

## Public Health Preparedness

**P**ublic health is a cornerstone of health protection and public safety, yet it has long been relegated to the backseat of our nation's priorities for attention and support. We can't let it stay there. The events of September 11 and the subsequent anthrax attacks have brought new urgency to old concerns about the capacity of our nation's public health system. These tragic circumstances may provide the political will to do what should have been done earlier to protect our citizens against significant infectious disease threats, whether naturally occurring or intentionally imposed.

Our complacency arose from different causes. Many assumed that advances in science and medicine made public health programs obsolete; a view reinforced, ironically, because when functioning well, the contributions of public health are often invisible to the public. Public health measures have sometimes been the victim of their own success: We know that there are periodic outbreaks of infectious disease, but the successful prevention or control of each epidemic conceals the years of neglect that have eroded the institutional capabilities of public health agencies and left them ill-equipped to do their jobs.

What is to be done? Local, state, and federal public health agencies working together represent the backbone of effective response to a major outbreak of infectious disease, including a bioterrorist attack. How quickly we recognize threats and act on them dramatically influences our ability to reduce casualties, control contagion, and minimize panic and disruption. Upgrading current public health capacities is vital, but it will require enhanced investment on many levels and must be sustained.

Preparedness for bioterrorist-inflicted outbreaks will surely require certain specialized program elements and policies, but many aspects of this new challenge demand solutions that will apply to a range of naturally occurring infectious disease threats. Wherever possible, effective strategies should build on existing systems that are used routinely and can have dual use. Why develop an ancillary system for the bioterrorist threat? Rather, we should strive to integrate our efforts into the continuum of infectious disease threats to which public health agencies are already charged to respond.

The first requirement is to strengthen the public health infrastructure for infectious disease surveillance and outbreak response: the ability to rapidly detect, investigate, and contain emerging disease. That will require us to train, equip, and extend our workforce, including on-the-ground epidemiologic expertise and enhanced laboratory capability. In addition, communication, including computer connectivity, must be improved to efficiently collect, analyze, and share information among public health officials, other partners, and the public. Beyond these critical domestic needs, successful strategies must include a renewed commitment to improving global disease surveillance and public health.

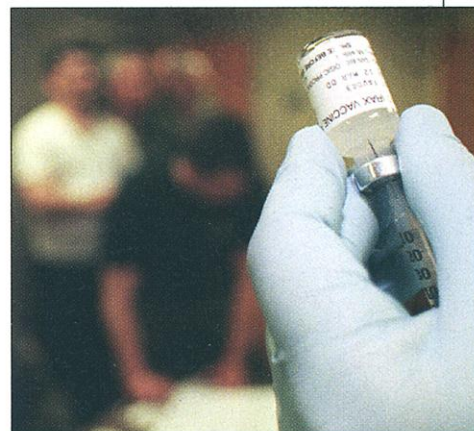
Effective surveillance depends on health care providers trained to recognize unusual symptoms or disease that may reflect an emerging health problem, including the possible use of a biological weapon. Moreover, physicians must understand their responsibility to report such cases promptly to the health department. A strengthened mutual relationship between public health and medicine is key: Not only must medical providers know to call the health department, they must also know that someone will answer the phone, ready to offer the medical community information, guidance, and support as events unfold.

Managing epidemic disease requires a deep and sustained engagement of the public health system with the medical community. Clearly, it is of little value to have a public health system that can detect disease outbreaks if we cannot effectively deliver medical care to those in need, or the prophylactic treatment or vaccines required for disease control. Whether we face a severe flu season or a bioterrorist attack, we must have plans for a surge of patients in our nation's health care system, where facilities routinely operate at or near capacity. Finally, research remains an essential underpinning of our capacity to combat infectious disease. New investments in fundamental science and applied research must be part of an overall strategy for improved public health preparedness.

Looking to the future, we can expect an increasing array of infectious disease threats. Our public health system will be challenged to confront both routine and unexpected outbreaks of disease, including possible acts of bioterrorism. We have a chance to defend the nation against its adversaries and improve the public health system with the same steps. We must do it.

**Margaret A. Hamburg**

Margaret A. Hamburg is vice president for Biological Programs at the Nuclear Threat Initiative and is a former New York City Commissioner of Health.



The anthrax vaccine.