The Killers in the Lab

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THE government's charge that Dr. Bruce Ivins, a top Army biodefense scientist, was responsible for the 2001 anthrax mailings has focused renewed attention on the important question of whether we are adequately prepared to protect against a future bioweapons attack. More than \$20 billion has been spent on biodefense research since 2001. But the genetic analysis demonstrating that the anthrax powder used in the 2001 letters was a formulation first made at the Army biodefense research center at Fort Detrick, Md., suggests that our biodefense program risks creating the very threat it is meant to fight.

Spending on biodefense research began to edge up after the Japanese cult Aum Shinrikyo's failed attempts to develop and use bioweapons in Tokyo in the 1990s. After the anthrax letters killed five and injured 17 others, some argued that it was not a question of if, but of when terrorists would again use bioweapons against Americans, and biodefense spending exploded. At the National Institutes of Health, research on bioweapons agents has increased from \$53 million in 2001 to more than \$1.6 billion in 2008. During the same time, the Department of Defense has more than doubled its investment in biodefense, to more than \$1 billion.

An unprecedented expansion of research facilities is also under way. Once these laboratories are completed, we will have 10 times as much lab space as we had in 2001 for working on the most dangerous agents -- Ebola and Marburg viruses, for example -- and 13 new regional labs for working on moderate and high-risk agents like tularemia and plague. Thousands of scientists are now working with bioweapons agents, many for the first time. More than 14,000 scientists have been approved to work with so-called select agents like anthrax that usually pose little threat to public health unless they are used as bioweapons.

Experienced anthrax researchers now speak of a community that has grown so large, so rapidly -more than 7,200 researchers are now approved to work with this deadly agent -- they no longer know everyone else in the field.

Since the boom began, bioweapons agents have been mishandled in a number of incidents. In 2004, live anthrax was accidentally shipped to a children's hospital research lab in Oakland, Calif., and three lab researchers at Boston University developed tularemia after being exposed to

the bacteria that causes it. In 2006, researchers at Texas A&M were exposed to brucellosis and Q fever. As an investigator for the Government Accountability Office reported to Congress last fall, the greater number of researchers handling bioweapons agents has increased the risk of such accidents.

Even more worrying are the security risks. The United States' own biodefense program has now been tied directly to the deadliest biological attack ever in the country. That alone demonstrates that we need a rigorous, fact-driven assessment of bioweapons threats, both from other counties and from terrorists, domestic and foreign. The first step is to ensure that we have a full public examination of all the government's evidence in the 2001 anthrax mailings, so that we can find out what went wrong and how to keep it from happening again.

Then we must re-examine our overall biodefense research strategy, set clear priorities and strengthen the safety, security and oversight of laboratories working with dangerous agents. Rather than add more laboratories and create more research projects, we need to focus on key efforts in fewer facilities. This should include pursuing diagnostic techniques, vaccines and treatments that can be applied to more than one biological agent. Most of this research does not require working with actual deadly agents until the very final stages.

Our excess biodefense research capacity could then be used for research on everyday public health threats like tuberculosis and antibiotic-resistant bacteria, many of which have not received sufficient attention since 9/11.

To defend against bioweapons, we need not more but better research efforts. The probability that biological weapons will be used against Americans is low, but the consequences of such an attack could be devastating. We cannot meet the threat safely or effectively with a strategy that puts bioweapons agents in more and more people's hands.

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