Public Health Responds to the Spotlight on Bioterrorism

Workforce development is a major factor in adequate preparation for public health emergencies of all kinds, including acts of bioterrorism.

Jack Thompson

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While I was preparing this article, we at the Northwest Center for Public Health Practice were working with our partner states in preparation of complex applications to the Centers for Disease Control and Prevention (CDC). These plans would bring substantial new resources into the states and the region to amplify efforts to improve public health preparedness. All this was happening while the executive branches and legislatures in our partner states (Alaska, Idaho, Montana, Oregon, Washington, and Wyoming) were struggling to find the resources to maintain basic services—including public health services—in place in the wake of significant state revenue shortfalls.

Even before the events of September 11, public health systems throughout the country were facing challenges. Here in the Northwest we have been challenged by droughts, fire, and legislatures that don't make public health a priority in budget decisions. September 11 presented further challenges, but also created opportunities by focusing attention on the importance of public health services, personnel, capacities, and preparedness. It has been bittersweet that these opportunities have come about because of a national tragedy, which itself contributed to weakening economies in all the states, further undermining basic public health funding. This complex environment highlights both the challenges and the opportunities faced by public health organizations in strengthening public health preparedness.

When U.S. Health and Human Services (HHS) Secretary Tommy Thompson announced on January 31, 2002, that $1.1 billion was being made available nationally to strengthen public health, the link to bioterrorism preparedness was clear. The secretary stated, "We're putting money in the hands of states and local communities so they can start building strong public health systems for responding to a bioterrorism attack." He further stated "These funds are just the start of our efforts to help states and communities build up their core public health capabilities." This announcement set off an unprecedented effort at the local, state, and federal levels to develop plans to enhance the public health response system. The announcement specifically identified six areas of focus:

- Preparedness planning and readiness assessment
- Surveillance and epidemiology capacity
- Laboratory capacity
- Health Alert Network
- Risk communication and health information dissemination
- Education and training

Workforce preparedness

The inclusion of education and training as a specific focus area in preparedness is a very important development. Well before the events of September 11 galvanized the attention of the nation, public health leaders had begun to develop strategies to address critical issues in the public health workforce. The CDC/ATSDR Strategic Plan for Public Health Workforce Development, completed in January 2000, recognized that "an estimated 80 percent of the nation's frontline public health workers lack basic skills to respond to current and emerging public health threats." The implementation that same year of the Public Health Training Center initiative by the federal Health Resources and Services Administration (HRSA) and the Public Health Preparedness Center initiative from CDC responded to issues raised in the Strategic Plan. The Northwest Center for Public Health Practice successfully competed for each of these grants and has used the new resources to establish the Northwest Public Health Workforce Development Network and to develop new training modules and other supports related to preparedness for our workforce partners.

These efforts will be greatly enhanced by the new resources coming into our region. Both the Northwest Center for Public Health Practice and each of our partner states have received signifi-

cant new resources (*see box on page 7*) that include a focus on training and education. The challenge is to make wise, long-term use of these resources to develop the whole public health infrastructure, even as we make specific efforts to strengthen our response capacity and overall preparedness for bioterrorism.

Some observations

Although it is difficult to "reflect" in such a dynamic environment, I offer several thoughts about the tremendous opportunities and challenges presented to public health in this environment. My major observation is that bioterrorism preparedness is a necessary extension of the basic public health workforce development activities we have already embarked upon, with some important additions.

Bioterrorism preparedness must build on basic public health preparedness. Current efforts need to be seen as an extension of our efforts over the past decade to strengthen the public health system. A strong public health infrastructure—that somewhat complicated term used to define the basics of public health, such as a well-trained workforce, strong epidemiologic surveillance system, communications, and information technology capacities—is necessary if we are to successfully prepare for a bioterrorism event. However, public health has recognized this need for at least two decades, since the publication of the Institute of Medicine's 1988 report on *The Future of Public Health*.

Workforce development activities must take advantage of technology. One of the many challenges presented by the new initiatives in bioterrorism preparedness is the capacity to disseminate strong competency-based curriculum and other training and learning assets to a large workforce on a timely basis. This is nowhere more true than in the region served by the Northwest Public Health Workforce Development Network. Our network encompasses more than 30 percent of the land mass of the United States, but contains somewhere around 5 percent of the population. Challenges for workforce development can be met in part by making use of the various distance-learning technologies—Web-casting, satellite training broadcasts, video conferencing, and combinations of telephones and Web sites. The public health workforce has traditionally been most accustomed to and comfortable with training that occurs on-site for relatively small groups of workers. The challenge now is to disseminate training rapidly to many public health workers and to make the most efficient use of resources in doing so. The Northwest Center has worked with our partners to participate in distance training with Wyoming, to conduct distance-based conferencing in Montana, and to develop training modules that take advantage of various technologies.

Public health needs to include new partners in preparedness activities. Any community crisis brings home the need for reliance on a wide array of partners to mount an adequate response. The current HHS directives formally take this into account and stress the need for public health to partner with first responders, with the medical and hospital systems, and with others in their communities. This is also a natural extension of the basic mission of public health. Such partnerships are in action every day throughout the nation, as public health professionals work with primary care physicians, firefighters, police, and emergency medical systems. We now have the opportunity to continue to formalize these partnerships, coordinate the development of response plans, and initiate systems of cross-training in basic skills and competencies that will better prepare communities for *any* emergency. As the accompanying article by Jean Curtiss (*see page 8*) points out, in many communities these partnerships are new on an organizational level, and a challenge for public health professionals is to learn to collaborate with organizations that are managed and structured very differently.

CDC Bioterrorism Allocations

Alaska	$ 6,395,720
Idaho	$ 7,880,688
Montana	$ 7,008,529
Oregon	$12,616,956
Washington	$18,121,901
Wyoming	$ 6,099,294
NW Center	$ 1,000,000*

*FY02 supplement to basic grant

In January 2002, the Northwest Center sponsored a meeting attended by Network steering committee members, as well as the Health Alert Network coordinators and Distance Learning coordinators in each partner state. The gathering underlined the importance of recognizing that, although each of these systems is doing exceptional work on its own, the power to improve health and preparedness is greatly enhanced when the systems work together.

Regional planning and response

The premise of our Public Health Workforce Development Network has been that partner states can accomplish more to facilitate learning and training among their workforces by working together than by working alone. The Network

Missoula Prepares for the Unlikely

Jean Curtiss

In Missoula we hope that we will never be the direct target of a bioterrorist attack, but we recognize that because of our location and geography we could easily be an unintentional target. We are adjacent to a major interstate between Seattle and Chicago and a major highway between Canada and Mexico; we have a major airport, by Montana standards; and the railroad passes through here. To complicate matters, Missoula sits in a narrow valley that is subject to inversions that hold pollution in the valley and would also trap biological or chemical agents.

When we think of an emergency situation, most of us assume that emergency responders, such as the fire department or law enforcement, are the ones to turn to. We don't think of public health officials as incident commanders. Biological and chemical agents have changed that picture. Learning to work together with emergency responders is one of the challenges public health workers face in becoming prepared for a bioterrorism attack.

Emergency response systems and public health operate under two very different management styles. In a public safety emergency, a police captain gives orders to his or her officers, who follow those orders. Public health problems, on the other hand, are often solved by committees. This difference in style means that good working relationships between public health and public safety must be well established before an emergency, so turf wars do not occur in the midst of the emergency.

In spring 1996, a train derailed during the night in neighboring Mineral County and released the nation's second largest chlorine spill. More than one thousand people were evacuated for three weeks, many suffering respiratory injuries. Missoula's local health department served with local, state, and federal responders on a joint incident command and deployed public health professionals from every one of its disciplines. Based on this experience, we formally adopted a "Public Health Emergency" chapter into our disaster plan. We are working with local hospitals to expand that chapter, providing for a public health/private health expert advisory team to be convened to assess and guide response to a bioterrorism or other public health emergency. We call that team H.E.A.T., for "Health Emergency Advisory Team."

Missoula had its share of anthrax scares last fall, giving us the opportunity to test our disaster plan. The plan worked. We have since been able to assess our actions and strengthen our plan. The Missoula Health Department is now providing bioterrorism agent training for staff, emergency responders, and elected officials. The Department has established a 24-hour on-call list to respond to emergencies. We have also joined forces with both of our local hospitals, the university health center, and a local health care technology company, Invizeon, to improve our communication capability through a Health Alert and Information Network. The Network will allow our medical community to notify each other of health alerts and to conduct more active surveillance.

In reaction to the attacks on September 11 and the ensuing anthrax attacks, the President and Congress appropriated new funds available to states through CDC for public health preparation and response. This is welcome money, but we must be careful not to use these funds solely to address bioterrorist threats while neglecting the other important aspects of public health. Our challenge is to find a balance that ensures our preparedness without shifting focus away from public health.

Author

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has seen early evidence of the validity of this premise in the regular information-sharing meetings, the development of common training modules, and the implementation of training Institutes throughout the six-state region. Bioterrorism preparedness is an extension of this premise. Like other public health threats, bioterrorism will not respect political boundaries—whether between states or nations. An event that affects Seattle will, sooner or later, affect rural villages in Alaska and small communities in eastern Wyoming. Regional partnerships are thus a critical strategy for bioterrorism preparedness, just as they are a good strategy for all public health preparedness and workforce development initiatives.

The importance of education and training

The guidelines from CDC for the planning and implementation of preparedness activities have singled out education and training. This is a very important development, because many previous initiatives subsumed training in other categories, and its central importance was, thus, understated. Even before the events of September 11, the need for a specific focus on workforce development was highlighted in efforts such as the CDC Strategic Plan. The direct relationships between workforce training, recruitment, retention, and overall preparedness are becoming better understood, in part due to the new bioterrorism preparedness initiative.

The accompanying articles by Jean Curtiss and Michael McGuire provide excellent examples of the value of regional collaboration in education and training. Our entire network has much to learn from the experience of Missoula in successful incorporation of response strategies into their preparedness training and disaster plans. From our Oregon colleagues we have a very successful approach to preparedness training that we can put to good use throughout the region.

Accountability, evaluation, and the research agenda

Finally, these new activities must build on public health's recognized accountability to communities, funders, and policy makers. The resources coming into the states and the preparedness centers must be used wisely if they are to remain an ongoing resource for the development of the public health system.

Such a focus on accountability leads directly to evaluation.

The Northwest Center for Public Health Practice has been working with the Group Health Community Foundation to develop evaluation methods that focus on the effectiveness of individual training opportunities for the people participating; the effectiveness of the Center and the Network itself in facilitating workforce development in the Northwest; and, most difficult, ways to assess if such successful operations have an effect on the health of our communities. These evaluations will help ensure that the workforce receives training that will enable it to be better prepared for public health emergencies. More research must be done on the relationship between successful individual training efforts and successful agency performance, and on the relationship between successful agency performance and healthier communities.

We are indeed living in interesting times. The future will surely be dependent on the ability of the public health system to build on its past successes, sustain the resources needed to make identified improvements, and—in doing so—to both protect our communities in a very complex future and improve the health of our communities and our neighbors.

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Resources

Selected Bioterrorism Web Sites, Northwest Center for Public Health Practice.
www.nwcphp.org/bt/

Bioterrorism and Emergency Public Health Preparedness and Response: A National Collaborative Training Plan.
www.phppo.cdc.gov/owpp/docs/PlanSummary011302.pdf

Center for Civilian Biodefense Studies at Johns Hopkins University.
www.hopkins-biodefense.org/

Center for the Study of Bioterrorism and Emerging Infections at St. Louis University.
http://bioterrorism.slu.edu/

Public Health Emergency Preparedness and Response, Centers for Disease Control and Prevention.
www.bt.cdc.gov/

Oregon Develops Emergency Exercise Program

Michael McGuire

A public health preparedness exercise program can be a useful tool for developing, evaluating, and revising public health preparedness plans. A complete exercise program would include:

- Orientation exercises to identify policy issues raised by the emergency planning process
- Tabletop and functional exercises to test planning concepts, leading to improved procedures and organizational relationships
- Full-scale exercises to demonstrate competency

In 2001 the Oregon Department of Human Services Public Health Preparedness Program (OPHPP) initiated the first phase of a public health emergency exercise program, using the framework for emergency exercise design provided by the Federal Emergency Management Agency. The Department produced a *Bioterrorism Preparedness Orientation Exercise* and distributed it on CD-ROM to all local health department administrators. The transmittal letter that accompanied the exercise was dated September 10, 2001.

The purpose of the orientation exercise is to illustrate policy issues that may challenge existing local public health emergency plans. The exercise does not require a completed emergency plan and is intended to be conducted in a low-stress, collegial environment as a prelude to plan development or revision.

Oregon counties are required by law to have an emergency operations plan, including a health and medical annex. The quality of those plans, however, is not consistent throughout the state, and the orientation exercise is primarily intended to encourage local health districts to evaluate and revise their emergency plans. The CD-ROM includes public health emergency planning guidelines from the Centers for Disease Control and Prevention and other sources to help with the local planning process.

After local public health emergency plans have been developed or revised, in late summer 2002, OPHPP will distribute a bioterrorism "tabletop" exercise involving public health and other local public safety staffs, such as law enforcement, fire, public works, emergency management, and executive management.

As the OPHPP exercise program evolves, the department plans to develop "functional" exercises that focus on specific elements of public health preparedness. A functional exercise is a rigorous simulation conducted by specific elements of an emergency management organization. For example, simulation of dispensing prophylaxis treatment at an immunization clinic would be a functional exercise in the National Pharmaceutical Stockpile (NPS) planning process.

A full-scale exercise invites active participation by all elements of the jurisdiction's organization in field simulations, off-site coordination provided through an Emergency Operations Center, and leadership by executive management, including elected officials.

Such an exercise is intended to demonstrate that the previous orientation, tabletop, and functional exercises produced an effective emergency management plan and organization. It would also demonstrate to the community that the public health staff is prepared to respond to an emergency. One example of a full-scale exercise would be an NPS drill, in which the contents of an NPS 12-hour push-pack are received, staged, and distributed by state and local public health officials.

The exercise program will help state and local public health agencies in Oregon develop well-conceived emergency preparedness plans and ensure that emergency procedures are understood and practiced by all responders when a public health emergency strikes.

Author

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