

Trip Report: Invitation-Only Workshop at the Institute of Medicine on Biological threats and Terrorism; How Prepared Are We? Assessing the Science and Response Capabilities. November 27-29, 2001

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CSTE was invited to this closed Institute of Medicine (IOM) Workshop to represent and to present on our perception of public health's organizational preparedness, as part of this workshop's general review of the nation's level of preparation for a major bioterrorist attack. The workshop was organized into an initial one and a half days focusing on biologic scientific preparation, including new antibiotics, vaccines, antitoxins and detection devices, and then a final eight hours concentrating on the public health system. The format was a series of prepared 20-40 minute lectures summarizing the state of science in each area, and then a period of free discussion, by the members of the Forum on Emerging Infections and the invited speakers and panelists (of which I was one.) I was asked to give an 8-10 minute talk on day 2, summarizing my reaction to earlier speakers and concentrating on weaknesses in our preparedness in surveillance, epidemiology and outbreak response.

A number of leaders in the sciences, politics and government were present, including Senator Frist, Mike Osterholm, DA Henderson, Joshua Lederberg, Sam Katz, Ken Alibek, Anthony Fauci, Jim Hughes of CDC, and many biologic researchers from academia, various DOD agencies (e.g. DARPA, USAMRIID), NIH, CDC and the pharmaceutical industry. Other public health attendees included Dale Morse of New York, Tom Milne of NACCHO and Mary Gilchrist of APHL. Marcy Layton could not attend, at the last minute. The purpose was to end, on day three, with a discussion to develop a set of specific recommendations for identifying gaps in, and for building US preparedness for bioterrorism, in our biologic defenses and in our public health response ability. The results will be published on an accelerated schedule, to appear by the end of January 2002.

I will attempt to mention a few of the most striking points made during the conference.

1. Reference was made by most of the speakers, including by many of the laboratory scientists, to the serious national, state and local level weaknesses in public health resources for surveillance and response, and the need to rapidly find funds to rebuild this capability in particular at the state and local level. I was gratified to hear this not just from the representatives of government and public health, but from the lab scientists and from Senator Frist. Several references were made to the remaining educational gap in conservative congressmen, many of whom do not yet "get it."
2. There were a number of remarkable and very promising advances in development of specific antitoxins and candidate vaccines for potential terrorist agents. For example, a very promising biologic for blocking the effect of anthrax toxins is close to being ready for animal and human trials. But the news on our ability to develop new vaccines was in general bad: vaccine development takes around 10 years, little new is in the pipeline

(linezolid is the first truly new antibiotic class in the last 30 years), and because of their relatively poor profit potential pharmaceutical companies do not want to take on the development process for either bioterrorist vaccines or new antibiotics. Suggestions for how to correct this situation took the form of either providing financial incentives to pharmaceutical firms for vaccine and antibiotic development, or possibly actually building a US government-owned, contractor-operated vaccine development agency. Likewise, pharmaceutical company financial incentives for developing new antibiotics to address potential bioterrorist agents were also weak; a table of the calculated expected "Adjusted Net Present Values" of developing various different drug classes showed that while drugs for musculoskeletal or psychologic disorders, or lipid-lowering drugs have high NPVs, antibiotics do not. Therefore most drug companies are pulling out of the new antibiotic discovery business. These trends make deterrence, prevention or early detection/response of bioterrorist attacks even more important.

3. A major topic of discussion was how to sustain the current awareness of and concern about bioterrorism once the recent anthrax attacks are dropped by the press and forgotten by the public and legislators. One frequent response to this concern was the statement that the letters were simply an opening manoeuvre and that larger-scale releases were very likely. Nonetheless, one of our tasks is to calmly but clearly make the point that more serious BT attacks are much more likely than they were two months ago, given their power to disrupt our society, and that preparation must continue. One necessity now is for strong national leadership to set a direction for BT preparedness, which is currently lacking.

4. It may be that many potential terrorists are not yet fully aware of the potential of some agents. Botulism toxin is an example: it is astonishingly easy to make, and remarkable resistant to inactivation in water or food. Many easy scenarios were described in which nationally distributed food products, bottled water or soft drinks or milk or ice cream could be contaminated and distributed carrying lethal doses of toxin. Anthrax spores like those found in the recent letters could be easily disseminated in air conditioning systems if large enough quantities could be made.

5. DA Henderson described his new office of bioterrorism preparedness in the HHS Secretary's Office, and said that there would be another national meeting in the next week or two for a set of public health officials to work out details of distribution of expected Frist-Kennedy appropriations for the next fiscal year.