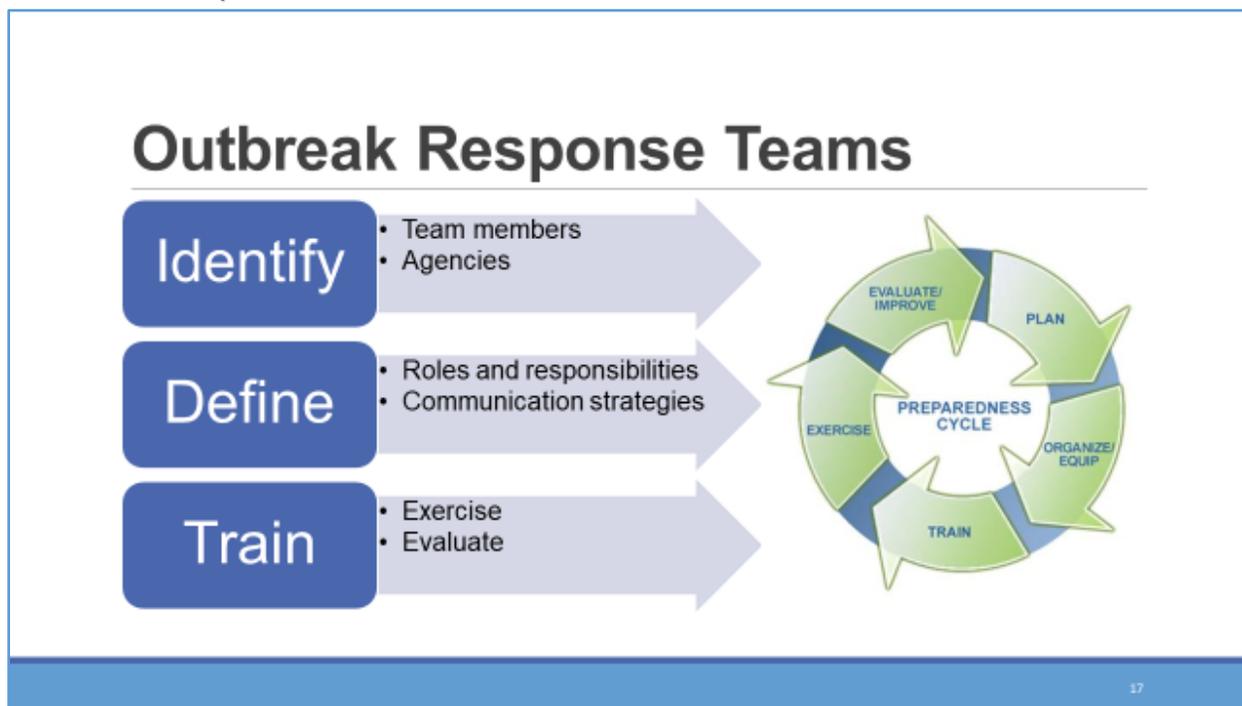
<h2 style="margin: 0;">Activity</h2> <p style="font-size: small; margin: 5px 0;">This whole-class activity will identify disciplines and agencies involved with foodborne outbreak response in the jurisdictions participating in the training.</p> <p style="font-size: small; margin: 5px 0;">Record response in participants guide.</p> <p style="font-size: small; margin: 5px 0;">Instructor will lead the discussion and record responses on an easel pad.</p> <p style="font-size: small; margin: 5px 0;">This activity should take no more than 10 minutes to complete.</p>	<p>Agency where you find the following:</p> <ul style="list-style-type: none">▪ Epidemiologic Investigators▪ Environmental Health Investigators▪ Laboratory Investigators <p>Other agencies involved with response activities:</p> <p>Agencies with jurisdictional authority:</p>
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Agency where you find the following:
Epidemiologic Investigators _____
Environmental Health Investigators _____
Laboratory Investigators _____
Other agencies involved with response activities

Agencies with jurisdictional authority

Outbreak Response Teams



An understanding of the core disciplines and the agencies involved with foodborne outbreak response identifies the resources but it does not necessarily result in a team capable of responding to a foodborne outbreak. All outbreak response requires a local component and, of all levels of government, the local public health system may be the least prepared from an operational standpoint to mount an effective response. This is not due to an unwillingness to protect the public's health but more a challenge with competing priorities and the lack of a large number of foodborne illness to investigate and respond to in a multidisciplinary fashion. This premise may not hold true for the local health departments serving large populations, but most public health departments employ environmental health and epidemiologic personnel that conduct activities not associated with foodborne outbreak response on a routine basis.

Local public health and food regulatory leadership must recognize the core capabilities necessary to form a response team within their jurisdiction, identify members and assemble the team. In certain jurisdiction, team members may be identified in other agencies, possibly at the same local level of government but oftentimes from a state-level agency providing services at a local jurisdictional level. Once a team has been identified and assembled, **common operating principles must be developed that include methods of information sharing and communication strategies that assist the team to operate optimally during an outbreak.** Effective multi-disciplinary and interagency coordination with non-traditional response partners is supported by clearly defining responsibilities, communication strategies, and protocols prior to a foodborne illness outbreak.

The core team members must **train together for different scenarios**, some that may be specific to the jurisdiction identified through the emergency planning process. Agencies supplying staff to outbreak response teams may want to identify and train additional staff within

their agency in case the response requires additional staffing specific to a discipline. Training should involve state and possibly federal partners if they are best available resource during an outbreak response.

Interdisciplinary Response Teams

Interdisciplinary Response Teams



- Prepare for and respond to foodborne illness outbreaks and other food emergencies
- Enhance intra-agency and interagency collaboration and communication
- Train and exercise teams to be ready to respond to events when they occur
- Establish national best practices and tools that can be shared with other states to improve their response to food emergencies

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Instructional Note

Mention to participants that Kentucky has developed an interdisciplinary response model and that CalFERT is the interdisciplinary response team of California. CalFERT brings together the California Department of Agriculture with the San Francisco and Los Angeles offices of the FDA as well as other public health partner to respond to foodborne outbreaks. The CalFERT model was used to develop the Rapid Response Team (RRT) model of the FDA. The bulleted information on the slide reinforces the previous slide and should be paraphrased and include:

- Prepare and respond
- Enhance collaboration and communication
- Train and exercise
- Establish best practices to improve response

Throughout the country, there are interdisciplinary response teams that have demonstrated success. Some of these team are recognizable to many people that work in the foodborne outbreak/food safety system, other not so recognizable.

Epi Rapid Response Teams (ERRT)

ERRTs incorporate discipline-specific team members to investigate disease within a jurisdiction. In the case of a foodborne outbreak response, team member includes the director, nursing and environmental health staff for the county jurisdiction and a state regional epidemiologist. This is a program of the Kentucky Cabinet for Health and Family Services that requires a membership of approximately 400 to attend training and conferences to keep their skills as a response team. Teams generally work only within their jurisdiction with coordination with other counties by the regional epidemiologist. The unique characteristic of the EERT is that the team stands down only when all members agree that the disease has sufficiently been controlled. This demonstrate the team element of shared purpose.

CalFERT

To increase food safety investigation efficiency, communication, and effectiveness, the California Department of Public Health, in partnership with FDA's San Francisco and Los Angeles district offices, formed the California Food Emergency Response Team in 2005. This interdisciplinary response team is comprised of food scientists, food regulators, laboratorians, and epidemiologists responding to foodborne outbreaks involving the regulated foods in California. The team assembles and trains regularly and is a good example of a vertically-integrated team. One of the team's most significant successes is how quickly the joint team is able to conduct streamlined foodborne illness and defense investigations. Prompt responses and team members' developed expertise have led to more rapid detection of outbreak causes and corrective action (ASHTO 2017).

Rapid Response Teams (RRTs)

RRTs are multi-agency, multi-disciplinary teams that operate using National Incident Management System (NIMS) principles to respond to human and animal food emergencies. The FDA funds many states through multi-year cooperative agreement and additional states have established voluntary, non-funded programs. **The premise of the RRT is to minimize the time between agency notification of a human or animal food contamination event and implementation of effective control measures.** To accomplish this, RRTs develop and maintain processes to:

- Prepare for and respond to foodborne illness outbreaks and other food emergencies
- Enhance intra-agency and interagency collaboration and communication
- Train and exercise teams to be ready to respond to events when they occur
- Establish national best practices and tools that can be shared with other states to improve their response to food emergencies

RRT Best Practices Manual is available at:

<https://www.fda.gov/downloads/ForFederalStateandLocalOfficials/ProgramsInitiatives/UCM589279.pdf>

Response Team Communication

Communication is the flow or exchange of information to be acted upon. Team communication, is an internal communication process that is essential for optimal team function. Communication must reinforce the mission, goals, and objectives of the team, either directly or implicitly.

Response Team Communication

- Clear and concise and leave little leeway for interpretation
- Delivered in a consistent fashion
- Communication should clarify roles and responsibilities of the team members
- Lines of communication must be structured
 - Top-down
 - Bottom-up
 - Lateral communication
- Develop a plan!

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For communication to be effective, it must possess the following characteristics:

- **Clear and concise** and leave for little leeway for interpretation. Not always an easy matter to address but this includes the voice qualities of the communicator. Monotone speech (having little or no variety in pitch or tone) or speaking too softly may make it difficult to understand the communication.
- Communication must be **delivered in a consistent fashion**. It should always reinforce the intended objectives of the team.
- Communication should **clarify roles and responsibilities of the team members**. There should be no ambiguity with what is expected of each team member.
- Lines of communication must be **structured**. Top-down communication relay strategies and directives of upper management, Bottom-up communication generally provide requested information to the upper management and lateral communication is the exchange of information between responders working at the same level of the response.
- **Communication must engage all team members and encourage open communication.**

All training and exercises conducted by the team must include a communications component. This is an opportunity sharpen verbal skills, evaluate member to member communication patterns, and to test communication methods and equipment generally utilized during a response.

Communication Plan

All agencies that contribute to a response must develop a plan to communicate within their agency and with other agencies that participate in the response. Contact list (primary phone numbers and alternates, cell phone numbers, 24-hour numbers, home numbers, pagers, e-mail, fax numbers, and addresses) must be established and frequently updated. **Contacts to be listed are core members of the outbreak response team and other officials inside the agencies such as the chief epidemiologist, public health laboratory director, and agency directors.** The list should also include contacts in other government agencies, food industry, healthcare and the media. Those team members responsible for public messaging should share lists with other response team members and develop a call-down procedure so that the appropriate members are contacted without unwanted redundancy. **Ensure everyone who may be involved in outbreak response knows each other, establishing routine communication among the team members.** Define a formal communication process for agencies of the outbreak response team for use during outbreaks. Developing a consistent approach to internal communications during an outbreak helps everyone on the team know what to expect.

Team Communication Strategies



Instructional Note

This slide is animated. The slide will reveal with the title and the dark text boxes. Discuss the various strategies and then click to ask the question about the communications plan. All public health agencies will have a communications plan associated with their Public Health Emergency Preparedness Plan (PHEP).

The following strategies of communication can be used to develop a more cohesive team:

E-mail. This is a typical method of communication in governmental agencies. It is fast and efficient but may have some limitations. Some agencies block large file size transmission. You may need to find another method of transferring file such as a file transfer service. E-mail may not be the best method of transmitting sensitive information or protected health information. The information transmitted through this method of communication must be disclosed upon request.

LISTSERVS. This method of communication distributes information to subscribed members. The CDC maintains a foodborne outbreak LISTSERV. Timely information can be distributed and collected during an outbreak investigation. This method is effective with multistate outbreaks investigations.

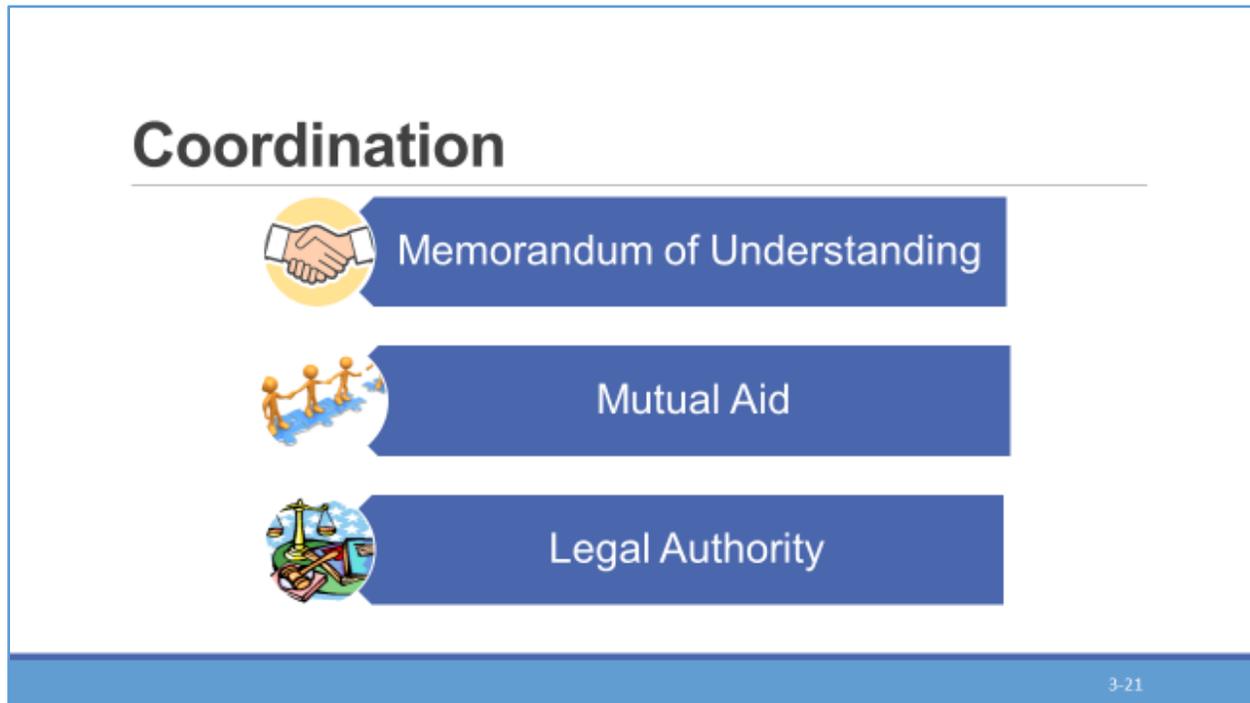
Conference calls and web-based meetings. These methods work well when responders are at various locations. Web-based meetings are effective as visual information can be shared as the meeting progresses.

Long-term Communication methods commonly used:

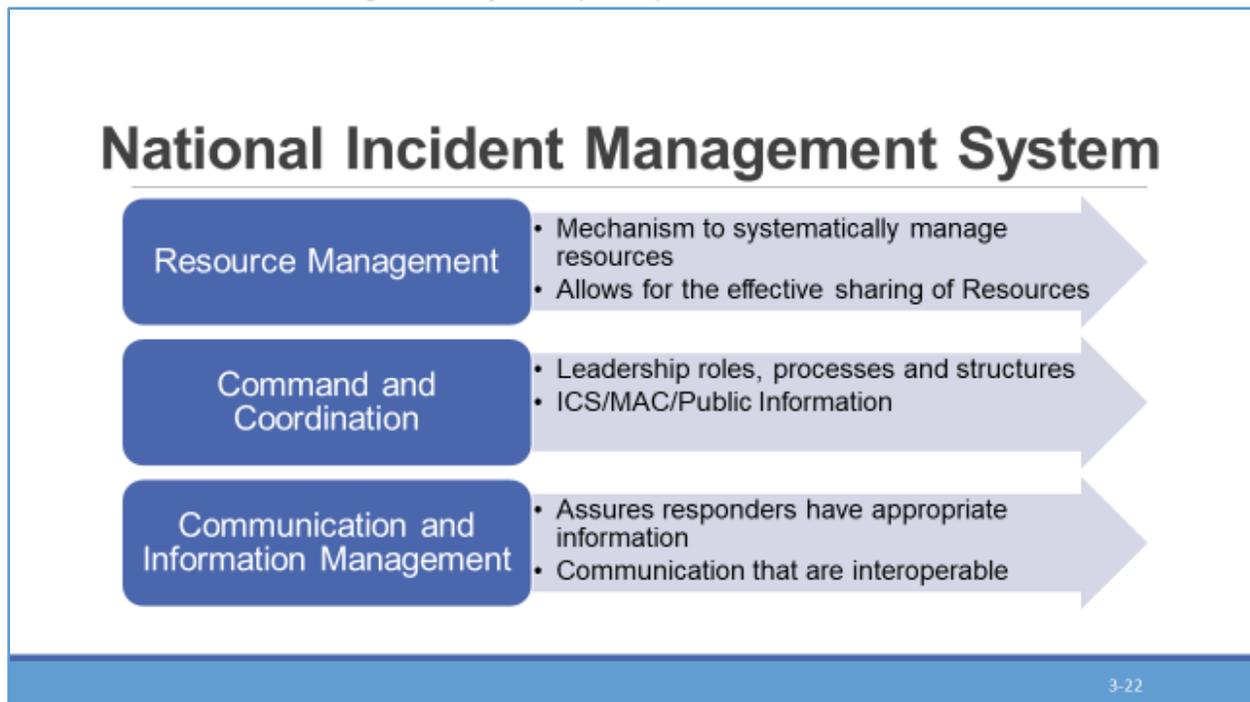
Face-to-face meetings. Face-to-face meeting may be the most effective means of team building. They can be used to introduce new strategies or to exercise response plans. These meetings take time and pull responders from their normal daily duties which may present a challenge when team members have to travel long distances to attend.

Newsletters, webcasts and bulletins. The methods may serve to provide information that is important to the response team members but does not require the “richness” of the face-to-face meeting.

Response Team Coordination

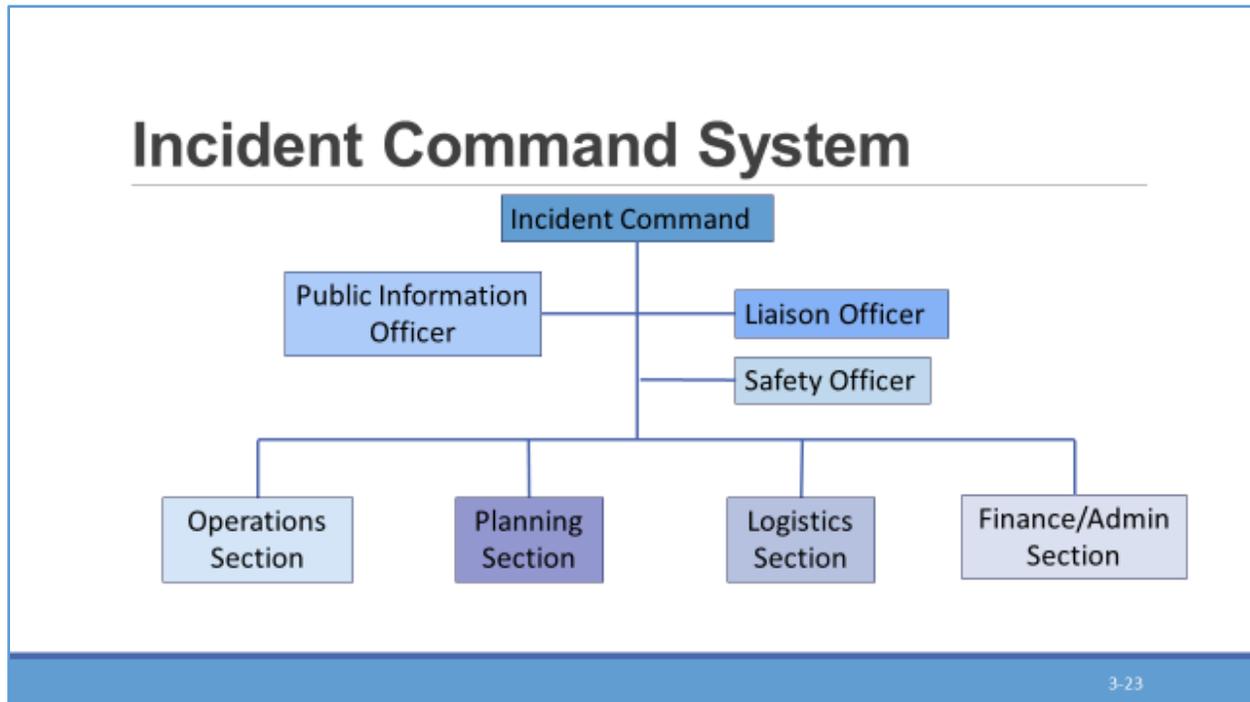


Coordination of response team activities is more than a communication plan. Agencies must develop response plans and protocols to anticipate how the agency will mount both independent and coordinated responses to a wide range of incidents ranging from relatively small local outbreaks to large, multi-state outbreaks of national significance. These protocols should be assembled or put in place before an outbreak occurs. If necessary, agreements between agencies be available and be in-place and available. These may include **Memorandums of Understanding (MOU) or Mutual Aid Agreements (MAA) whereas agencies agree to assist by furnishing personnel, equipment, and expertise in a specified manner at requisite time.** It is important to understand that a signed agreement does not obligate the provision or receipt of aid, but rather provides a tool for use should the incident dictate a need. **Legal authorities for response, including the use of personnel from other jurisdictions, must be identified well in advance of a response.** If these authorities are necessary for an action against a party such a seizing food, they should be in a format that they can be provided to the party with appropriate emphasis added. Response teams should adopt a structure for response, possibly the Incident Command System structure of the National Incident Management System.



The **NIMS provides a comprehensive approach to incident management that is applicable at all levels of government and across disciplines.** The NIMS provides a standardized approach to incident management that is scalable and flexible, addresses all hazards, and enhances cooperation and interoperability among responders. The NIMS is comprised of 3 main components:

- Resource Management describes standard mechanisms to systematically manage resources, including personnel, equipment, supplies, teams, and facilities, both before and during incidents in order to allow organizations to more effectively share resources when needed.
- Command and Coordination describes leadership roles, processes, and recommended organizational structures for incident management at the operational and incident support levels and explains how these structures interact to manage incidents effectively and efficiently.
- Communication and Information Management describes systems and methods that help to ensure that incident personnel and other decision makers have the means and information they need to make and communicate decisions.



A component of Command and Coordination is the Incident Command System or ICS. **ICS is a standardized approach to the command, control, and coordination of an incident.** ICS provides a common hierarchy that personnel from multiple organizations can utilize to be effective. This system includes five major functional areas: Command, Operations, Planning, Logistics, and Finance/Administration.

Agencies involved in foodborne outbreak response should **decide in advance whether and how to apply ICS or an ICS-like structure into their response framework.** Including ICS requires planning and exercising. Such **planning must be coordinated with all other agencies may participate in response.** Many foodborne disease outbreak investigations do not require the full-blown activation of ICS, but outbreak response teams will benefit from training in ICS principles and methods.

Early inclusion of ICS principles and methods can prevent problems over the long term. Trying to pick up and implement ICS after an incident has expanded creates many organizational issues for all responders involved.

Summary

Summary

Identify the members of the foodborne outbreak response team

Describe the agencies that may provide membership to the team

Explain the communication and coordination strategies used by effective outbreak response teams

3-24

Coming up Next

Coming Up Next

Surveillance and Detection
Implications for Response

3-25