



HARVARD SCHOOL OF PUBLIC HEALTH
Center for Public Health Preparedness

Toolkit to Assist Public Health in Conducting Preparedness Exercises



Tabletop Exercise No. 2: Food Contamination

*This document was created by the **Harvard School of Public Health Center for Public Health Preparedness**, last updated in **January 2009**. To the best of our knowledge, the scientific validity of the scenario and supporting materials is current as of this date.*

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The Harvard School of Public Health Center for Public Health Preparedness is tracking all exercises conducted using this Toolkit. Please send an email to hcphp@hsph.harvard.edu with “Exercise Toolkit” in the subject line to let us know about each exercise you perform using the Toolkit, or to request additional information and/or materials.

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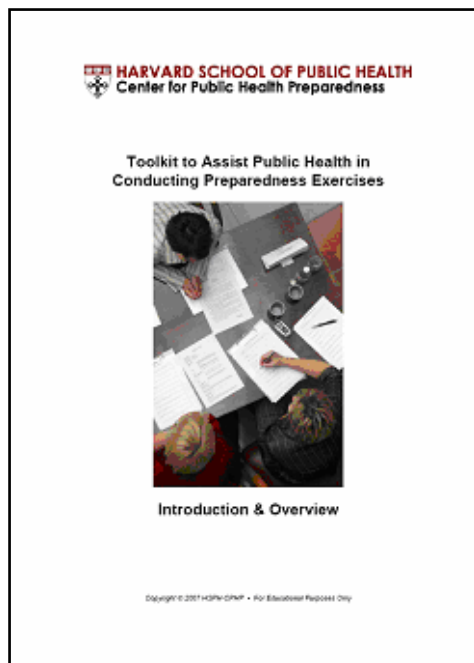


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Using the Exercise Toolkit

When planned and executed properly, exercises that simulate public health response to major emergency situations can significantly help improve preparedness on two levels. At the individual level, exercises present an opportunity to educate staff members on disaster plans and procedures through hands-on practice. They also help staff improve their performance through constructive critiques of their actions. On a system-wide level, well-designed exercises can reveal gaps in resources, uncover planning weaknesses, and clarify specific roles and responsibilities.



“Tabletop Exercise No. 2: Food Contamination” is part of the Harvard School of Public Health Center for Public Health Preparedness **Toolkit to Assist Public Health in Conducting Preparedness Exercises**.

These materials are designed to enable local public health officials to conduct standardized preparedness exercises without draining excessive amounts of time and energy away from critical daily responsibilities. The scenarios and sequence of events in each exercise are pre-planned and designed to test the critical actions of local public health as part of a community emergency or disaster response.

These scenarios are further designed to allow for the inclusion of other community partners such as public safety (law enforcement, fire services, emergency medical services), municipal government, hospitals, and other health care providers. This design is meant to ensure that

public health emergency planning is integrated into the broader community disaster plans and to allow for an improved understanding of the roles each service should play in a catastrophic event.

Guidelines for planning, facilitating, and evaluating a tabletop exercise can be found in the “Introduction & Overview” document of the Toolkit (pictured above). This and other tabletop exercise scenarios are available on the Harvard School of Public Health Center for Public Health Preparedness Website, at <http://www.hsph.harvard.edu/hcphp/>



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TOOLKIT TO ASSIST LOCAL PUBLIC HEALTH IN CONDUCTING PREPAREDNESS EXERCISES TABLETOP EXERCISE #2: FOOD CONTAMINATION

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I. Introduction & Objectives

This tabletop exercise allows local public health, safety, government, and health professionals to test their response to an outbreak of illness related to a contaminated food source. The public health preparedness capabilities addressed in this exercise are: **Surveillance & Epidemiology**, **Health Care Surge**, **Communications**, and **Leadership & Management**. It is recommended that exercises conducted with this toolkit include representation from local public safety, local government, and local hospitals and health care providers whenever possible in order to integrate the community emergency response plans and facilitate interagency cooperation.

The objectives of this exercise are to enable members of the public health workforce to:

- Clarify roles and responsibilities in a public health emergency
- Practice working together to respond to an emergency
- Evaluate current emergency plans & protocols
- Anticipate the specific demands on the public health system during a public health emergency
- Understand the role of local, state, and federal agencies, and the resources available to local communities



II. Exercise Scenario

A. Scenario Background

B. Day One: Surveillance & Disease Reporting

Questions for Discussion

C. Day Two: Risk Communication

Questions for Discussion

D. Day Three: Infection Control

Questions for Discussion

E. Day Four: Provision of Mass Care

Questions for Discussion

F. Day Five: Surge Capacity

Questions for Discussion

G. Day Six: Confirmation of Outbreak

Questions for Discussion

H. Day Ten: The Global Outcome

Questions for Discussion

Scenario Background (Fictional)

The scenario takes place in a municipality with a population of approximately 75,000 people. It is a local business and academic hub with an additional 50,000+ population influx during the day. Relevant resources include two major hospitals and a large university with significant chemical and biological research labs. The primary public water supply comes from a large reservoir in neighboring county. The municipality has a health department with 30 employees and a pilot surveillance system limited to certain areas. The municipality is the planned venue for a major upcoming conference on the environment. The festival planners are working in a mid-summer timeframe with several ethnic festivals in progress as well. Surrounding cities and towns are served by the major municipality with the total population exceeding 2,000,000. Additionally, three small to medium community hospitals exist in the surrounding area.

Day One: Friday

Reports of gastrointestinal illness begin coming in from private providers' offices, nursing hotlines and emergency departments of one of the three major hospitals. Most patients are between the ages of 20 and 55, although as many as 10% are over 65 years old. By mid-Friday afternoon, 45 reports of gastrointestinal illness have been documented, 20 of whom were from emergency departments. Patients are presenting with a common symptom list: severe bloody diarrhea, fever, chills, headache, nausea, vomiting, and abdominal pain. A small number of stool samples were obtained and sent to the lab for testing but results are still pending. Several patients have required hospitalization for dehydration.

Questions for Discussion

After the initial introduction of the scenario, the key questions are:

- How would a physician communicate this type of information to local public health officials?
- If you were a public health official what would you do upon receiving this information?
- Where will lab testing be performed?
- Who will transport specimens to the lab?

Day Two: Saturday Morning

Latino and Southeast Asian Ethnic Fairs are in full swing in the downtown area. Downtown emergency departments now count up to 40 patients complaining of gastrointestinal distress with an additional 60 cases coming through the surveillance system. The health departments and area hospitals have been notified of a potential influx of patients. Concerns are being raised regarding capacity as hospitals are already overcrowding with regular seasonal surge.

Questions for Discussion

Assuming there is no further data available than what has just been described, how would public health handle the following questions:

- Who is leading the public health response and what are the roles and responsibilities of the people who report to this individual or agency?
- Do you have a case definition for suspected cases?
- How do you reach your local health care providers to alert them of the situation?
- Is there a need for personal protective equipment (PPE) when dealing with patients?

Day Two: Saturday Afternoon

The total reported patient count is now 150 including 50 patients from the original reporting hospital. The second major city hospital is now reporting cases. Local pharmacies have been flooding the hospitals with calls to get more information in light of increased demand for anti-diarrheal medicine.

Questions for Discussion

- Do you activate your emergency plan and Emergency Operations Center (EOC)?
- How do you activate your plan?
- What personnel are called in?
- Do you increase surveillance?
- Do you institute mandatory reporting?
- How do you reach your staff off-hours or on the weekend?

Day Two: Saturday Evening

A health department team of investigators and epidemiologists begin interviewing patients at hospitals. The total count of cases is now 200 with 70 cases in the city's emergency departments, 15 of whom have required hospitalization. The only epidemiological pattern to which patients will require hospitalization appears to be those with co-morbid conditions. Thirty stool samples have been sent to state labs for testing to date. Results on all are still pending. The news media is now making inquiries with hospitals and public health regarding what they call an "outbreak of intestinal illness".

Questions for Discussion

- What are the key issues the health department needs to address at this point?
- Who are the key partners with whom these issues need to be addressed?
- On what medical care-related areas does public health need to collaborate with the hospitals, emergency rooms and outpatient providers?
- Who speaks to the media?
- Should state or federal assistance be requested?
- What agencies can you ask for assistance with extra personnel and resources?

Day Three: Sunday Morning

A tour leader from a domestic travel group visiting the city this week reports 20 of the 30 group members are all sick with severe diarrhea, nausea and vomiting. All group members have been eating together at local restaurants and at the ongoing cultural fairs in the city. None of the members has sought medical care though some wish to leave the tour early and fly home.

Questions for Discussion

Although state and federal help is on the way, local public health must respond to the local emergency.

- Who is now leading the public health response and what are the roles and responsibilities of the persons who report to this individual or agency?
- Are there any special concerns because the group is from out of town and intends to travel home?
- What interventions should be considered?
- Who are the key partners with whom these issues need to be addressed?

Day Three: Sunday Afternoon

Case reports are now coming in from surrounding community hospitals. Health department investigators are compiling reports from patients that have been interviewed. Several large chain restaurants have been named by many, but not all interviewed patients. One of these chain restaurants has a history of hygiene violations by the Health Department. Additionally, many cases visited one of the two ethnic festivals. Stool specimen results are not expected until late Monday afternoon (day 4) or Tuesday morning (day 5). All restaurants are served by the public water supply from the same reservoir

Questions for Discussion

- What are the next steps in the investigation?
- What control measures should be implemented?
- Is there a need for cases to be isolated?
- How will you enforce isolation?
- Have you activated your emergency plan or EOC?
- What additional personnel can be called in?

Day Three: Sunday Evening

Local municipal health departments are reaching out to surrounding regional colleagues for assistance interviewing patients from community hospitals. All interviewees appear to have been in the city eating or visiting festivals earlier in the weekend or picnicking along the river after purchasing box lunches from specialty grocery stores.

Questions for Discussion

- Are there legal agreements in place to facilitate city-town cooperation and resource sharing?
- What steps go into the decision to close restaurants and other food establishments?
- Will there be any financial or legal repercussions to closing food establishments?
- What is the current health department message to the media and how will this message be delivered?

Day Four: Monday Morning

Case counts now exceed 400 with all local hospitals and several surrounding community hospitals reporting cases. The link to food establishments is becoming evident as the investigation continues. The outbreak appears to include some national chain restaurants, mostly featuring ethnic foods, and specialty grocery stores. Many popular restaurants indicated by the investigation also provide delivery services to hospital workers. Fresh greens appear to be the most consistently ingested items among the cases interviewed. Common foods consumed by many patients include salsas, dishes using pesto, gourmet specialty pizzas, gourmet salads and soup.

Questions for Discussion

- What are the key issues the health department needs to address at this point?
- Who are the key partners with whom these issues need to be addressed?
- What are your media messages?

Day Four: Monday Afternoon

Hospital emergency departments, clinics and health centers are overwhelmed. Facility staffing issues have arisen as staff are calling in sick with symptoms of “stomach flu”. Hospital administrators are concerned about the spread within the hospital.

Questions for Discussion

Local health now has technical assistance from state and federal agencies with laboratory testing, field investigation, and treatment recommendations. However, the responsibility to implement the recommendations remains the responsibility of local health.

- How should the local health department stay current with state and federal communications and guidelines regarding the outbreak?
- What recommendations should be made to the public regarding daily activities (i.e. where to purchase food, how to treat the ill at home, etc.)?
- What essential functions must remain in place in the community? How is the determination made as to how limited personnel and other resources are allocated?
- What essential services must be maintained across the region? How will resources be allocated and accounted for in order to maintain these services? Who decides these issues?
- What mental health needs of citizens, health workers, emergency responders, and others must be considered and addressed? How will this be accomplished?

Day Five: Tuesday Morning

The total count of cases is now over 800 from all reported sources. The media, not satisfied with official briefings and reports that the “source is not yet known”, are now aggressively seeking information from their own sources. The health department spokesperson has made several reports stating: “food is suspected, particularly foods containing fresh herbs.” Most cases are under age 55, but approximately 10% are over 65 with underlying health conditions. About 20% of patients have required hospitalization for rehydration, IV anti-nausea treatment and fever control measures.

Questions for Discussion

- How do you get additional staff if required?
- Who will interact with the State Department of Public Health and the CDC?
- Who has jurisdictional authority?
- What control measures need to be taken to limit the spread of the illness?
- How would you handle the influx of calls and questions from concerned citizens?
- What are your media messages?

Day Five: Tuesday Afternoon

Initial test results indicate *Shigella sonnei* as the common causative agent. A major media outlet has just received a call from an extremist environmentalist group who has been threatening action at the upcoming conference on the environment. They claim they have contaminated commonly consumed foods with a dangerous agent and will continue unless their demands for better environmental policies and controls are met.

Questions for Discussion

- Is there a need for PPE when working with patients suspected of having Shigella?
- Who has jurisdictional authority now that the nature of contamination is known?
- What are your media messages?
- If the public is made aware of the nature of the contamination, how will they react?
- What protocols need to be put in place to cope with the nature of the contamination and the resulting public outcry?
- How should law enforcement and public health share sensitive information to ensure an optimal response?

Day Five: Tuesday Evening

Health department phone lines are jammed with callers seeking information regarding the food contamination outbreak. There are concerns that the outbreak will continue to spread, and the public is uncertain how to feed their families in the face of city-wide food establishment closings. Due to the assumed terrorist nature of event, federal law enforcement are called in but the public anxiety is still high.

Questions for Discussion

Although federal and state agencies are assisting, local public health must continue to respond to the local emergency.

- Who will interact with federal authorities?
- Who has jurisdictional authority?
- What steps can you take to prevent communications systems from being overwhelmed by public queries?
- Hospitals are full, and there are severe staff shortages. The least ill patients are being sent home. Have any plans been made for provision of home health care?
- How can you help your local hospital, primary care providers' offices and EMS with surge capacity?

Day Six: Wednesday Morning

Preliminary investigation reveals two of the university labs have missing vials of *Shigella sonnei* and Botulism toxin (although none of the ill individuals' symptoms are consistent with Botulism). Further investigation uncovers that most common ingredients in implicated foods were fresh herbs, mostly cilantro, basil and arugula. Citizens are demanding information regarding food safety. Food establishments that have remained open are reporting a significant drop in business. Food establishments and distributors are seeking additional guidance from public health authorities. The total number of reported cases is well over 1,200 with about 200 cases requiring hospitalization and four deaths reported thus far.

Questions for Discussion

- Does your community have a plan to educate local residents on subjects such as how to care for milder cases at home, which patients require professional medical care, who will be at higher risk of serious illness, and where to go for medical care if residents do not have a regular source of medical care?
- What special issues need to be considered related to vulnerable populations, like those who are geographically isolated, non-English speakers, hearing impaired, the elderly, and others with already limited access to healthcare?
- What are your media messages?

Day Ten: Sunday Morning

The case count is now over 1,600 with two additional deaths. A total of 250 patients have required hospitalization. There have been no new cases reported for 24 hours and no additional communication from the extremist group.

Questions for Discussion

- What should you recommend to the public regarding daily activities (i.e. food shopping, eating out, etc.)?
- What mental health needs of citizens, health workers, emergency responders, and others must be considered and addressed? How will this be accomplished?
- What are your media messages?



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III. Materials for Additional Participants

- A. Law Enforcement**

- B. Fire & Emergency Medical Services**

- C. Municipal Government**

- D. Hospitals & Health Care Providers**

A. Law Enforcement

In the first day of the scenario, there may be little out of the ordinary for law enforcement. The main challenge for law enforcement will be to assist the local hospital with security for isolation and media and crowd control.

However, if public health decides to quarantine suspected contacts of the initial (“index”) patient, law enforcement will become involved:

- Under what legal authority can public health impose quarantine?
- What resources would you be able to dedicate to public health to help them investigate possible contacts of the initial patients?
- What resources do you have to impose quarantine?
- What is your plan for quarantine?
- Are you able to assist public health with the delivery of food, water and medicines to quarantined persons?
- How will you coordinate your message to the media with public health to make sure no conflicting instructions are given?

As the outbreak spreads, your officers may have questions about their safety:

- Are any of your officers trained on when and how to use personal protective equipment (PPE)?
- To whom will you turn for answers about your officers’ safety?

As the outbreak spreads further, there may be additional security concerns:

- How will you help provide for security at the community point-of-dispensing (POD) sites for medications?
- Do you know ahead of time where those sites will be?
- What are your procedures for persons who are unwilling to be voluntarily quarantined?
- Given the above demands on your staff, how would you also deal with traffic flow, if there were simultaneously a mass exodus from your community?
- If large numbers of law enforcement personnel are affected, how will you ensure continuity of operations for routine as well as outbreak services?

B. Fire & Emergency Medical Services

In the first day of the scenario, there will be little out of the ordinary for the fire and EMS services.

However, as the outbreak spreads, your services will rapidly face a number of challenges:

- You may be requested to help staff points-of-dispensing (PODs) for medications and/or vaccinations. Can you accept that request? Are you adequately staffed and prepared to take on the request?
- Are you able to help with delivery of food and water to quarantined persons?
- Many staff will have concerns for their safety. Are they already trained on when and how to use different types of personal protective equipment (PPE)?
- How will you adequately, rapidly, and repeatedly clean and disinfect your equipment?
- Standards for handling suspected infected patients might change rapidly. From where will you obtain your most current information?
- Would you be able to assist with inter-facility transfers of patients?
- Could the system handle a surge of 50% or more requests on a daily basis during the peak period? How long can this increased level of response be sustained?
- Is there a priority system in providing patient transport? Who decides the priority? What criteria are used in making the decision?
- What alternative sources could be used for patient transport?
- Some staff, if exposed to ill persons without proper PPE or if showing signs of gastrointestinal illness may be quarantined. Do you have any procedures in place for dealing with their absence?
- Will quarantined and other ill staff be compensated for lost wages?
- How will you obtain mutual aid if surrounding communities are similarly affected?
- How will you coordinate your message to the media with public health to ensure conflicting information is not generated?
- How will you deal with an increase in sick calls during a major infectious outbreak?
- You may rapidly deplete stocks of PPE. How will you rapidly re-stock your supplies?

C. Municipal Government

From the beginning, this scenario brings about a great deal of risk for your citizens and a great deal of unwelcome media attention.

- When will you be notified of a potential infectious disease outbreak in your community?
- How will this occur?
- On whom will you rely for expert opinion and guidance?
- How will you mediate conflicts (if any) among public health, police, fire and EMS?
- Who will speak to the media?
- How will you coordinate your community's message so that conflicting information is not distributed?
- To whom do you report at the state level?
- How are reports made?
- Will you close schools?
- Will you close government offices?
- Will you recommend businesses close?

Once the outbreak represents a clear threat to the health of your community:

- How do you decide to make recommendations about citizens' movement (i.e. going to work, going shopping, etc.)?
- How will you balance real economic needs with public health concerns?
- How will you monitor the activities of public health, public safety and health care in your community?
- How can you assist the above people with obtaining resources and support?
- Does your community have a plan to provide for a surge in mental health and social services needs? In your opinion, is the plan adequate to meet the potential needs posed by a food contamination incident?
- What is the role of voluntary and religious organizations? Is someone responsible for coordinating their efforts? How will volunteers be protected legally?

D. Hospitals & Health Care Providers

The initial step in starting an investigation of an infectious outbreak begins with a report from the medical community to public health:

- What surveillance mechanisms are currently in place in your institution?
- How well are your staff educated in mandatory reporting requirements and how frequently are they updated in a new situation?
- Does your staff know how to contact public health?
- From triage in the Emergency Department through the ICUs and morgue, how well trained are your staff in isolation procedures?
- How will you coordinate your message with public health to ensure that conflicting information is not generated?

An outbreak could rapidly overwhelm any institution:

- When would you activate your disaster plan?
- Have you coordinated your plans with local law enforcement?
- Have you coordinated your disaster plan with public health? With other health-care institutions? With the Red Cross?
- What stocks of PPE, disinfectants, and other needed containment supplies do you have on-hand currently? How quickly can you get replacements?
- What cache of appropriate pharmaceuticals do you currently have on hand? How will you get replacements?
- Some staff, if exposed to ill persons without proper PPE or if showing signs of gastrointestinal illness may be quarantined. Do you have any procedures in place for dealing with their absence?
- Will quarantined and other ill staff be compensated for lost wages?
- Once you have exceeded your staffed and/or licensed bed capacity, how will you accommodate additional patients who present needing care?

- If all hospitals in your region are similarly over-capacity and cannot accept transfers, who will coordinate transfers from all institutions to facilities outside of the region, if possible?
- If all hospitals in your region are similarly over-capacity and cannot accept transfers, who will coordinate requests for additional staff and supplies? Who can open alternate facilities or expand current facilities? Will the newly available beds in these facilities meet the need?
- Will admission criteria be modified? Will discharge criteria be modified? Will you cancel elective procedures and other measures?
- How will changes in standards be addressed from a legal point of view?
- Will there be authority to waive credentialing requirements for persons with the necessary skills who are not currently licensed?
- Has your jurisdiction looked into legal issues that may affect your ability to use volunteers and other non-credentialed staff?



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IV. Possible Responses to Selected Discussion Questions

Day Two:

- Who speaks to the media?

A: Someone who has been trained in risk communication and who is knowledgeable about the subject. Will likely be a Public Information Officer (PIO) or other similarly trained personnel.

- Do you activate your emergency plan?

A: Yes, but probably only partially. Emergency plans should be flexible and graded, not all-or-nothing.

- Do you increase surveillance?

A: Yes, absolutely.

- Do you institute mandatory reporting?

A: Yes. All cases that meet the case definition should be reported to the public health agency in charge.

Day Three:

- What additional personnel can be called in?

A: Public health can request additional staff from local healthcare and from municipal government. Mechanisms that are in place before an actual emergency to rapidly credential and train staff will speed the public health response.

- Are there any special concerns because the group is from out of town and intends to travel home?

A: There should be concerns about the group traveling when suspected of having an infectious disease of unknown origin. They need to be interviewed and treated, and may potentially spread the disease while traveling or at home. Non-pharmaceutical interventions like isolation and/or quarantine may need to be implemented.

- What control measures should be implemented?

A: Follow CDC recommendations. Generally, when the source of a diarrheal illness is unknown, an infectious source is assumed and control measures should be taken that

include: isolation of patients (e.g. in a private room with separate toilet if possible); barrier-nursing precautions; strict control of the disposal or decontamination of contaminated clothing and bedding; and strict observation of personal hygiene measures and sanitation of contaminated surfaces.

Day Four:

- How should the local health department stay current with state and federal communications and guidelines regarding the outbreak?

A: They should participate in the Health and Homeland Alert Network (HHAN) and regularly check with the CDC and FDA through web or phone communications. Information may also be available from Epi-X, the CDC's secure information network for public health professionals, or other similar local emergency communication networks.

- What are the mental health needs of citizens, health workers, emergency responders, and others that must be considered and addressed?

A: Infectious disease outbreaks affect psychological wellbeing in addition to threatening physical health. Anxiety and stress can build up and people may feel vulnerable and uncertain about the future. Health-care workers and emergency responders can feel particularly vulnerable because their work often places them in direct contact with people who may have been exposed. Those exposed to the disease, whether they have survived the disease or are in quarantine, may find themselves lonely or depressed, especially if contact with other people is limited. Vulnerable populations are even more susceptible to psychological consequences like feelings of isolation and helplessness due to limited access, resources, and ability to communicate. (Adapted from the American Psychological Association, <http://www.apahelpcenter.org/articles/article.php?id=54>)

Day Five:

- Who will interact with the state Department of Public Health and the CDC?

A: Someone knowledgeable who can be authoritative, credible, and knows the current situation and needs of local public health should be the point of contact.

- How can you help your local hospital, primary care provider's offices and EMS with surge capacity?

A: Assist with early discharges by coordinating skilled nursing facilities and home visiting nurses, facilitate communications among hospitals regarding bed capacity, coordinate community support and volunteer additional staffing



V. Guidelines for Evaluating the Exercise & Writing the After Action Report

Evaluators are responsible for recording the key actions and decisions of the participants during the exercise. The goal is not at any point to measure or evaluate the performance of any individual, department, or agency, but rather to analyze community-wide performance throughout the exercise. In order to provide concrete and constructive feedback, selected Evaluators should complete the following **Exercise Evaluation Guides**. Exercise Evaluation Guides (EEGs) are documents intended to assist with the exercise evaluation process by providing Evaluators with consistent standards and guidelines for observation, data collection, analysis, and report writing. There is a separate EEG for each capability observed, and each EEG contains two primary components:

1. An **Observation Form**, which provides evaluators a place to record notes associated with the activities, performance measures, and tasks for each capability. The Observation Forms should be completed during the exercise.
2. An **Analysis Form**, which helps evaluators to consolidate the observations recorded during an exercise into a coherent narrative that addresses strengths and areas for improvement relevant to demonstration of a capability. The Analysis Forms should be completed following the exercise.

Following the exercise, all Evaluators should meet for a debriefing session to discuss their exercise observations. The lead Evaluator should analyze all completed exercise evaluation guides and summarize the key observations into one unified **After Action Report (AAR)**. Include both the identified success and challenges, and propose concrete action items to address any deficiencies or gaps in planning, training, and/or resources. After members of the exercise team have an opportunity to review the AAR, the group should produce an **Improvement Plan** with specific action items based upon the AAR.

Further guidance on selecting and training Evaluators, evaluating tabletop exercises, and writing an After Action Report can be found in the accompanying **“Introduction & Overview”** document of the Harvard School of Public Health Center for Public Health Preparedness **Toolkit to Assist Public Health in Conducting Preparedness Exercises**.



VI. Exercise Evaluation Guides

Food Contamination Exercise Evaluation Guides		
Task #	Capability/Activities	Response Element
I. Epidemiology & Surveillance		
I-1	Maintain Disease Surveillance & Detection	Public Health Hospitals & Health Care
I-2	Conduct Outbreak Investigation	Public Health
I-3	Promote Infection Control & Disease Prevention	Public Health
II. Health Care Surge		
II-1	Determine Healthcare Surge Assistance Requirements	Hospitals & Health Care Public Health
II-2	Increase Internal Surge Capacity	Hospitals & Health Care Public Health
II-3	Establish External Surge Capacity	Hospitals & Health Care Public Health
III. Communications		
III-1	Establish & Maintain Intra-Agency Communications	ALL
III-2	Establish & Maintain Interagency Communications	ALL
III-3	Ensure Coordinated Risk Communication to the Public	ALL
IV. Leadership & Management		
IV-1	Initiate & Use the Incident Command System	ALL
IV-2	Identify Agency-Specific Roles & Responsibilities	ALL
IV-3	Assist Vulnerable Populations	ALL

Food Contamination Tabletop Exercise Observation Form
Capability: Epidemiology & Surveillance

Capability Description:	Systematic collection, collation, and analysis of data (including maintenance of ongoing surveillance activities and implementation of active surveillance); rapid detection and investigation of events of public health significance; identification of appropriate control measures; and the timely dissemination of information to those who need to know so that action can be taken.		
Capability Outcome:	In the event of a potential infectious disease outbreak, the agent, exposure, and mode of transmission are identified in a timely manner to contain the spread and reduce the number of cases. Suspected cases are investigated promptly and reported immediately to relevant public health authorities. New suspected cases are continuously identified and characterized based on case definitions. Relevant clinical specimens are obtained and transported to confirmatory laboratory testing within a defined timeframe.		
Jurisdiction/ Agency Observed:			
Evaluator Name:		Date:	

Rate the degree to which the tasks below were successfully addressed during the tabletop exercise, and note any factors that appear to significantly help or impede achievement of the tasks.

2 = Fully Addressed, 1 = Partially Addressed, 0 = Not Addressed, N/A = Not Applicable

Activity/Tasks Observed	Rating	Notes:
I-1 Disease Surveillance & Detection a. The community has surveillance and reporting guidance and mechanisms in place b. Health care providers are trained to recognize potential events of public health importance, and report to appropriate public health authorities		
I-2 Outbreak Investigation a. Public health receives and responds to urgent case reports b. Public health has the capacity to investigate and track reported cases, identify distribution of disease (time, place, and person), and analyze data to determine who is at risk of becoming ill		
I-3 Infection Control & Prevention a. Public health uses available guidance to develop and disseminate infection control policies b. Public health implements procedures to promote social distancing c. All agencies have access to the information and equipment necessary to protect responders from infection		

Food Contamination Tabletop Exercise Analysis Form
Capability: Epidemiology & Surveillance

**Jurisdiction/
Agency
Observed:**

**Evaluator
Name:**

Date:

Upon completion of the exercise, evaluators should compile their notes from the observation form into several paragraphs that summarize the key issues related to each task and address the following analysis questions:

1. What successes did you observe during the exercise related to participants' performance detecting, investigating, and responding to potential infectious disease events?

2. What challenges did you observe during the exercise related to participants' performance detecting, investigating, and responding to potential infectious disease events?

3. What were the root causes of these challenges?

4. What were the consequences of these challenges?

5. What should be learned from this?

6. What corrective actions do you recommended?

Food Contamination Tabletop Exercise Observation Form

Capability: Health Care Surge

Capability Description:	Ability to rapidly expand the capacity of the existing healthcare system (acute and long-term care facilities, community health centers, alternate care facilities, and public health departments) to provide triage and subsequent medical care in response to an event that overwhelms the regular system capacity. This includes providing the appropriate level of care that can be attained with the available resources, within sufficient time to achieve recovery and minimize medical complications.		
Capability Outcome:	Injured or ill are rapidly cared for. Continuity of care is maintained for non-incident related illness or injury.		
Jurisdiction/ Agency Observed:			
Evaluator Name:		Date:	

Rate the degree to which the tasks below were successfully addressed during the tabletop exercise, and note any factors that appear to significantly help or impede achievement of the tasks.

2 = Fully Addressed, 1 = Partially Addressed, 0 = Not Addressed, N/A = Not Applicable

Activity/Tasks Observed	Rating	Notes:
II-1 Health Care Surge Assistance Requirements <ul style="list-style-type: none"> a. Health care facilities identify potential gaps in personnel, supplies, and equipment b. Public health coordinates with local, state, and private sector partners to identify supplemental staffing, supplies, equipment, and bed space c. Public health & health care work with community partners to coordinate support functions (laboratory, morgue, transportation, security) 		
II-2 Internal Surge Capacity <ul style="list-style-type: none"> a. Health care facilities have criteria and processes in place for instituting triage, canceling elective procedures, discharging lower acuity patients, and prioritizing scarce resources and services b. Health care facilities maintain continuity of care and administrative and supportive services (record keeping, nutrition, housekeeping) 		
II-3 External Surge Capacity <ul style="list-style-type: none"> a. Public health & health care identify alternate care facilities to provide surge capacity, and consider staffing and supply plans b. Public health & health care determine the number of patients and level of care that can be accommodated at each site 		

Food Contamination Tabletop Exercise Analysis Form
Capability: Health Care Surge

**Jurisdiction/
Agency
Observed:**

**Evaluator
Name:**

Date:

Upon completion of the exercise, evaluators should compile their notes from the observation form into several paragraphs that summarize the key issues related to each task and address the following analysis questions:

1. What successes did you observe during the exercise related to participants' performance rapidly expand the capacity of the existing health care system?

2. What challenges did you observe during the exercise related to participants' performance rapidly expand the capacity of the existing health care system?

3. What were the root causes of these challenges?

4. What were the consequences of these challenges?

5. What should be learned from this?

6. What corrective actions do you recommended?

Food Contamination Tabletop Exercise Observation Form
Capability: Communications

Capability Description:	Ability of responders to exchange information within and across agencies and jurisdictions, and disseminate information to the public during an emergency. This includes maintaining current contact information for all essential personnel, using designated interoperable communications systems, and coordinating communication activities within and across agencies to ensure consistent messaging.		
Capability Outcome:	In the event of an emergency, clear, consistent, complete, and accurate information is conveyed to the appropriate agencies/persons in a timely manner.		
Jurisdiction/ Agency Observed:			
Evaluator Name:		Date:	

Rate the degree to which the tasks below were successfully addressed during the tabletop exercise, and note any factors that appear to significantly help or impede achievement of the tasks.

2 = Fully Addressed, 1 = Partially Addressed, 0 = Not Addressed, N/A = Not Applicable

Activity/Tasks Observed	Rating	Notes:
III-1 Intra-Agency Communications a. All agencies maintain current contact information for all personnel, and have the ability to rapidly notify key response personnel in an emergency b. Personnel are aware of agency-specific communication plans and protocols, and are trained to use the relevant communication systems and technologies c. All agencies employ redundant means of communication in the event of technical failure		
III-2 Interagency Communications a. All agencies within the community employ interoperable communications systems, and share information and coordinate response activities with appropriate community response partners in a timely manner b. All agencies initiate and maintain communication with neighboring jurisdictions as well as the appropriate regional and state entities		
III-3 Risk Communication a. Provide clear and consistent messages to the public regarding potential threats, risk reduction strategies, and when/where to seek treatment b. Communicate with potentially vulnerable population groups through trusted sources		

Food Contamination Tabletop Exercise Observation Form
Capability: Leadership & Management

Capability Description:	Ability of the community to effectively manage and coordinate response and recovery activities. This includes using the Incident Command System (ICS) to ensure effective use of personnel and resources, and protect all members of the community, including those most vulnerable.		
Capability Outcome:	In the event of an emergency, all agencies respond in a structured and coordinated manner so as to minimize loss of life and property.		
Jurisdiction/ Agency Observed:			
Evaluator Name:		Date:	

Rate the degree to which the tasks below were successfully addressed during the tabletop exercise, and note any factors that appear to significantly help or impede achievement of the tasks.

2 = Fully Addressed, 1 = Partially Addressed, 0 = Not Addressed, N/A = Not Applicable

Activity/Tasks Observed	Rating	Notes:
IV-1 Initiate & Use ICS/NIMS a. All agencies initiate ICS immediately upon recognizing the occurrence of a potential mass casualty event b. All agencies respond flexibly, in proportion to the magnitude and severity of the scenario and available resources c. All agencies identify the authority for declaring a public health emergency d. All agencies assess & manage resources needed for emergency response and recovery activities		
IV-2 Agency-Specific Roles & Responsibilities a. All agencies identify activities to be performed at the state, regional, and local levels, and the specific entities responsible for each activity b. The community integrates private sector and community-based organizations in the response		
IV-3 Vulnerable Populations a. All agencies consider the unique needs of vulnerable populations including: physically/mentally disabled, limited/non-English speaking, geographically/culturally isolated, medically/chemically dependent, homeless, homebound, frail/elderly, and children, and provide services as needed		

Food Contamination Tabletop Exercise Analysis Form
Capability: Leadership & Management

Jurisdiction/ Agency Observed:			
Evaluator Name:		Date:	

Upon completion of the exercise, evaluators should compile their notes from the observation form into several paragraphs that summarize the key issues related to each task and address the following analysis questions:

1. What successes did you observe during the exercise related to participants' performance managing and coordinating response and recovery activities?

2. What challenges did you observe during the exercise related to participants' performance managing and coordinating response and recovery activities?

3. What were the root causes of these challenges?

4. What were the consequences of these challenges?

5. What should be learned from this?

6. What corrective actions do you recommended?



VII. Background Information on Food Contamination from the CDC & WHO*

What is foodborne disease?

Foodborne diseases, or illnesses, are caused by consuming contaminated foods or beverages. Many different disease-causing microbes, or pathogens, can contaminate foods, so there are many different foodborne infections. In addition, poisonous chemicals, or other harmful substances can cause people to become sick if they are present in food.

More than 250 different foodborne diseases have been described. Most of these diseases are infections, caused by a variety of bacteria, viruses, and parasites that can be found in food. Other illnesses are a result of poisonings, caused by harmful toxins or chemicals that have contaminated the food, like poisonous mushrooms or ciguatera toxin commonly found in seafood. These different diseases have many different symptoms, so there is no one "syndrome" that is foodborne illness. However, the microbe or toxin enters the body through the gastrointestinal tract, so it is often the site of the first symptoms. Nausea, vomiting, abdominal cramps and diarrhea, are common symptoms in many foodborne diseases. The symptoms may often be referred to as "stomach flu" or "food poisoning".

Many microbes can spread in more than one way, so we cannot always know that a disease is foodborne. The distinction matters, because public health authorities need to know how a particular disease is spreading to take the appropriate steps to stop it. For example, *Escherichia coli* O157:H7 infections can spread through contaminated food, drinking water, recreational water, or from person to person via the fecal-oral route. Depending on which means of spread caused a case, the measures to stop other cases from occurring could range from removing contaminated food from stores, chlorinating a swimming pool, disinfecting contaminated surfaces or facility closure.

How many cases of foodborne disease are there in the United States?

An estimated 76 million cases of foodborne disease occur each year in the United States. The great majority of these cases are mild and cause symptoms for only a day or two. Some cases are more serious, and CDC estimates that there are 325,000 hospitalizations and 5,000 deaths related to foodborne diseases each year. The most severe cases tend to occur in the very old, the very young, those who have an illness already that reduces their immune system function, and in healthy people exposed to a very high dose of a disease causing organism or chemical.

How are outbreaks of foodborne disease detected?

The initial clue that an outbreak is occurring can come in various ways. It may be when a person realizes that several other people who were all together at an event have become ill and he or she calls the local health department. It may be when a physician realizes she has seen more than the usual number of patients with the same illness. It may be when a county health department gets an unusually large number of reports of illness. The hardest outbreaks to detect are those that are spread over a large geographic area, with only a few cases in each state. These outbreaks can be detected by combining surveillance reports at the regional or national level and looking for increases in infections of a specific type. This is why state public health laboratories determine the particular serotype of *Salmonella* bacteria or other organism isolated from people involved in an outbreak. DNA “fingerprinting” technologies can make detecting outbreaks easier. For example, the molecular subtyping network, PulseNet, allows state laboratories and CDC to compare strains of *E. coli* O157:H7 and an increasing number of other pathogens from all across the United States to detect widespread outbreaks.

After an apparent cluster of cases is detected, it is important to determine whether these cases represent a real increase above the expected number of cases and whether they really might be related. Sometimes a cluster of reported cases is caused by something other than an actual outbreak of illness. For example, if the person responsible for reporting has just returned from a vacation and is clearing up a backlog of cases by reporting them all at once, the sudden surge of reports is just a false cluster.

What is CDC doing to control and prevent foodborne disease?

CDC is part of the U. S. Public Health Service, with a mission to use the best scientific information to monitor, investigate, control and prevent public health problems. Using the tools of epidemiology and laboratory science, CDC provides scientific assessment of public health threats. CDC works closely with state health departments to monitor the frequency of specific diseases and conducts national surveillance for them. CDC provides expert epidemiologic and microbiologic consultation to health departments and other federal agencies on a variety of public health issues, including foodborne disease, and it stations epidemiologists in state health departments to help with the surveillance and investigation of many problems. CDC can also send a team into the field to conduct emergency field investigations of large or unusual outbreaks, in collaboration with state public health officials. CDC researchers develop new methods for identifying, characterizing and fingerprinting the microbes that cause disease. We translate laboratory research into practical field methods that can be used by public health authorities in States and counties.

CDC is not a regulatory agency. Government regulation of food safety is carried out by the Food and Drug Administration (FDA) , the U.S. Department of Agriculture (USDA), the National Marine Fisheries Service, and other regulatory agencies. CDC maintains regular contact with the regulatory agencies.

When new public health threats appear, CDC learns what they are and how they can be controlled through rapid scientific field and laboratory investigation. CDC shares the results of these investigations with the states, with the regulatory federal agencies and with the industries themselves. Although we do not regulate the safety of food, CDC assesses the effectiveness of

current prevention efforts. We provide independent scientific assessment of what the problems are, how they can be controlled, and of where there are gaps in our knowledge.

The information contained within this section was last updated on 22 August 2008. For current information on food contamination, we recommend that you consult the following sources:

- **CDC Information on Foodborne Illness**
http://www.cdc.gov/ncidod/dbmd/diseaseinfo/foodborneinfections_g.htm
- **WHO Foodborne Illness: Shigella**
<http://www.who.int/topics/shigella/en/>
- **FDA Center for Food Safety and Applied Nutrition**
<http://www.cfsan.fda.gov>
- **Gateway to Government Food Safety Information**
<http://www.foodsafety.gov/>