

Commentary

Scientific Speed Is the Key in Fighting Bioterror

By SCOTT P. LAYNE
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It's human nature: The United States' fear of another biological attack is fading fast. But it shouldn't.

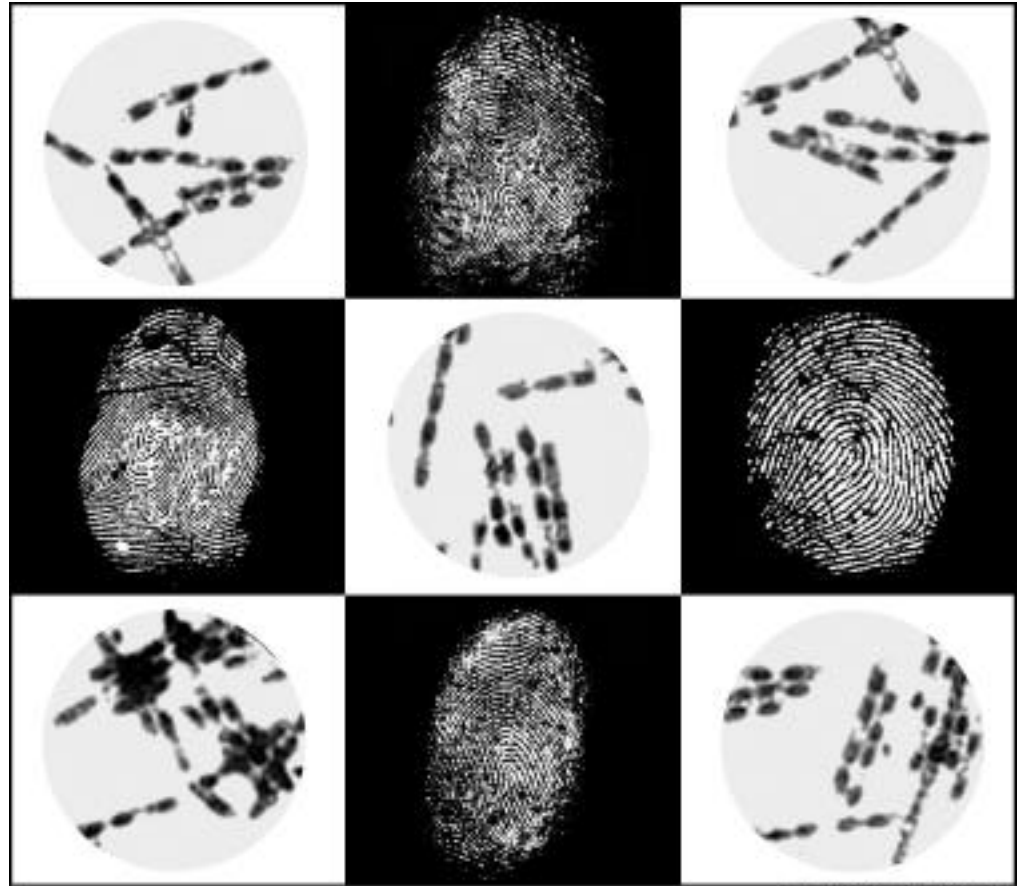
In Kandahar, U.S. forces have discovered an Al Qaeda laboratory that was to produce anthrax. And one of the Sept. 11 hijackers may have been treated in Florida for cutaneous anthrax last June. The threat of biological terrorism is real.

So far, our efforts have focused on improving the care of potential biological victims. And whether last year's perpetrator, still at large, is a lone "bio Kaczynski" or an organized "bio Bin Laden" is somewhat beside the point. The primary issue is that the United States must devise a broader plan to prevent, deter and respond to the long-term threats of biological terrorism.

How could we do this? The complete DNA sequence of anthrax is to be unveiled next week in a public database. A practical solution to the biological security problem would take advantage of such scientific knowledge and the fact that different strains of anthrax are readily identifiable with molecular fingerprinting technology.

The means exist to create a high-speed laboratory and molecular forensic database against germs like anthrax. Such a laboratory would provide for positive identification and source tracing for anthrax and many other "select germs" identified by Congress, including hantavirus and plague.

Proposed laws to strengthen homeland security call for more guards, padlocks, record-keeping and personnel checks at laboratories that handle select germs. Such measures would be expensive and time-consuming. Yet forensic security can ease the burdens of



PAUL WEIN / For The Times

America should have a special lab and a system of molecular fingerprinting.

physical security.

Here's how it might work: Researchers would be required to periodically submit samples of their labs' select germs for high-speed fingerprinting. This practice would automatically maintain a list of institutions and investigators who handled select germs (something that does not exist at present) and an up-to-date forensic database on them. If germs from a legitimate institution were used in a biological attack, we would uncover this quickly, perhaps overnight.

The 1972 Biological Weapons Convention, agreed to by 162 nations, bans the maintenance of offensive bioweapons programs but offers no provisions for verification and compliance.

The high-speed laboratory could provide a new technical foundation for sensitive and effective inspection procedures based on molecular forensics. For example, if an insecticide plant was inspected and found to contain traces of anthrax, we would take action. That's prevention.

There are about 20 rogue countries and organizations with secret offensive biological weapons programs, and the number is growing. If we had a high-speed laboratory, it would help in the covert monitoring of their capabilities and in fingerprinting their germs. And we could put such states on notice that, if their weapons were ever used against us, we would pinpoint their origins and act with guaranteed force. That's deterrence.

In the event of a biological attack, the high-speed laboratory could test thousands of samples each day. It would help public health officials to save lives, reduce confusion and speed recovery operations. That's response.

In addition, more information on bioterror germs would benefit

medical research. It could speed the development of new drugs and vaccines. Because of this, the forensic database should be made available to scientists and not completely "walled off" behind government top security.

A handful of anthrax letters has made it apparent that Americans are vulnerable to biological attacks. The first time we were relatively lucky—five deaths, a dozen or so hospitalizations, 30,000 people on prophylactic antibiotics. The next attack could kill thousands and cause havoc in our collective psyche and national economy.

The U.S. has comprehensive plans to prevent, deter and respond to potential nuclear and conventional attacks. Now we need a plan for biological attacks. Every dollar spent on a high-speed system would save much more.

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