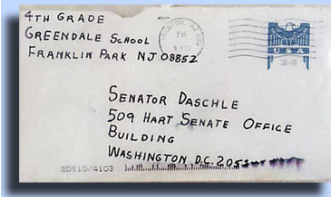




Institute for Alternative Futures
FORESIGHT SEMINARS ON HEALTH & INNOVATION



Bioterrorism: Leveraging Science and Policy Approaches

Meeting Report
Foresight Seminar Meeting, October 25, 2002
Room 902, Hart Senate Office Building

The First Major Bioterror Attack Will Force the U.S. to Create a New Infrastructure to Protect Health

The Foresight Seminar panel included:

- [Dr. Kenneth Alibek](#), Executive Director of the Center for Biodefense at George Mason University and Chief Scientist of Advanced Biosystems;
- [Dr. Michael Osterholm](#), Director of the Center for Infectious Disease Research and Policy at the University of Minnesota and
- [Dr. George Alexander](#), Director for Medical and Public Health Security in the White House Office of Homeland Security.

Provocative Insights

“We should be shocked and outraged over the next terrorist act, but we should not be surprised. The escalation in the number of deaths that has occurred over recent years can continue exponentially through the use of bioterrorism.”

With this statement Dr. Michael Osterholm introduced the real potential of future bioterrorist attacks to encourage that we be better prepared to respond to the next incident.

Offense In Bioterrorism Outpaces Defense

There is a mismatch in terms of developing an offensive capability versus a defense. It only takes about 2-3 years to develop a (bio) weapon while it takes about 10-15 years to develop vaccines or therapies for such weapons. **So we are currently working on solutions for weapons developed in the 60's and 70s, and have barely begun to survey the threats that may be developing.**

Other Less Known Arsenal

Because bioterrorism has a significant factor of the 'unknown,' this challenges public health readiness. **Various naturally occurring pathogens can become radically different agents once they are weaponized.** One example is plague. In nature, what we may see in the form of a bubonic plague could be transformed into "pneumonic plague", which is extremely difficult to treat. In cases where pathogens have been radically altered, incubation times may be much shorter than the normal disease progression. Thus treatment options such as vaccinations and delivery of antibiotics may not be the best recourse. There are also ways to mass distribute forms of acute fever, murine typhus and fungal weapons that, while not lethal, are highly incapacitating. These pathogens are known for causing blastomycosis or coccidioidomycosis, or so-called mycotic diseases, which in many cases are absolutely incurable.

Future Policy Options

It's clear that given the looming threat, we must develop what one of our speakers termed an **"implementation infrastructure."** This means having policies in place to install and use detection and diagnostics tools along with coordination of public health and law enforcement personnel who must be ready to respond to any given attack. This response readiness also assumes a long list of steps and initiatives such as collaboration between the Administration and the private sector, as well as with the Department of Homeland Security and state and local public health departments. Dr. Alexander provided information on the coordinated efforts between the Administration and the private sector, as well as with the Department of Homeland Security and state and local public health departments.

Action Items

Policy initiatives need to support the development of a scientific infrastructure to prepare for future bioterrorism events.

- One public policy question is how to incentivize companies to develop therapies for combating bioterrorism illnesses. The vaccine industry shows how a failure to provide incentives for a private sector capacity can leave the country vulnerable. **We have gone from 35 vaccine manufacturers 25 years ago to 4 vaccine manufacturers today; and the numbers keep dwindling.** Because many of these products have low revenue with high product-liability risks as well as patent protection concerns, the pharmaceutical industry is opting out of this line of business.
- Without the availability of new and existing medicines, the best coordinated response efforts will be useless.
- It now takes approximately 10-15 years to develop vaccines or therapies for biodefense.
- Policy makers need to explore options for improving biodefense capabilities.
- One proposal that emerged last Congress is the **"Biological, Chemical and Radiological Weapons Countermeasures Research Act of 2002."** This bill, which was co-sponsored by Senators Lieberman and Hatch, offered tax incentives, protection of patents and limited liability for any firm working on bio, chemical or radiological counter-measures. Look for this bill to resurface with modifications in this Congress.
- Another effort underway is FDA's consideration to "fast track" antibiotics to treat resistant pathogens, and offer "wild card" exclusivity for other corporate products. Both of these considerations would provide some of the much-needed incentives to bringing new biodefense therapies to market.

Additional Resources

[Bioterrorism And Bioweapons Special Report from NewScientist.Com](#)

New Scientist has charted the rise in concern about bioterrorism, including the US anthrax cases. Follow the links on their [website](#) to keep up to date with what's happening.

<http://www.newscientist.com/hottopics/bioterrorism/>

Sniffing Out Bioterrorism Threat ([Wired News](#))

The government is adapting environmental monitors scattered across the nation to detect bioterrorism, hoping they will provide early warning if smallpox, anthrax or other deadly germs are released into the air.

<http://www.wired.com/news/technology/0,1282,57341,00.html>

[CDC Public Health Emergency Preparedness & Response Site](#)

<http://www.bt.cdc.gov/>

[washingtonpost.com: Bioterrorism](#)

Recent news on bioterrorism and local response and preparedness guides

<http://www.washingtonpost.com/wp-dyn/nation/specials/attacked/bioterrorism/>