

# The Practice Community Meets the Ivory Tower: A Health Department/Academic Partnership to Improve Public Health Preparedness

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## SYNOPSIS

When the local health department of Montgomery County, Maryland, was chosen to participate in Project Public Health Ready and was charged with the daunting task of providing a comprehensive emergency preparedness plan, training all 600 employees to carry out that plan, and conducting exercises to demonstrate the department's competency, it realized it couldn't do it alone. The department sought the assistance of the Johns Hopkins Bloomberg School of Public Health. The first challenge for these unlikely partners, one a bastion of research and the other firmly immersed in the practice world of public health, was to figure out how to work together. This article describes the development of their partnership; outlines the preparedness plan, training, and exercises that resulted from the partnership; summarizes the challenges and benefits for each entity; and enumerates lessons learned that could be useful to other public health entities planning to undertake similar partnerships.

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In response to the call to action issued by 9/11, anthrax, and SARS, local public health agencies have struggled to make profound systemic and cultural changes. The challenge—to broaden the role of public health workers to include the mantle of “critical emergency responder”—came to an infrastructure that has long been deprived of resources and is currently experiencing the graying of its workforce. Project Public Health Ready (PPHR), a collaborative program sponsored by the National Association of County and City Health Officials (NACCHO), the Center for Health Policy at the Columbia University School of Nursing, and the Centers for Disease Control and Prevention’s (CDC’s) Public Health Practice Program Office, Office of Workforce Policy and Planning, provided a process to systematically plan and implement the necessary cultural and structural changes.

In September 2002, the Montgomery County, Maryland, Department of Health and Human Services Public Health Services (MCPHS) was one of 12 local public health agencies chosen to pilot test draft PPHR certification requirements and provide feedback on their experiences working with academic and state partners to achieve certification goals.

## PROJECT PUBLIC HEALTH READY

### Objectives

The overall goal of PPHR is to prepare local government public health agencies to respond to emergencies and protect the public’s health. PPHR certification requires local public health agencies to have a written emergency preparedness plan, provide training to assure that staff members achieve nine core emergency response competencies, and demonstrate competency through exercises. MCPHS was one of 12 sites that participated in the PPHR pilot project, which partnered local public health departments with an academic center and the state public health agency. MCPHS was selected to participate in partnership with the Johns Hopkins Center for Public Health Preparedness (later referred to as “Hopkins”), and the Maryland State Department of Health and Mental Hygiene.

NACCHO, CDC, and Columbia University were available to the pilot sites by telephone and e-mail throughout the process. They provided technical support and critically needed encouragement to the pilot sites. In addition, they arranged periodic conference calls and two meetings to provide further guidance and activities to facilitate sharing and team building within and among pilot sites. A meeting at the start of the project provided information about assessment tools and ways to develop new partnerships, as these were among the first steps. Another meeting was held several months before the certification application deadline, providing the opportunity for the pilot sites to meet with experts in exercise planning and evaluation and to present to the group on the progress and challenges of their written, training, and exercise plans.

At the heart of PPHR is the recognition that collaboration between public health practitioners and academia is essential to enhancing and maintaining a robust public health system and to resolving an underlying disconnection between public health education and local practice operations. The MCPHS-Hopkins partnership brought together a

rich mix of knowledge and experience in research, curriculum development, program planning, evaluation, training, local public health operations and practice, and the strengths and needs of the local public health workforce. The experience of this team effort yielded many benefits, some frustrations, and ultimately supported successful PPHR certification for MCPHS. More importantly, it provided the foundation to sustain and enhance emergency preparedness and public health practice in the pilot site over time.

### Pilot partners

The MCPHS-Hopkins partnership was formed in Spring 2003. At first the PPHR task seemed akin to building an airplane while flying it. CDC guidelines for local preparedness were still evolving. PPHR certification requirements were not finalized. Local public health agencies were reeling from responding to anthrax and further challenged to vaccinate public health and hospital workers against smallpox. Moreover, SARS loomed as a threat in the United States.

The task seemed an overwhelming challenge to MCPHS. A substantial culture change had to take place in less than a year. This would require expanding the roles and responsibilities of 600 employees without abandoning traditional roles; developing comprehensive operational written plans to supplement existing county and departmental emergency response plans; and redefining the role of public health and its relationship with traditional first responders such as police, fire/rescue, hospitals, and other county and regional partners. To achieve certification, individual staff competencies had to be assessed, training plans developed and executed, and exercises designed and conducted to demonstrate individual staff and system competencies. And while the task was daunting, emergency response preparedness was a high priority for a county located adjacent to the nation’s capitol.

The MCPHS-Hopkins partnership’s first task was to develop goals, strategies, and a timeline. However, there were cultural and logistical barriers to overcome. The Hopkins team was well aware of Hopkins’ reputation in some segments of the practice community as being an “ivory tower full of people who think they know everything but have never had any real-world experience.” Therefore, it was important to the Hopkins team to make sure that a true partnership was formed that benefited MCPHS as much as Hopkins. Mutual respect for each other’s culture had to be established. The Hopkins team realized during the very first meeting with MCPHS that the health department had a wealth of expertise and knowledge about how to prepare Montgomery County to deal with a disaster. The Hopkins team simply offered their services, described the kinds of technical assistance they could provide, and waited for MCPHS to request their help.

The partnership brought together teams from each agency, each bearing experience and knowledge that would help the project. The MCPHS team was comprised of several nurse manager/administrators with clinical or management masters degrees and many years experience in overseeing public health programs, and several other members who had completed masters in public health programs. All had weathered real-life public health responses to disasters, including Hurricane Isabel and the anthrax attacks of 2001.

The Hopkins team primarily consisted of two preventive medicine physicians who had worked in the community setting as well as academia and who had expertise in disaster preparedness, exercise development and evaluation, curriculum development, and risk communication. Another member of the Hopkins team had very useful skills in coordination and management as well as computer graphics.

The physical distance between the partners might have been a barrier. Hopkins is more than an hour's drive from the MCPHS offices. The Hopkins team reached out to their new partners by traveling to Montgomery County for meetings, trainings, and exercises. The willingness of Hopkins to, literally, go the extra miles gained the appreciation of the MCPHS staff, whose time and energy were already stretched to the limit. In addition to in-person meetings, the partnership depended on telephone conferences and e-mail to support planning efforts.

## THE PROCESS

MCPHS and Hopkins established three focal areas for their collaboration and proceeded to develop plans around these: needs assessment, training to assure competency, and exercise planning and evaluation.

### Needs assessment

While MCPHS had previously offered preparedness training to its workforce, a systematic program of preparedness training was not yet in place and individual worker competency was unknown. MCPHS-Hopkins explored alternatives for assessing the level of existing worker competency. The Illinois Public Health Preparedness Center, a partner in another PPHR pilot site, volunteered a recently developed web-based assessment survey to interested pilot sites. The Hopkins team evaluated the Illinois assessment tool and recommended that MCPHS use it. The survey asked local public health workers to self-assess their comfort with knowledge and competency to respond to a broad range of public health emergencies.

A cohort of MCPHS employees participated in the survey and Hopkins analyzed the results. Although the MCPHS leaders clearly felt better prepared than other MCPHS employees, the assessment showed considerable gaps in preparedness across the board, and the Hopkins team recommended that the entire MCPHS workforce would benefit from training. Hopkins suspected that the MCPHS employees were better prepared to respond to an emergency than this assessment indicated. In fact, MCPHS workers had effectively responded in recent public health emergencies, staffing shelters and hot-lines as well as dispensing medications to postal workers during the anthrax events of 2001. The Hopkins team believed the assessment showed a lack of confidence by MCPHS employees in their own skills to respond to the broad range of public health emergencies, lack of familiarity with their specific roles and responsibilities, and unease about responding to unknown threats.

### Training

MCPHS set a very ambitious goal of getting all 600 employees trained by June 2004. The Hopkins team offered to work with MCPHS to develop a training program that would in-

clude all nine core competencies developed by the Columbia University School of Nursing and adopted by the CDC for public health workers.<sup>1</sup> Realizing that MCPHS employees were already very busy and that emergency preparedness requirements added to the demands of their work, the Hopkins team designed a curriculum that fit into their schedules and allowed employees to gain competencies on their own as well as through agency-led activities. The training was designed to be upbeat, interactive, and to the extent possible, applicable to day-to-day public health tasks. To help the MCPHS staff accomplish the requirements, Hopkins designed a board game called "Road Map to Preparedness" (Figure 1). The game board's map includes 13 activities along the road, which were designed to meet the nine bioterrorism and emergency readiness core competencies. A Road Map Key (Figure 2), offers descriptions of the activities. Five of the 13 activities require each employee to participate in an agency-led discussion, lecture, or event, allowing the individual employees to complete eight of the activities on their own. Rewards such as coffee mugs and lanyards were offered periodically along the road for successfully completed activities as an additional incentive for arriving at the "finish line." (The Road Map has been through several iterations since it was initially developed, and now includes 15 activities. It can be examined in more detail on the Hopkins website at [http://www.jhsph.edu/CPHP/road\\_map.html](http://www.jhsph.edu/CPHP/road_map.html)).





In addition to having each employee achieve the nine core competencies, Hopkins and MCPHS were interested in implementing a culture change to include a new emergency preparedness role similar to traditional first responders. Firefighters and police officers, for example, are well aware that they may be called upon at any time to help protect the public's safety. Public health professionals, on the other hand, are not as familiar with the idea that they might be called in to work nontraditional hours in the event of an emergency.

During informal discussions with a variety of public health department employees from around the Mid-Atlantic region, Hopkins frequently heard three main reasons why public health employees might not respond to an emergency, such as a bioterrorism event, if requested to do so: (1) fear for their own safety; (2) concern for the safety and well-being of their families; and (3) lack of insight into their value to the response effort. To address these concerns, Hopkins included three activities on the Road Map to Preparedness as well as some practical activities that, although not directly related to the core competencies, would facilitate the emergency response. The Road Map provided a creative tool that made it easy for the staff to identify the core competencies they were expected to master. MCPHS provided further assistance by developing a comprehensive and "fast track" guide that links specific trainings and activities to skill requirements found on the Road Map.

**Intra-agency communication.** To get the word out to the entire public health workforce, which is spread across the county, the MCPHS-Hopkins team used principles of repetition and variety to communicate. One of the key methods of communication is an intranet site, accessible only to county employees, which makes information available to all the staff. The "Public Health Services' Emergency Preparedness Bioter-



**Figure 2. Example of a Road Map key<sup>a</sup>**

<b>Road Map to Preparedness Key</b>		
	<i>Preparedness activity</i>	<i>Date completed</i>
	Take the Columbia on-line course or equivalent. (1)	
	Participate in a training about what your specific primary and alternate roles would be during an emergency and why it is important to the success of the effort. Identify the limits to your own authority. (2)	
	Describe how you are participating in the planning and implementation of a plan at your worksite to ensure the safety and security of staff and clients in the event of an emergency. (3)	
	Incident Command Using the templates provided, write your name in the proper place in the chain of command. (4)	

SOURCE: Johns Hopkins Bloomberg School of Public Health, Baltimore, MD; Montgomery County Department of Health and Human Services, Public Health Services, Rockville, MD; Public Health Ready.

<sup>a</sup>A Road Map key accompanies the Road Map game board and describes the activity associated with each stop on the game board. The Road Map game board and key now contain 15 activities. The latest version of the game board can be found at: URL: [http://www.jhsph.edu/CPHP/road\\_map.html](http://www.jhsph.edu/CPHP/road_map.html)

positive about the subject matter when they are learning experientially.<sup>2-4</sup> The Hopkins-designed experiential exercises incorporated brief didactic lectures providing a relevant overview of the preparedness topics, followed by demonstrations and scenario-based problem-solving activities. These exercises used the wealth of experienced MCPHS senior staff members whenever possible.

A training on risk communication, developed and presented by the Hopkins team, used the experiential learning format. An interactive lecture was followed by exercises that allowed the participants to practice their newly learned risk communication skills in a safe environment. While the training focused on communicating with the public in an emergency, its principles were easily applicable to everyday, traditional public health services. Hopkins also designed and conducted training on biological, chemical, and radiological agents. All trainings were scheduled at locations easily accessible by the MCPHS staff. The success of these trainings was indicated by the high marks participants gave the Hopkins faculty on their evaluations. They liked the interactive model and the engaging, knowledgeable trainers who were responsive to their questions and concerns.

### Exercise planning and evaluation

The Hopkins-MCPHS team collaborated to develop a series of experiential learning exercises to stimulate participants to develop and demonstrate competencies and skills needed

to set up and operate a post-event emergency dispensing/vaccination site in the wake of a bioterrorism attack. The strategy was to build from the grass roots up, assuring that each worker achieved individual competencies and fully understood his or her role and responsibilities in the plan. The first experiential learning exercise, dubbed “Anastasia,” was conducted for 60 middle managers and supervisors. The full-day exercise began with a two-hour plenary session that outlined the PPHR goals, the county’s vision of the expanded role of public health workers, and plans for protecting workers and their families from biological agents. It also provided an overview of the incident command model, stations and operation of a distribution/vaccination center, and functional roles and responsibilities of the exercise participants. The two-hour didactic session was followed by a tabletop exercise in which the participants were divided into functional teams—Site Commanders, Operations Managers, and Logistics Managers—and charged with developing plans to notify the staff of an emergency. Later, participants were asked to use information from the written emergency plan describing their roles and responsibilities to identify the first steps they would take to “stand up” a dispensing site. A report from the teams followed, and feedback from participants was used to develop criteria for a follow-up notification drill. Feedback was also used to improve the written plan.

Subsequent exercises “Bernard” and “Caroline” (named

in a manner similar to hurricanes) used the “Anastasia” model to orient and exercise all public health workers to their roles and responsibilities for operating dispensing/vaccination sites. Worker by worker, MCPHS was acculturating emergency preparedness into its traditional role. The actual threats of anthrax and SARS, as well as the experiential learning exercises and notification drill, supplemented state and regional exercises to lay the foundation for an inter-agency functional exercise, in which MCPHS successfully established and operated a dispensing/vaccination site to serve more than 1,000 volunteer patients in real-time.

The Hopkins team served as evaluators for the experiential learning exercises. They worked with MCPHS to determine the goals for the exercise, considered what PPHR required for evaluation and documentation of exercises, and then developed an evaluation tool.

The evaluation tool has four major components: (1) determining if the exercise objectives were met, (2) determining if all participating staff members demonstrated the appropriate core competencies, (3) evaluating the way the exercise itself was conducted so that future experiential learning exercises can be improved, and (4) evaluating the nature and usefulness of the after-action report. An example of this tool appears as Figure 3.

**Figure 3. Example of an exercise evaluation tool that can be used with experiential learning exercises**

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*Evaluation of experiential exercise*

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List the goals of the exercise:

List the objectives of this exercise:

List the Emergency Readiness Core Competencies addressed during this exercise:

- I. Were the exercise objectives met? If not, why not?
- II. Did all participating staff members demonstrate the above core competencies? If not, why not?
- III. Evaluation of the exercise itself
  1. Was there an official way for participating staff members to provide feedback about the exercise itself?
  2. Was the exercise useful for the participants?
  3. Was there a way for participating staff members to provide input into what future disaster response procedures should be?
  4. Did all staff members participate in the break-out group discussions?
  5. Were the break-out groups well facilitated?
  6. Were the large group discussions well facilitated?
- IV. Exercise after-action report
 

Was there a complete, written, after-action report made?

  1. Were the lessons learned from the exercise incorporated into the Emergency Response Plan?
  2. Were there any policy changes made as a result of the exercise? If not, should there be?
  3. Was the training plan reviewed and revised as necessary to improve staff competencies?

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## LESSONS LEARNED

Both MCPHS and Hopkins experienced short-term and long-term benefits from their partnership, which have implications for public health education and practice. Each entity developed an appreciation for the knowledge and expertise of the other.

The MCPHS-Hopkins partnership brings the practice and workforce issues confronting local public health directly to academia. This, in turn, can benefit future curriculum development and program planning for public health students as well as for the local public health agency. At the same time, it provides local public health practitioners, most of whom have not had formal academic training in public health, exposure to academic theory. The academic-practice partnership enhances the educational experience of public health students by encouraging them to work directly with local health departments on specific projects, providing a hands-on component to their academic experience, and enhancing their ability to find employment when they've finished their degrees. The MCPHS-Hopkins partnership is an example of how to create a good working relationship between practice and academia so that faculty know that the students will receive superb instruction and training in their practical experiences.

The quality of the curriculum itself also reflects benefits from academic-practice partnerships. These partnerships provide faculty with opportunities for more real-life practice experience, allowing the content of academic courses to be more relevant to real-life public health practice.

Revitalization of the public health workforce is critical. Our public health infrastructure is facing a coming crisis with the subsequent retirement of much of its workforce. Historically, only 10% of masters of public health graduates choose to seek employment in a local health department. Providing hands-on experience during students' education introduces them to the unique challenges and rewards associated with public health practice, and the schools of public health will make greater contributions to the public health infrastructure. MCSPH personnel also had some contact with Hopkins faculty, perhaps stimulating interest in taking classes at Hopkins and furthering their education. In addition, some of the trainings for the MCPHS took place on a Hopkins satellite campus in Montgomery County, exposing employees to the Hopkins facilities available in their area for continuing education and allowing them access to postings of course offerings.

## RECOMMENDATIONS

Building on the work with MCPHS, the Hopkins team has successfully used the Road Map to Preparedness as a training tool with other county health departments in the Mid-Atlantic region, both urban and rural. The specific activities can be adapted as needed to suit local demands, additional activities can be added to address other needs, and the incentive structure can also be adapted to be more useful to local tastes. One innovative county health officer stated quite matter of factly that her staff already had plenty of pens, mugs, and mouse pads—what they would really value is *time*. She set an aggressive schedule for getting her entire staff to

complete the Road Map and offered four hours of administrative leave to everyone who completed the Road Map by the specified deadline.

In addition to the inherent value of time in our busy lives, offering time off work as an incentive also sends an important message to employees that their time is valued, that the agency recognizes they will need to spend some additional time to complete the activities, and, according to literature about how to influence others, may also improve the response to an actual emergency later. Cialdini reports that the giving of a small gift, in this case time, may increase the employees' sense of duty and bring about the reciprocation of time later.<sup>5</sup>

In summary, the partnership between MCPHS and Hopkins made this daunting task doable. The results of this partnership, as well as the process of forming the partnership, have provided myriad benefits for both the local health department and the academic institution. What makes one collaborative effort one's worst nightmare and another a productive process? Most important to this partnership's process were common goals; clear, honest communication about what resources each had to offer as well as the needs and limitations each had; and a strong desire to make the process work. Members of the team demonstrated respect for one another and for the process through contributions

of valuable skills and time, dependability, and commitment to the common goal of improving public health preparedness for Montgomery County. The PPHR pilot process engaged academics and local public health personnel in a collaborative effort that is yielding benefits to each as well as the project as a whole. Ultimately, the residents of Montgomery County, Maryland, are the real beneficiaries of this partnership, as their public health department is now better prepared to respond to a disaster.

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