Bio Terror Bible

EXPOSING THE COMING BIO-TERROR PANDEMIC

BIOTERRORBIBLE.COM: The following news reports are in respect to bio-terror related technology which was released within the calendar year of 2002. Over the last 5 years, a pandemic blog, a pandemic Facebook application, multiple bio-terror sniffing phone applications, and a bio-terror first responder iPhone application have all been invented. All that is currently missing from the pandemic equation is the made for TV bio-terror attack.

Title: Early-Warning Bioterror Research Puts Pittsburgh On Bush's Itinerary
Date: February 5, 2002
Source: UCLA

Abstract: In the event of a bioterrorism attack, early detection could save thousands of lives.

That realization has set off a stampede to develop technology for early-warning systems, as well as to snare funds earmarked in the president's budget for the fight against bioterrorism. President Bush, visiting here to push for increased funding for homeland security, will inspect a system under development for 2-1/2 years at the University of Pittsburgh.

The system, which can set off a beeper if there is a surge in respiratory distress and skin rashes in dozens of hospitals in western Pennsylvania, is being installed in Utah ahead of the Winter Olympics. Olympic officials, sensitive to bioterrorism risks, already have installed monitors to check the air for potentially dangerous substances.

The nation's inability to respond quickly to biological weapons was highlighted by the anthrax attacks last fall, in which officials seemed to respond slowly to confirmed cases of infection, even as deaths were reported. Up until then, most Americans had never heard of anthrax or considered the threat of bioterrorism urgent. But reports of random individuals dying of anthrax exposure created a near hysteria over what the administration was doing to counter and prepare for further threats.

Hospitals, for the most part, can detect an increase of certain ailments. The problem is pinpointing trends early and notifying health officials. Doctors in general are expected to notify the health department when they see public-health threats. But that doesn't always happen, or it often happens belatedly. And in the case of bioterrorist attacks, quick response is critical.

Researchers at the University of Pittsburgh developed a computer-surveillance method for about 25 hospitals that represent more than half of the emergency-room visits in Allegheny County and a third of such visits in a 13-county area of western Pennsylvania.

The National Library of Medicine, the Agency for Healthcare Research and Quality, and the Centers for Disease Control and Prevention, have together provided $700,000 in direct and indirect funding to develop the system. It monitors new cases, looking for unusual increases in flu-like symptoms, respiratory illnesses, diarrhea, skin rashes, paralysis, encephalitis and hemorrhage. A graph showing the incidence of each symptom is updated constantly and can be displayed on a computer screen. The trend line

should be roughly steady. If not, an alert is automatically sent. Another click of a button can show a map with the number of incidences reported within each patient's zip code.

The system identifies patients early in the disease process and then uses "brute-force computer power to find any interesting patterns among the sick individuals that would suggest that an unusual outbreak is occurring," said Dr. Michael Wagner, who developed the program, in testimony before Congress in November. By sorting patients with certain symptoms by zip code, the system can quickly pinpoint where an attack may have occurred. It doesn't require hospitals to make a special report; rather, it mines hospital computer records for relevant cases.

Speed is critical. "For an hour lost, the number of deaths can be in the hundreds or thousands. This tight coupling between detection and response is vital to stemming the numbers of illnesses and death that can occur using slower methods of detection," according to Dr. Wagner.

The University of Pittsburgh isn't the only place such technology is being developed. New Mexico has a touch-screen system installed at seven hospitals, in which staff members can enter incidences of flu-like illnesses, hepatitis and respiratory distress. The goal is to identify and link clusters of outbreaks. Boston, under a five-year $1 million grant from the CDC, has developed an electronic system for monitoring all emergency-room and acute-care facilities and reporting real-time data to the health department. On a national level, the CDC itself has been implementing an electronic disease-surveillance system, linking the country's testing laboratories with the agency.

For such technology to be useful, hospitals need computerized records. "A lot of hospitals really aren't ready to have their data mined; they're still using paper records," said Dr. Tara O'Toole, director of the Johns Hopkins Center for Civilian Biodefense Strategies. "And the ones least ready are the ones you most want -- the big hospitals in urban areas."

Success depends on quick action after notification of an outbreak. Moreover, privacy is expected to be a huge concern if systems are allowed to transmit patient information widely. The system that Pittsburgh is developing gathers only limited data such as age, gender and zip code, but not patients' names and birth dates (UCLA, 2002).

Title: Filtering Out Bioterrorism
Date: June 20, 2002
Source: UCLA

Abstract: Invention: A Hopkins scientist has early success with his device, designed to remove anthrax spores, viruses and bacteria from the air.

The first place Richard S. Potember went in his quest to kill anthrax was to the dump.

The chemist at the Johns Hopkins University Applied Physics Laboratory in Laurel had mapped a system that could fit in an air conditioner or heater and that would destroy anthrax spores, viruses and bacteria in building vents.

Rather than buy a new air conditioner or heater, Potember rooted through the back of an air-conditioning store until he found a dirty, broken heating unit that fit his needs.

"Why build something expensive when you can find something cheap?" he said.

Early results show that Potember's invention, which eliminates foreign objects with ozone and ultraviolet light, has the potential to kill 100 percent of the viruses and bacteria that a terrorist might dump into a building vent.

The machine also kills or filters out more than 99 percent of spores that resemble anthrax in early tests.

Now Potember is preparing to move into a new lab modeled after an office building to test his machine in a real-world environment. If that research goes well, the device could be available commercially within a year and fill a gaping hole in homeland security.

Although he is not aware of the specifics of Potember's project, Bruce Clements, the associate director of the Center for the Study of Bioterrorism and Emerging Infections at St. Louis University, says technology that protects against airborne threats is "absolutely critical and needs to be developed, especially for high-risk buildings."

Potember began working on the project nearly a year ago with three objectives: He wanted the system to be simple, lethal and cheap.

"If it's supposed to protect the public, regular people have to be able to use it," he said.

A self-professed tinkerer who will strip down his old toasters for spare parts, Potember began fiddling in his lab amid piles of screws, discarded machines and charts.

"Some scientists need to be behind a desk, writing code," he said, standing in the middle of the cramped space that looks more like a pack rat's garage than a high-tech lab. "I need to be in the lab."

After several months of planning and building, Potember came up with a device that is made entirely from commercially available materials and is relatively straightforward.

Air runs through a filter before entering a chamber, where it is doused with ozone, high intensity UV light and water, a combination that has proved effective in early testing.

Although ozone is toxic, it has a relatively short life span and decays into oxygen within 30 minutes.

Potember estimates that it would cost $5,000 to assemble a machine, although that could rise or fall depending on the size of the structure it serves.

Despite his advances, Potember worked in relative anonymity until fall. But when anthrax was discovered in post offices and government buildings, the frightening incidents showed how simple it is to distribute the deadly spores. Many security experts speculated about how easy it would be for a terrorist to dump biological weapons into building vents, where they would be circulated.

Potember was inundated with calls from air-conditioning contractors and others who were aware of his work because of earlier research contacts.

The anthrax attacks "showed that [more effective] technology had to be developed," said Kevin Holland, a spokesman for the 4,000-member Air Conditioning Contractors of America.

Now officials at the Hopkins lab hope Potember will prove to be the man with the answer. Because of the attention on bioterrorism, lab managers have put his project on the fast track.

Potember will be moving his experiment into a lab with a ventilation system to see if the system works on a larger scale. The lab is also equipped with three office cubicles so Potember can see how particles are distributed.

Potember applied for a patent on his device in February, and lab officials are negotiating with a number of companies who might manufacture the devices to market commercially.

"It looks like it's a real killer [of spores and viruses] and it's not expensive, so all those things together make it pretty darn interesting," said John Bacon, a manager for technology transfer at the lab.

Although much of the push behind the machine is based on its potential to fight bioterrorism, Potember and others believe it also could play an important role in hospitals by cutting down on potentially deadly airborne diseases.

While workers put the finishing touches on Potember's lab, he is eagerly awaiting a chance to put his machine to the test. Walking through the room, he put his hand on a duct and said with a smile: "It's time to see what this thing can really do" (UCLA, 2002).