Design Your Own Laboratory Disaster Drills: A Do-It-Yourself Guide

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When hospital administrators plan facility-wide emergency drills, the clinical laboratory is unfortunately often an afterthought. Laboratory management may sometimes be included in the construction of an emergency plan, but the full laboratory staff rarely has the opportunity to participate in drills. A diligent laboratory manager, however, does not ignore the specific needs of his or her department. Preparing staff for an emergency situation is a duty that should not be ignored. Drills and exercises are essential. Whether through the use of a hands-on or strictly academic approach, drills offer an excellent opportunity to find out where the gaps are in your preparedness planning before you are faced with an actual emergency.

What laboratory manager hasn't faced nagging concerns about the state of readiness of his or her operations? While you will never truly know if you are prepared until you face an actual threat, a formal exercise offers the opportunity to enhance and measure preparedness. The most eloquent of emergency preparedness plans may sit on your shelf for months without being opened by a single staff member, but conducting an emergency drill gets the plan off the shelf and puts it into action. A drill neither needs to be time-consuming nor costly; it simply requires thoughtful and thorough planning. Why wait until your institution "volunteers" you to participate in an event that is inconvenient or irrelevant for you and your laboratory?

The Planning Process

During the initial planning of an emergency preparedness drill, it may be wise to gather a small team of interested employees to assist you. Their input will ensure that you are strategizing in a meaningful way. Be sure to share your plans with the rest of your hospital or organization so that they can offer support and be aware that "this is only a drill." A note of caution: If you plan to use federal grant funds to support your exercise, you will be required to make your exercise consistent with the standards of the Homeland Security Exercise and Evaluation Program (HSEEP). This is a significantly more rigorous undertaking and is not recommended for beginners working in small facilities. Everyone, however, can make use of tips provided on the HSEEP Web site at www.hseep.dhs.gov.

It is critical that you embark on the development of an emergency preparedness drill by designing an exercise that is both enjoyable and educational. According to the Harvard School of Public Health, an emergency preparedness drill should:[1]

1. Be supported by leaders and participants
2. Set a realistic timetable
3. Set realistic and specific goals

4. Lay out a clear scenario and ground rules

5. Have sustained action

6. Be as realistic as possible

7. Have opportunities to be halted if safety becomes a concern

8. Provide a structured evaluation

9. Facilitate positive change

The experience needs to be set in a positive, and not a punitive, learning environment for the participants. It is imperative that you set the ground rule that there are no wrong responses, only opportunities for improvement.

Strategic Elements of a Laboratory Exercise

1. Define the scope of laboratory areas that you wish to test

Are you interested in the response of a particular section such as Microbiology, or do you want to involve the entire laboratory? Are you focused on interdepartmental relationships within your organization, or do you want to look beyond your walls to interactions with other laboratories and supporting entities outside of your organization?

2. Determine the form of exercise you wish to hold

Exercises can include discussion-based, off-site "tabletop" drills that describe a scenario and lay out appropriate response steps to be reviewed by the participants. Alternatively, operations-based exercises simulate true responses within the actual setting by the participants. It is often easiest to progress in small steps over a specific period of time — begin with a participant self-assessment, move on to a seminar or limited tabletop exercise, and ultimately work up to a full scale operations-based drill within your own setting.

3. Define the scenario you wish to drill

The smaller and simpler the scenario, the easier it will be to manage the drill and immediately note any necessary areas of improvement. Are you interested in being able to correctly identify and handle a bioterrorism agent, or are you simply concerned about how long it would take you to mobilize your staff during an off-shift emergency? Are you concerned about an emergency within your organization or one that might appear within your community? Most experts suggest using an "all hazards" approach, believing that it is important to be prepared for all types of disasters, spanning the range from extreme weather events to terrorism incidents. The California Emergency Medical Services Authority (www.emsa.ca.gov/hics/internal_scenarios.asp) offers an excellent resource for both internal and external scenarios.

TABLE 1

ADDITIONAL RESOURCES

1. Comprehensive Exercise Curriculum Job Aids- FEMA — www.training.fema.gov/emiweb/cec/CECJobaids.asp

2. Hospital Tabletop Toolkit- New York City Healthcare PREPARES — www.nyc.gov/html/doh/html/bhpp/bhpp-train-hospital.shtml

3. Designing and implementing Tabletop Exercises Webinar archive (NACCHO Advanced Practice Centers 4/24/06) — www2.sph.unc.edu/nccphp/APC/

4. What are your goals and objectives?

Determine how you can quantitatively define what constitutes successful participant response. Ultimately, you want to identify the strengths and shortfalls of your current operations, so it's wise to develop an assessment tool that can measure performance. Did your staff do what they were supposed to? How did it go? What obstacles did they have to overcome? What worked well?

Use your exercises as an opportunity to test a variety of systems, including:

- Written emergency plans and operating procedures
- Roles and responsibilities of staff and volunteers
- Communications systems
- Staff call-down lists
- Notification procedures
- Availability of resources
- Coordination within and outside of your organization
- Ability to maintain critical functions in a disaster
- Ability to maintain critical data

5. Define your participants

Will you require the addition of students or volunteers to your staff during an emergency? If so, you may want to consider involving your part-time or per diem staff in emergency drills. Do you want to involve your State Laboratory? When a true emergency strikes, you will want as many hands on deck as possible.

6. Assign the roles of Controller and Evaluator to oversee your exercise

A Controller will monitor the script and keep the exercise moving. They may also help encourage participation and guide discussions. The Evaluator is able to take an independent, third-party view of the proceedings and monitor what worked well during the exercise and what areas need further improvement. The Evaluator does not actively participate in drills or prompt others to do so — they simply observe. Ideally, the Evaluator should be someone outside of the laboratory so that the entire staff can participate in the drill, but if you have an internal individual who is thoroughly knowledgeable about the drill material, they may effectively serve as an Evaluator as well.

7. Distribute necessary materials prior to the drill

This may include a description of the exercise scenario, background and educational materials, hierarchy/division of responsibility, ground rules, and other items. Give participants the tools to help them be successful.

8. Consider establishing a virtual Emergency Operations Center in your laboratory as your base of operations for the exercise

Most medical personnel are now required to undergo some training through the National Incident Management System (NIMS) (www.fema.gov/pdf/emergency/nims/06_training.pdf). NIMS is a common framework of command and control used by all entities and jurisdictions in a time of disaster. Role playing is a great way to put that training into practice.

9. Be sure to add an element of fun to your event

Make certain that any drills remain low stress. Keeping it short (four hours or less) will allow for maximum focus, and don't forget to schedule in a break! Food or snacks are always a great way to celebrate the end of a successful event. You may want to enlist volunteers to become "make-believe" patients with made-up injuries or symptoms. Choose your most dramatic staff members to role play as terrorists or script announcers. Giveaways such as T-shirts or small articles commemorating the event make a nice thank you for the participants.

After the drill, wrap up the session with a "hot wash" debriefing that includes feedback from both the evaluators and the participants. Take notes and write them up to develop your next action steps (commonly known as an After Action Report). Keep your report factual, and list the strengths and challenges that need to be overcome. Distribute this to all the participants so that they come away with some "lessons learned" and "pats on the back." You will find this to be a team building experience for everyone!

Reference

1. Harvard School of Public Health-Center for Public Health Preparedness Toolkit to Assist Public Health In Conducting Preparedness Exercises — 2006. Available at www.yourhealthrisk.harvard.edu/hcphp/products/exercises/index.html. Accessed October 30, 2006.

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