HARVARD SCHOOL OF PUBLIC HEALTH
Center for Public Health Preparedness

Toolkit to Assist Public Health in Conducting Preparedness Exercises

Prepared by:

Harvard School of Public Health
Center for Public Health Preparedness

Version 1.1 (03.17.06)

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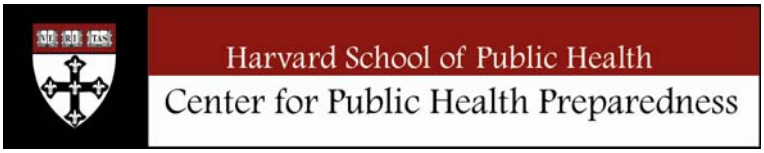
This activity is supported under a cooperative agreement from the Centers for Disease Control and Prevention (CDC), grant number U90/CCU124242-02. The contents of this program do not necessarily reflect the views of the CDC.



Toolkit to Assist Public Health in Conducting Preparedness Exercises

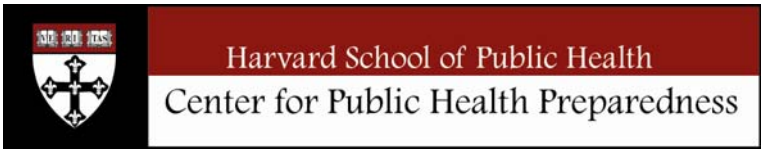
Introduction

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.

This toolkit is 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. Over time, different standardized exercises of different forms will be added to this toolkit. 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 (fire, police, EMS), municipal government, hospitals and other health care organizations, and others. 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.

Please take a few moments to read the sections titled “Overview of an Exercise Program,” “Building an Exercise,” and “Assessment of Exercises” and review them periodically. They are meant to ensure that the exercises in this toolkit fit together in a cohesive program of continually improving preparedness and help you move steadily forward towards your goals.

The Harvard School of Public Health Center for Public Health Preparedness is tracking each of the exercises performed in this toolkit. Please contact Rebecca Cadigan at (617) 384-8549 or at rcadigan@hsph.harvard.edu to let us know about each exercise you perform.



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Overview of an Exercise Program

The exercises in this toolkit are planned to help local public health officials assess and improve preparedness. While every effort has been made to create scenarios that would be appropriate for almost any community, it is impossible to adequately anticipate each community's specific needs. Therefore, each public health office should be sufficiently familiar with the broad principles of creating an exercise program outlined below to be able to tailor the scenarios to meet its own needs.

In general, there are 4 progressive levels of action in an exercise program. *Drills* test a single specified operation, such as activating a notification system or measuring response times. In contrast, exercises test multiple operations. *Tabletop exercises* are low-stress events designed to identify major gaps or conflicts in planning. Participants discuss which actions they would take when faced with a given emergency, but no real resources are used. *Functional exercises* are higher stress events where many participants simulate their actions within an Emergency Operations Center (EOC) and must make immediate, specific decisions, but real field equipment and personnel are not deployed. *Full-scale exercises* are the most realistic, most complex, and most costly events where field personnel perform as many of their actual duties as possible in a simulated emergency in order to best assess the true capabilities of the response system.

Each local public health office should create and implement a long-term exercise program that best fits its abilities and needs. It would not be appropriate to attempt a full-scale exercise when no one in the office can identify what or where the emergency plan is, or what his or her role in a disaster may be. Drills, tabletops, functional and full-scale exercises should all be undertaken in a step-wise format so that each event builds on the skills and lessons learned from prior experiences.

An exercise program should also be as relevant as possible to your staff, based on realistic assessments of what the most likely hazards are for your community as well as what training needs are most pressing at the current time. Exercise programs that include relatively more-common scenarios, like major fires or infectious disease outbreaks, on a regular basis will sustain participants' long-term interest in preparedness better than programs that repeatedly test less-likely scenarios, such as a Sarin gas attack in a rural town.

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Implementing an Exercise

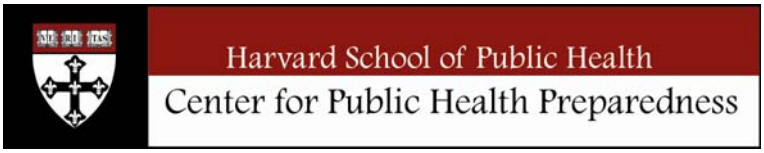
Below are listed some key components of a successful exercise. By attending to each component early in the planning process, you are more likely to be able to host an exercise that is enjoyable, educational, and improves your overall preparedness.

1. Has support from leaders and participants
2. Has a realistic timetable
3. Sets realistic and specific goals
4. Has a clear scenario and ground rules
5. Has sustained action
6. Is as realistic as possible in both the scenario and the actions
7. Has procedures for safety/emergency call-off
8. Has structured evaluation
9. Facilitates positive change

A successful exercise depends on appropriate planning to succeed. In general, the leading reason that exercises fail is a lack of practicality in the planning process. Begin your planning process with a realistic, even generous, timeline. Choose dates well in advance and anticipate weather-related contingencies, holidays and vacations. Most drills should not last longer than 3 to 4 hours since it is hard to sustain participants' interest and activity for a longer period of time. Next, recruit participants as early as possible. Although larger numbers of participants require more evaluators and increase the complexity of an exercise, we strongly encourage local public health to routinely invite other agencies outside of their own infrastructure to participate in exercises to improve the community-wide response.

A list of potential outside participants is below:

- Public safety (Fire, Police, EMS)
- Municipal government
- Hospitals
- Health clinics and community health centers
- Private medical offices
- Coroner/funeral homes



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Building an Exercise (Continued)

- Mental health care providers
- Public works
- Major private businesses
- Neighboring public health officials
- Regional and state public health officials
- Regional and state laboratories
- Poison control centers
- Volunteer organizations
- Major transportation facilities (airports, rail managers)
- Major manufacturers/transporters of hazardous materials
- School leadership
- Media

Most importantly, the goals and scope of each exercise must also be kept realistic with respect to what can be performed and tested. A common pitfall of overly ambitious exercises is the desire to test all parts of the disaster plan at once in one comprehensive exercise. In general, it is preferable to focus on assessing 5-10 specific, measurable objectives in each exercise and leave the remainder for future events. Some common categories of exercise objectives for public health are listed below and may serve to prompt you in setting your own objectives:

- Emergency plan
- Notification procedures
- Communications
- Roles and responsibilities
- Resources
- Risk communication
- Emergency Operations Center (EOC) operations
- Mutual aid
- Coordination with state and federal agencies
- Coordination with public safety
- Coordination with local government
- Issues with special populations

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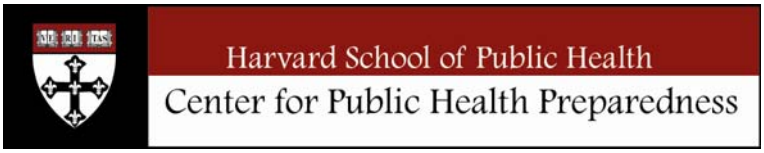
Building an Exercise (Continued)

Lastly, you must include assignments for both controllers and evaluators in the planning process.

- *Controllers* monitor the script and timeline of the exercise to keep the action and pressure coming. Well-prepared controllers are critical to a successful exercise since nothing dulls the sense of realism more than a lull in the action or confusion about what is supposed to be happening in the sequence of events.
- *Evaluators* monitor the events of the exercise and offer objective measurements of how well exercise participants met the pre-specified objectives. Evaluators should be appropriately selected to be competent to assess their objectives. Also, adequate numbers of evaluators are vital (a good rule of thumb is one evaluator per set of 5-10 similar objectives), since one of the most important products of an exercise is the independent assessment of the event.



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Assessment of Exercises

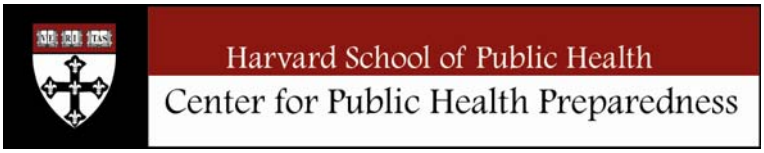
Every exercise *must* have a structured evaluation and critique.

First, the independent evaluators who observe an exercise should be armed with specific, measurable, pre-specified objectives and record those observations on pre-prepared forms. Evaluators should be briefed ahead of time on the exercise scenario, timeline and rules of play. A sample form for evaluators to use is adapted from the Federal Emergency Management Agency (FEMA) and attached on the next page.

Second, following completion of the exercise, all participants should be given an opportunity to voice their observations and emotions in a group setting. This debriefing is often called a "*hot-wash*" and should be performed immediately following the exercise, since its utility diminishes very rapidly as emotions and immediate memories of events fade.

Third, a summary of the comments made by participants in the "hot-wash" and the structured critiques from the evaluators should then be compiled into an "*after-action report*." This comprehensive report analyzes each achievement and each problem that was noted in the exercise.

Lastly, an "*improvement plan*" contains specific steps that will be taken by the participants after the exercise to address the issues discussed in the after-action report. The improvement plan should be circulated as widely as possible because the most important product that any exercise program can generate is visible, measurable, positive change. Participants may quickly lose interest in the exercise program if they do not see it leading to specific improvements in preparedness afterwards. Therefore it is very important to publicize the changes and improvements that result from exercises and drills to sustain interest in the program.



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Sample Blank Evaluator Checklist (Adapted from FEMA)

Evaluator: _____ **Date: _____** **Location: _____**	
Objective No.: 1	**Example**

Objective : Demonstrate the capability to perform a specific task

Performance Criterion 1

[*Fill in the performance criterion/anticipated action as identified for your exercise*]

Points of Review:

Please answer the following: Y = Yes, N = No, NA = Not Applicable, NO = Not Observed				
	Y	**N**	**NA**	**NO**
1.				
2.				
3.				
4.				

Comments:

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Toolkit to Assist Public Health in Conducting Preparedness Exercises

Sample Completed Evaluator Checklist (Adapted from FEMA)

Evaluator: _John Smith_____ **Date: __April 4, 2004_____**

Location: _Field Decontamination Site_____

Objective No.: Field Decontamination	

Objective : Properly decontaminate all victims with potential contamination

Performance Criterion 1

[*Fill in the performance criterion/anticipated action as identified for your exercise*]

Points of Review:

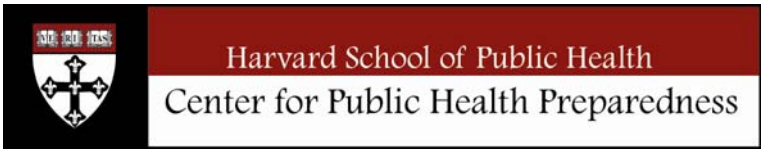
Please answer the following: Y = Yes, N = No, NA = Not Applicable, NO = Not Observed

	Y	**N**	**NA**	**NO**
1. Were all victims properly screened for possible contamination?		xx		
2. Were all team members wearing appropriate PPE for the hazards involved?	xx			
3. Were all victims adequately decontaminated before progressing to the cold zone?		xx		
4. Were all victims given adequate instructions after decontamination about the next steps in their care?	xx			

Comments:

One man was observed walking directly from the incident scene to the triage area. The triage team noticed quickly, however that the victim was contaminated and responded appropriately to remove him from the area and control access to the contaminated sections of the triage area.

Rescuers seemed comfortable selecting the correct PPE and were able to don their equipment quickly.



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Additional Resources

- **The Federal Emergency Management Agency (FEMA)** offers both on-line and on-site courses on conducting preparedness exercises as part of its Comprehensive Exercise Curriculum and Master Exercise Practitioner Program. More information about the program, as well as links to free on-line courses, can be found at: www.training.fema.gov/emiweb/CEC/HomePage2.htm

- **The Homeland Security Exercise and Evaluation Program (HSEEP)** is both doctrine and policy for designing, developing, conducting and evaluating exercises. HSEEP is a threat- and performance-based exercise program that includes a cycle, mix and range of exercise activities of varying degrees of complexity and interaction. More information can be found at: www.ojp.usdoj.gov/odp/docs/hseep.htm

- **Bt Create: A Customizable Bioterrorism Tabletop Exercise Builder** is an interactive CD produced by NACCHO that provides guidance in the critical areas of tabletop exercise design and development, while helping educate, inform and assist emergency response communities as they prepare for and respond to bioterrorism, other outbreaks of infectious disease, and other public health threats and emergencies. More information can be found at: http://archive.naccho.org/documents/Publications-Catalog.pdf

- **The United States Department of Energy** provides a guidebook and accompanying support materials presented in this manual was developed to assist local, state, tribal and federal agencies in conducting emergency preparedness tabletops, drills and exercises for transportation emergencies. It provides basic instructions on all aspects of event preparation, and describes how to use the other materials in this transportation emergency preparedness package. More information can be found at: http://web.em.doe.gov/otem/scenario.html

- **The Agency for Healthcare Research and Quality (AHRQ)** provides a tool entitled "Evaluation of Hospital Disaster Drills: A Module-Based Approach." This is an excellent resource for hospitals and other health-care facilities, but also has many portions that can be used more broadly in public health. More information can be found at: www.ahrq.gov/research/hospdrills/hospdrill.htm