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BIOTERRORISM AND US POLICY RESPONSES
ASSESSING THE THREAT OF MASS CASUALTY

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Primum non nocere. First, do no harm. This ancient maxim has guided doctors since the time of the Greeks. Bioterrorism presents a new challenge to international security, and to the medical and scientific communities. The prospect that germs could be disseminated and cause mass casualties is truly horrifying. To address this new threat, the Bush administration has devoted billions of dollars to research bioterrorism and biodefense. Prudent and thoughtful American leadership in concert with its allies can substantially decrease the threat posed by bioterrorism. Unfortunately, it appears that redoubled US efforts are doing more harm than good.

BIOTERRORISM: THE WHO, WHAT, AND HOW

A quick overview of the threat of bioterrorism is beeded. First, who matters? Both state and non-state actors must figure prominently in any discussion. The United States, Russia, Syria, Iran, Egypt, China, North Korea, Taiwan, India, South Korea, and Israel have the capability to produce biological weapons.[1] Al Qaeda is the non-state actor of greatest concern, as it seems to have the funding, logistical capabilities, and motivation to pursue bioterrorism.[2]

Second, what matters? At present, policymakers are most concerned about mass casualty bioterrorist attacks, since attacks on food or water supplies are conceivable. Focusing solely on mass casualty attacks, six biological agents (known as Category A agents) are of greatest concern: Anthrax, Smallpox, Plague, Botulism, Tularemia, and viral hemorrhagic fevers like Ebola. Of these, Smallpox, Plague, and hemorrhagic fevers can be spread from person to person. Two other categories of biological agents exist—categories B and C—but for several reasons they are of less concern.[3]

Third, how would terrorists execute a bioterrorist attack? Terrorists need to acquire a strain of one of the Category A agents. Next, they need to grow the organism and store it. Finally, the agent has to be transported to the target (a metropolis most likely) and then dispersed.

[1] Milton Leitenberg. *Assessing the Biological Weapons and Biological Terrorism Threat.* Strategic Studies Institute, U.S. Army War College, Carlisle, PA. December 2005.

[2] Gary Ackerman and Moran, Kevin. "Bioterrorism and threat Assessment: Report Prepared for the Weapons of Mass Destruction Commission." Center for Nonproliferation Studies, 2006. p. 8.

[3] "Bioterrorism Agents/Diseases," The Centers for Disease Control and Prevention. www.bt.cdc.gov/agent/agentlist-category.asp.

Each of these steps presents significant hurdles for terrorists. Acquiring a strain of a Category A agent which is significantly robust for storage, reproduction, transport, and dispersal, and which has the virulence to infect large numbers to inflict mass casualties is very difficult. Likewise, growing, storing, and transporting biological agents requires substantial financial, logistical, and technological resources, as well as highly trained scientists and technicians. Most of all, according to William Patrick of the US Army Biological Warfare Laboratories, dissemination is the largest hurdle for bioterrorism.[4] Indeed, after devoting billions of dollars and years of research, dispersal is still a challenge before US and Russian biological weapons scientists.

ASSESSING THE BIOTERRORISM THREAT

It is unlikely, at this stage, that terrorists will have the means, sophistication, logistics, or motivation to carry out a bioterrorist attack. Preparing biological agents for an attack is very hard and costly. Despite spending millions of dollars, and several years of work, the Aum Shinrikyo cult was unable to develop an effective biological weapon. Likewise, the 2001 Anthrax attacks in the United States involved very virulent Anthrax spores, but only five persons were killed. More sophisticated spores and dispersal methods would be required for a mass causalty attack. As Professor Milton Leitenberg notes, apart from the Rajneeshee cult attack in 1984, which sickened many, but killed none, "there is apparently no other 'terrorist' group that is known to have successfully cultured any pathogen."[5]

Moreover, a lingering question is, why would terrorists use bioweapons in an attack? Executing a biological weapon attack is difficult and expensive, and does not suit the *modus operandi* of the sole group with the means to pursue bioterrorism, Al Qaeda. At present, Al Qaeda favors simple attacks that generate great fear. 9/11 was executed with box cutters; the Madrid train attacks with dynamite purchased from petty criminals[6]; the London 7/7 bombings utilized simple explosives that could be fashioned with easily available materials and little expertise[7]; and the terrorists in the recent plot to bomb flights from London to the US intended to use nail polish remover and hair bleach.[8] Al Qaeda favors creating great fear at little cost. Why would it stray from this effective formula to bioterrorism which is expensive and of questionable reliability?[9]

The unavoidable conclusion is that only a nation-state could conduct a bioweapon attack. However, a taboo against using biological weapons exists—not since World War II has one state attacked another with biological weapons. Like non-state actors, states seem to prefer the lower costs and

[4] Kimberly Vetter. "LSU conference spells out perils of terrorism using bioweapons." *The Advocate*. August 17, 2006. www.2theadvocate.com/news/3588971.html

[5] Leitenberg, Ibid.

[6] "Madrid bomb cell 'neutralised." BBC News/Europe. April 14, 2006. http://news.bbc.co.uk/2/low/europe/3626235.stm

[7] "7 July Bombings," BBC News. News.bbc.co.uk/2/shared/spl/hi/uk/05/London_blasts/investigation/html/introduction.stm

[8] Renee Montagne and Rob Gifford, "Britain Disrupts Plan to Bomb U.K.-U.S. Flights." National Public Radio. www.npr.org/templates/story/story.php?storyId=5632633

[9] Ajey Lele in *Bio-terrorism and Bio-Defence*. PR Chari and Suba Chandran (New Delhi: Manohar Press, 2005)

high reliability of conventional weapons or even chemical weapons.

At present, the only plausible scenario for bioterrorism is if one of the eleven states listed above were to provide terrorists with bioweapon know-how, equipment, and biological agents. An important caveat is that while eleven states *may* have bioweapon capabilities, it is likely that only a few—the US and Russia for sure—actually possess these capabilities. Moreover, only Syria, Iran, Egypt, and North Korea would seem to have the motivation to assist a terrorist organization to conduct a bioterror attack; however, open source intelligence suggests that the bioweapon programs of these states are fledgling at best.[10] One must also ask why a state, which has spent many years and resources developing a biological weapon, should provide bioweapons to a group which it cannot control.

Accordingly, it seems the threat of bioterrorism in the near future is low. Neither terrorists nor states seem likely to use bioweapons for attack. Therefore, though possible, it does not seem probable that a mass casualty bioterrorist attack will occur over the next five to ten years.

THE POLICY CHALLENGE OF BIOTERRORISM

This confluence of circumstances presents policymakers with a unique challenge, one filled with both promise and peril. Very dangerous weapons exist, and a small group of states—like the US, Russia, China, and, perhaps, India, South Korea, and Israel—possess these weapons. The science surrounding these weapons is advancing at great speed.[11] Driven by scientific advances, bioweapons will become increasingly more lethal and dangerous. Access to the knowledge, equipment, and materials for producing bioweapons is rapidly increasing as well.

It is unlikely that states will use bioweapons against other states. It is equally unlikely that states will use a terrorist organization as a conduit to attack another state. Only terrorist organizations, operating alone within a weak or failed state, would develop bioweapons for an attack against a state. However, terrorist organizations like Al Qaeda presently lack the expertise, logistics, and equipment for a bioterror attack. In the next five years, it is unlikely that terrorists will acquire such capabilities.

Beyond that time frame, what stands between terrorists and potent bioweapons are the policies of individual states and multilateral bioweapon non-proliferation regimes. If the policies of states and the relevant international regimes are robust, terrorists will be unable to mount bioterror attacks. If, on the other hand, these policies and regimes are feeble, or even counterproductive, the threat of bioterrorism will be real and grave.

Eliminating the threat of bioterrorism requires a focus on three interrelated objectives. First, prevent an increase in the number of states with bioweapons programs. Second, verify

[10] Leitenberg, p. 14.

[11] Joby Warrick, "Custom-Built Pathogens Raise Bioterror Fears," *The Washington Post*. July 30, 2006. www.washingtonpost.com/wp-dyn/content/article/2006/07/30/AR2006073000580.html

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that all biological research is peaceful. Third, eliminate opportunities for terrorists to acquire bioweapon capabilities.

The present circumstances provide great reason for optimism. Unlike nuclear terrorism, there is no imminent threat of biological terrorism. Thoughtful and effective strategies implemented today can eliminate this threat. How often is this case true in international security? How often can strategists say, this threat could be dangerous in a decade, but is not dangerous now, and can be prevented forever if the right steps are taken? One would think that the world, and the US in particular, would seize this opportunity to prevent this future threat; unfortunately, however, America's biodefense policies since 9/11 are hurting rather than helping efforts to minimize bioterrorism risks.

EVALUATING AMERICAN POLICY RESPONSES

According to extensive reporting by Joby Warrick of the Washington Post, in the wake of the 9/11 and 2001 anthrax mail attacks, the Bush administration began to substantially expand the US government's ability to experiment with the tactics that BW terrorists might use in a bioterror attack.[12] Though several agencies are involved in the research, the National Biodefense Analysis and Countermeasures Center (NBACC) at Fort Detrick, Maryland is the locus of US efforts to assess such risks. Significantly, CIA advisors are assisting these counterterrorism efforts.

NBACC attempts to determine how a future bioterrorism attack might occur. Its research includes experiments involving weaponized microbes, genetically engineered biological agents, simulated bioattacks, and aerosol dispersal equipment and techniques. Significantly, all the research—indeed, the entire NBACC complex—is shrouded in unparalleled secrecy, classified as a Sensitive Compartmented Information Facility. NBACC is so secret that a NBACC bioterrorism threat assessment has been provided to only a small cadre of White House officials and advisors, and not to policymakers on a larger scale.

NBACC might be considered a well-intentioned effort by the American government to combat bioterrorism. However, it is worth remembering that the road to hell is paved with good intentions. Close examination of America's biodefense efforts reveals that the US's biodefense policy post-9/11 is making the world more dangerous, not safer.

Keeping in mind the three policy objectives which must guide US policy (no new bioweapon programs, verify that biological research is peaceful, and prevent terrorists from obtaining bioweapon capabilities) why is the current American approach so dangerous? Put starkly, this approach provides other nations with incentives to develop bioweapons and the opportunity to do so without verification, increasing the probability that terrorists will acquire these capabilities.

Despite the Bush administration's disdain for international law, the development of biological weapons is principally addressed by the Biological Weapons Convention (BWC.) Its operative principles are that states will never "develop, produce, stockpile or

[12] Joby Warrick, "The Secretive Fight Against Bioterror," *The Washington Post*, July 30, 2006. Page A01.

otherwise acquire or retain: 1. Microbial or other biological agents, or toxins whatever their origin or method of production, of types and in quantities that have no justification for prophylactic, protective or other peaceful purposes; 2. Weapons, equipment or means of delivery designed to use such agents or toxins for hostile purposes or in armed conflict."

From what is publicly known, it is very possible that the US is violating the BWC in two ways, first by developing biological agents in quantities that have no justification for peaceful purposes, and, second, by developing weapons. In fact, Penrose Albright, who formerly supervised NBACC for the Department of Homeland Security stated, "De facto, we are going to make biowarfare pathogens at NBACC in order to study them."[13]

Even if the highly controversial reading of the BWC used by the administration—which claims that NBACC research is permissible because it is defensive—is applied, how will anyone know if the US is in compliance with the BWC? Reasonably, other nations are suspicious of American intentions, not in the least because of the CIA's involvement with NBACC.

If people in Tehran, Pyongyang, Damascus, New Delhi, Beijing, or Moscow believe the US is creating new, threatening bioweapons, these nations would have significant incentives to develop their own bioweapons. And how can the US object if others violate the BWC if America itself is in violation? More bioweapon research around the globe increases the probability that dangerous knowledge will one day find its way—through theft or illicit transfer—into dangerous hands.

There is another reason why the US should limit its biodefense research to experiments with only peaceful purposes. The most deadly bioterrorism attack of the past fifty years—the 2001 anthrax mail attacks—were, mostly likely, executed by an employee of the American biodefense establishment. It is worth noting that the perpetrator of the anthrax mail attack has not been caught. If the US develops increasingly deadly bioweapons, it is making it easier for a disgruntled employee in the lab to acquire biological agents for a mass casualty attack. In short, America's biodefense efforts are, ironically, making bioterrorism more likely.

THREE POLICY RECOMMENDATIONS

America's biodefense policies are headed in the wrong direction, making Americans and the citizens of the world less safe. It is time for a significant course correction. Implementing these three recommendations would be right steps in the right direction. First, America must halt its violations of the BWC. The danger from bioweapons is grave enough, and America does not have to provide additional incentives to terrorists and rogue states to develop them.

Second, the US must take the lead, and champion an intrusive, enforceable verification regime for the BWC. A corollary of this recommendation is that the Bush administration must reverse its current policy, and allow

[13] Warrick, p. 2.

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public scrutiny of America's biodefense efforts. It is high time American policymakers remember that terrorists will acquire the capability to launch a bioterrorist attack from another nation-state. Consequently, it is in America's interest to know what other nations are developing, and to assist them in securing their labs.

The scientists in America's biodefense program object, as Bernard Courtney, NBACC's scientific director has done, stating, "We don't need to be showing perpetrators the holes in our defense."[14] Warrick's objection reveals that NBACC has failed to understand the bioterrorism threat. It does not come from terrorists, who do not have the capabilities to exploit America's vulnerabilities and who, by the way, already know the holes in the US defense.

Instead, Warrick does not want other nations to know about American research. But what is the harm in letting them know of America's biodefense research? There is no threat that another country will attack the US with bioweapons. In truth, the costs of throwing open America's biodefense facilities are far outweighed by the benefits that verification will provide.

Warrick's objection leads to a third important recommendation. Policymakers, not scientists, need to direct and control America's biodefense policies. The former supervisor of NBACC, Parney Albright, responded to objections about NBACC by asking, "How can I go to the people of [America] and say, 'I can't do this important research because some arms-control advocate told me I can't?'" The answer to Ms. Albright's question is simple. America cannot and should not do this research if it puts its own citizens at risk. In the same way that civilians control the military because generals can only focus on the next battle, civilian leaders must control biodefense policy because scientists cannot see the big picture, but only the next experiment.

Bioterrorism presents a grave, but not imminent threat to America and the world. American leadership is needed to make sure terrorists never acquire the ability to execute a mass casualty bioattack. Unfortunately, America's biodefense strategies are currently increasing the risks of bioterrorism. In the years ahead, those American leaders responsible for protecting the US against bioterrorism should heed the maxim which has served so many doctors so well for so long: *Primum non nocere*.

[14] Warrick, p. 1.