



**Testimony
Before the Subcommittee on Health
Committee on Veterans Affairs
United States House of Representatives**

**Bioterrorism:
CDC's Public Health Response**

Statement of

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Good morning, Mr. Chairman and Members of the Subcommittee. I am Dr. Kevin

Yeskey, Director, Bioterrorism Preparedness and Response Program, National Center for Infectious Diseases, Centers for Disease Control and Prevention (CDC). Thank you for the opportunity to discuss CDC's public health response to the threat of bioterrorism. I will update you on CDC's status of implementing the overall goals of our bioterrorism preparedness program.

As has been highlighted recently, increased vigilance and preparedness for unexplained illnesses and injuries are an essential part of the public health effort to protect the American people against bioterrorism. Prior to the September 11 attack on the United States, CDC was making substantial progress toward defining, developing, and implementing a nationwide public health response network to increase the capacity of public health officials at all levels—federal, state, and local—to prepare for and respond to deliberate attacks on the health of our citizens. The events of September 11 were a defining moment for all of us, and since then we have dramatically increased our levels of preparedness and are implementing plans to increase it even further.

Public Health Leadership

The Department of Health and Human Services' (DHHS) anti-bioterrorism efforts are focused on improving the nation's public health surveillance network to quickly detect and identify the biological agent that has been released; strengthening the capacities for medical response, especially at the local level; expanding the stockpile of pharmaceuticals for use if needed; expanding research on disease agents that might be released, rapid methods for identifying biological agents, and improved treatments and

vaccines; and preventing bioterrorism by regulation of the shipment of hazardous biological agents or toxins.

As the nation's disease prevention and control agency, it is CDC's responsibility on behalf of DHHS to provide national leadership in the public health and medical communities in a concerted effort to detect, diagnose, respond to, and prevent illnesses, including those that occur as a result of a deliberate release of biological agents. This task is an integral part of CDC's overall mission to monitor and protect the health of the U.S. population.

In 1998, CDC issued *Preventing Emerging Infectious Diseases: A Strategy for the 21st Century*, which describes CDC's plan for combating today's emerging diseases and preventing those of tomorrow. It focuses on four goals, each of which has direct relevance to preparedness for bioterrorism: disease surveillance and outbreak response; applied research to identify risk factors for disease and to develop diagnostic tests, drugs, vaccines, and surveillance tools; infrastructure and training; and disease prevention and control. This plan was developed with input from state and local health departments, disease experts, and partner organizations such as the American Society for Microbiology, the Association of Public Health Laboratories, the Council of State and Territorial Epidemiologists, and the Infectious Disease Society of America. It emphasizes the need to be prepared for the unexpected – whether it is a naturally occurring influenza pandemic or the deliberate release of anthrax by a terrorist. It is within the context of these overall goals that CDC is addressing preparing our nation's public health infrastructure to respond to acts of biological terrorism. In addition, CDC

presented in March 2001 a report to the Senate entitled *Public Health's Infrastructure: A Status Report*. Recommendations in this report complement the strategies outlined for emerging infectious diseases and preparedness and response to bioterrorism. These recommendations include training of the public health workforce, strengthening of data and communications systems, and improving the public health systems at the state and local level.

CDC's Strategic Plan for Bioterrorism

CDC outlined necessary steps for strengthening public health and healthcare capacity to protect the nation against bioterrorist threats in its April 21, 2001, *MMWR* release of *Biological and Chemical Terrorism: Strategic Plan for Preparedness and Response - Recommendations of the CDC Strategic Planning Workgroup*. This report reinforces the work CDC has been contributing to this effort since 1998 and lays a framework from which to enhance public health infrastructure. In keeping with the message of this report, five key focus areas have been identified which provide the foundation for local, state, and federal planning efforts: Preparedness and Prevention, Detection and Surveillance, Diagnosis and Characterization of Biological and Chemical Agents, Response, and Communication. These areas capture the goals of CDC's Bioterrorism Preparedness and Response Program for general bioterrorism preparedness.

Preparedness and Prevention

CDC has been working to ensure that all levels of the public health community – federal, state, and local – are prepared to work in coordination with the medical and emergency response communities to address the public health consequences of biological and chemical terrorism.

CDC has created diagnostic and epidemiological guidelines for state and local health departments and will continue to help states conduct drills and exercises to assess local readiness for bioterrorism. For example, in November 2001 the Centers for Disease Control and Prevention (CDC) released "Interim Smallpox Response Plan and Guidelines," which identifies many of the federal, state, and local public health activities that would need to be undertaken in a smallpox emergency, including response plan implementation, notification procedures for suspected cases, CDC and state and local responsibilities and activities, and CDC vaccine and personnel mobilization.

In addition, CDC, the Food and Drug Administration (FDA), the National Institutes of Health (NIH), the Agency for Healthcare Research and Quality (AHRQ), the Department of Defense (DoD), and other agencies are facilitating the availability of medical countermeasures, and supporting and encouraging research to address scientific issues related to bioterrorism. In some cases, new vaccines, antitoxins, or innovative drug treatments need to be developed, manufactured, and/or stocked. Moreover, we need to learn more about the pathogenesis and epidemiology of the infectious diseases which do not affect the U.S. population currently. We have only limited knowledge about how artificial methods of dispersion may affect the infection

rate, range of illness, and public health impact of these biological agents.

Detection and Surveillance

As was evidenced in the anthrax attacks in Florida, New York, and Washington, DC, the initial detection of a biological terrorist attack occurs at the local level. Therefore, it is essential to educate and train members of the medical community – both public and private – who may be the first to examine and treat the victims. It is also necessary to upgrade the surveillance systems of state and local health departments, as well as within healthcare facilities such as hospitals, which will be relied upon to spot unusual patterns of disease occurrence and to identify any additional cases of illness. CDC is providing terrorism-related training to epidemiologists and laboratorians, infection control personnel, emergency responders, emergency department personnel and other front-line health-care providers, and health and safety personnel. CDC is providing educational materials regarding potential bioterrorism agents to the medical and public health communities on its website for Public Health Emergency Preparedness and Response at www.bt.cdc.gov. CDC is working with partners such as the Johns Hopkins Center for Civilian Biodefense Studies (www.hopkins-biodefense.org) and the Infectious Diseases Society of America to develop training and educational materials for incorporation into medical and public health graduate and post-graduate curricula. With public health partners, CDC is spearheading the development of the National Electronic Disease Surveillance System, which will facilitate automated, timely electronic capture of data from the healthcare

system.

· ***Diagnosis and Characterization of Biological and Chemical Agents***

To ensure that prevention and treatment measures can be implemented quickly in the event of a biological or chemical terrorist attack, rapid diagnosis is critical. CDC has developed guidelines and quality assurance standards for the safe and secure collection, storage, transport, and processing of biologic and environmental samples. In collaboration with other federal and non-federal partners, CDC is co-sponsoring a series of training exercises for state public health laboratory personnel on requirements for the safe use, containment, and transport of dangerous biological agents and toxins. CDC is also enhancing its efforts to foster the safe design and operation of Biosafety Level 3 laboratories, which are required for handling many highly dangerous pathogens. Furthermore, CDC is developing a Rapid Toxic Screen to detect people's exposure to 150 chemical agents using blood or urine samples.

· ***Response***

A decisive and timely response to a biological terrorist event involves a fully documented and well rehearsed plan of detection, epidemiologic investigation, and medical treatment for affected persons, and the initiation of disease prevention measures to minimize illness, injury and death. CDC is addressing this by (1) assisting state and local health agencies in developing their plans for investigating and responding to unusual events and unexplained illnesses, and (2) bolstering CDC's

capacities within the overall federal bioterrorism response effort. CDC has formalized draft plans for the notification and mobilization of personnel and laboratory resources in response to a bioterrorism emergency, as well as overall strategies for vaccination, and development and implementation of other potential outbreak control strategies such as isolation and quarantine measures. In addition, CDC is developing national standards to ensure that respirators used by first responders and by other health care providers responding to terrorist acts provide adequate protection against weapons of terrorism.

Communication Systems

Rapid and secure communications are crucial to ensure a prompt and coordinated response to an intentional release of a biological agent. Thus, strengthening communication among clinicians, emergency rooms, infection control practitioners, hospitals, pharmaceutical companies, and public health personnel is of paramount importance. To this end, CDC is making a significant investment in building the nation's public health communications infrastructure through the Health Alert Network (HAN). HAN is a nationwide program to establish the communications, information, distance-learning, and organizational infrastructure for a new level of defense against health threats, including bioterrorism. CDC has also established the Epidemic Information Exchange (*Epi-X*), a secure, web-based communications system that provides information sharing capabilities to state and local health officials.

Ongoing communication of accurate and up-to-date information helps calm public fears and limit collateral effects of the attack. CDC communicates with the public directly

through its website on emergency preparedness and through a public inquiry telephone and email system, which, during the anthrax epidemiological investigation, responded to hundreds of questions daily. In addition, CDC communicates to the public by releasing daily updates to the news media, answering inquiries from the press and providing medical experts for interviews.

The National Pharmaceutical Stockpile

Another integral component of public health preparedness at CDC has been the development of a National Pharmaceutical Stockpile (NPS), which is mobilized in response to an episode caused by a biological or chemical agent. The role of the CDC's NPS program is to maintain a national repository of life-saving pharmaceuticals and medical materiel that can be delivered to the site or sites of a biological or chemical terrorism event in order to reduce morbidity and mortality in a civilian population. The NPS is a backup and means of support to state and local first responders, healthcare providers, and public health officials. The NPS program consists of a two-tier response: (1) 12-hour push packages, which are pre-assembled arrays of pharmaceuticals and medical supplies that can be delivered to the scene of a terrorism event within 12 hours of the federal decision to deploy the assets and that will make possible the treatment or prophylaxis of disease caused by a variety of threat agents; and (2) a Vendor-Managed Inventory (VMI) that can be tailored to a specific threat agent.

For the first time ever, CDC deployed the National Pharmaceutical Stockpile (NPS) in September, sending push packages of medical materiel to New York City and

Washington, DC. In response to the cases of anthrax exposure, this program was also used to deliver antibiotics for post-exposure prophylaxis to employees in affected buildings, postal workers, mail handlers, and postal patrons. In order to facilitate the procurement of the pharmaceuticals, medical supplies, and antidotes that comprise the NPS, CDC established an interagency agreement with the National Acquisition Center of the Department of Veterans Affairs (VA) in November of 1999. This partnership has allowed CDC to take advantage of the \$4 billion annual pharmaceutical buying power of the VA to analyze the various markets and then develop unique and very favorable contractual arrangements for the stockpile program. These contracts provide for the acquisition of pharmaceuticals and other materiel, inventory rotation and maintenance, and emergency transport. CDC's partnership with the VA has also permitted the stockpile program to access the VA's prime vendors for pharmaceuticals and medical/surgical supplies under very favorable terms.

Core Capacities for State and Local Health Bioterrorism Preparedness and Response

Prior to September 11, CDC was working with partners at all levels to develop core capacities needed to respond to public health threats and emergencies. CDC has developed specific guidelines to assist public health agencies in their efforts to build comprehensive bioterrorism preparedness and response programs. This collaborative effort engaged federal, state, and local partners in determining their needs in order to improve their preparedness and response to bioterrorism. The process enabled health

departments to more effectively target specific improvements to protect the public's health in the event of a biological or chemical terrorist event, and provides the framework for ongoing program efforts. The core capacities effort is dual purpose; while these capacities focus on bioterrorism events, they are also relevant to naturally occurring infectious disease outbreaks and natural disasters.

The events of last fall demonstrate that we must move much more rapidly to expand our capacity to respond to all public health emergencies. In late January, HHS announced that a total of \$1.1 billion in funding would be provided to states to assist them in their efforts to prepare for bioterrorism, other infectious disease outbreaks, and other public health threats and emergencies. On January 31st, Secretary Thompson sent a letter to the governor in each state detailing how much of the \$1.1 billion his or her state would receive to allow them to initiate and expand planning and building of the public health systems necessary to respond. State proposals outlining these plans are due to HHS by April 15th. The funds will be made available through cooperative agreements with State health departments—and several large metropolitan area health departments—to be awarded by CDC and the Health Resources and Services Administration, and through contracts awarded by the Office of Emergency Preparedness with cities for the Metropolitan Medical Response System Initiative.

The funds are to be used for the development of comprehensive public health emergency preparedness and response capabilities; upgrading infectious disease surveillance and investigation; enhancing the readiness of hospital systems to deal with large numbers of casualties; expanding public health laboratory and communications

capacities; education and training for public health personnel, including clinicians, hospital workers, and other critical public health responders; and improving connectivity between hospitals and local, city, and state health departments to enhance disease detection.

CDC's Education and Training Efforts for Bioterrorism

CDC's goal in education and training is for the entire public health system to maintain a public health workforce fully capable of delivering the Essential Public Health Services during routine and emergency operations. As one of the nation's largest providers of healthcare, the Department of Veterans' Affairs (VA) is a partner in CDC's efforts. CDC and the VA collaborate through a number of different training and education mechanisms, including: the Public Health Training Network (PHTN), laboratory training activities, and the Association of American Medical College's (AAMC) bioterrorism initiative "First Contact, First Response."

Since October 2000, seventy-nine VA Medical Centers have participated as satellite downlink sites for PHTN presentations. In 2001, more than 66,000 health professionals earned continuing education credits through PHTN programs. The National Laboratory Training Network (NLTN) provides clinical, environmental, and public health laboratory training courses, with six regional offices available to identify training needs, deliver courses, and evaluate NLTN training programs. In the last year alone, NLTN delivered more than 226 courses to an audience of more than 6,200 students. Since 1997, NLTN has trained 359 students from the VA. In 2000, CDC established a national system of Centers for Public Health Preparedness (CPHP) to strengthen state and local workforce capacity to respond to bioterrorism

and to support CDC's prevention programs in general. The Centers have developed over 180 bioterrorism-related training programs, short courses, seminars, public meetings, media interviews, and national satellite broadcasts to address local and regional concerns preparedness concerns. The AAMC's educational plan has been designed with CDC to address the preparedness of the workforce, in both the near and distant futures, by including specific educational experiences for medical students, resident physicians and practicing physicians. Specifically, regional medicine-public health education centers will be established to facilitate preparedness education activities and foster collaboration between medical schools and state/local public health agencies.

CDC is committed to collaborate with the VA, DoD, FEMA, FDA and other federal partners, State and local governmental agencies as well as medical societies, national professional organizations in implementing the Centers for Preparedness and other education and training programs targeting clinicians and other public health and healthcare professionals.

Challenges

As we continue to strengthen our homeland security and, among other things, our ability to deal with bioterrorism, it is our hope that we will not face bioterrorist attacks that impose mass casualties on our cities. We must nevertheless plan for it, so that, if the unthinkable should occur, we are prepared to deal with it. Thus, for example, the Administration is seeking legislation that would amend the Public Health Service Act to allow the President, when he determines that the public health so requires, to authorize the U.S. armed forces to provide support to the Secretary of Health and Human Services

in the exercise of the Secretary's statutory quarantine-related powers.

CDC has been addressing issues of detection, epidemiologic investigation, diagnostics, and enhanced infrastructure and communications as part of its overall bioterrorism preparedness strategies. CDC will continue to work with partners to address challenges such as improving coordination among other federal agencies during a response and understanding the necessary relationship needed between conducting a criminal investigation versus an epidemiologic case investigation. These issues, as well as overall preparedness planning at federal, state, and local levels, require additional action to ensure that the nation is fully prepared to respond to acts of biological and chemical terrorism.

Disease experts at CDC are working with partners at other federal agencies and in state and local health departments to develop strategies to prevent the spread of disease during and after bioterrorist attacks. Specific components include (1) creating protocols for review by the FDA for immunizing at-risk populations subject to the availability of suitable vaccines; (2) isolating large numbers of exposed individuals when there is risk that the disease can be spread from person to person; (3) reducing occupational exposures; (4) assessing methods of safeguarding food and water from deliberate contamination; and (5) exploring ways to improve linkages between animal and human disease surveillance networks since threat agents that affect both humans and animals may first be detected in animals.

Conclusion

In conclusion, CDC is committed to working with other federal agencies and

partners, as well as state and local public health departments to ensure the health and medical care of our citizens. We have made substantial progress to date in enhancing the nation's capability to prepare for and respond to a bioterrorist event. The best public health strategy to protect the health of civilians against a biological attack is the development, organization, and enhancement of public health prevention systems and tools. Priorities include strengthened public health laboratory capacity, increased surveillance and outbreak investigation capacity, and health communications, education, and training at the federal, state, and local levels. Not only will this approach ensure that we are prepared for deliberate bioterrorist threats, but it will also ensure that we will be able to recognize and control naturally occurring new or re-emerging infectious diseases. A strong and flexible public health infrastructure is the best defense against any disease outbreak.

Thank you very much for your attention. I will be happy to answer any questions you may have.