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Subcommittee on Emergency Preparedness, Response, and Communications
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Hearing on Bioterrorism: Assessing the Threat
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Chairman Brooks, Ranking Member Payne, distinguished members of this Subcommittee, thank you for inviting me to speak on the threat posed by bioterrorism to the American homeland and elsewhere. I am grateful as well to the full Committee's Chairman McCaul and Ranking Member Thompson for their leadership on homeland security. In 2012 and again last year, I was privileged to address the Subcommittee on Counterterrorism and Intelligence during which I referenced a 2012 paper titled *WMD Terrorism*. The paper was produced by the Aspen Institute's Homeland Security WMD Working Group, of which I was a member. One of the paper's conclusions, still valid, is that bioterrorism remains a continuing and serious threat.

Pathogenic microorganisms and toxins such as anthrax bacteria or botulinum toxin are relatively easy to acquire and grow. Disseminating anthrax can be as simple as sending dried spores through the U.S. mail, which is exactly what happened in the weeks following the 9/11 attacks. About half-a-dozen anthrax letters infected at least 22 people, five of whom died. Spores were later found to have leaked from the letters during mail processing and delivery. As a result, scores of buildings including U.S. House and Senate office buildings had become contaminated and were shut down—some for several years. More than 30,000 people at risk of exposure received prophylactic antibiotic treatment.

The bio-threat continues. In the wake of last April's Boston Marathon bombings, ricin-laced letters were mailed to several public officials, including one to President Obama. Just last week, Israel's Supreme Court upheld an indictment against a detained Palestinian operative for Al Qaeda, who was charged with developing biological weapons under direction of the organization's leader, Ayman al-Zawahiri.

Since bacteria and viruses reproduce and multiply, unlike any other weapon they can make an environment more dangerous with the passage of time. If resistant to medical countermeasures they could kill many thousands. Yet much can be done to minimize this risk. Since the anthrax attacks in 2001, the U.S. government has spent more than \$60 billion on biosecurity programs. They range from enhancing methods of disease detection to developing more effective antibiotics, vaccines, and other countermeasures. Despite progress in the nation's preparedness and response capabilities, deficiencies remain. I cite three here that I think warrant particular attention.

The first is the need for expanded education and training throughout the medical community.** The level of preparedness for a biological assault varies from one location

to another. Where drills are conducted frequently and in realistic settings, optimal outcomes are more likely. The effective medical response at the Boston bombings was credited not only to the availability of excellent personnel and hospitals but to the high quality of pre-event drills. Those exercises included mock biological attacks.

In many locations budget pressures and human inertia have resulted in cutbacks in the frequency and quality of exercises. Failure to maintain proper levels of education and training diminishes the likelihood of a successful medical outcome at an actual incident.

A second area of concern relates to the special needs of children during a biological attack. On its website, the American Academy of Pediatrics notes that children are particularly vulnerable to biological agents because of their more rapid respiratory rate, greater skin permeability, and lower fluid reserve than that of adults. Yet medical response plans typically are adult specific and do not include allowances for these differences.

Children comprise 23 percent of the population. Making a diagnosis in this group can be complicated especially among the very young who are unable to describe their symptoms or discuss how they might have been exposed.

Compounding this concern, a 2013 article cited studies showing that most physicians feel unprepared to address a bioterrorism attack. The studies included a survey of Michigan pediatricians, 85 percent of whom had never participated in a bioterrorism training exercise. The authors of the survey concluded that these pediatricians were “overwhelmingly underprepared to deal with an event.”***

The third issue that deserves particular attention is the need for legislation that directly addresses the threat of biological and other weapons of mass destruction. I understand that Representatives Pascrell and King are reintroducing the WMD Preparedness and Response Act, versions of which they have sponsored in the past. Although previous incarnations of the bill have drawn unanimous endorsement from the House Committee on Homeland Security Committee, it is not yet law.

In 2008 the bipartisan WMD Commission called for measures now part of the bill including the establishment of a national strategy to counter the threat of weapons of mass destruction. Regarding the bio-threat, the act would heighten laboratory security, help create uniform standards for handling dangerous biological agents, and support appointment of a special assistant to the President to coordinate biodefense policy. The proponents of this bill deserve high praise, and I wish them every success toward its enactment.

In concluding I note that it is no more possible to completely eliminate bioterrorism as a threat than to completely eliminate infectious disease. Still, enhancing security measures reduces the portals of opportunity for a would-be perpetrator. Further, making biological terrorism more difficult to actuate is bound to discourage individuals and groups from

even trying. Diminishing the threat is surely a worthy goal shared by people of good will everywhere.

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*Unless otherwise indicated the views expressed here are my own and not representative of any institution.

**A course on Terror Medicine is being taught this semester at Rutgers New Jersey Medical School, to my knowledge the first such course at an American medical school.

***Following are links to references about preparedness and the vulnerability of children to a biological attack:

http://journals.lww.com/smajournalonline/Fulltext/2013/01000/Preparedness_of_Rural_Physicians_for_Bioterrorist.7.aspx

<http://www.aap.org/en-us/advocacy-and-policy/aap-health-initiatives/Children-and-Disasters/Pages/Biological-Terrorism-and-Agents.aspx>

<http://globalbiodefense.com/2013/02/05/bioterrorism-preparedness-the-forgotten-patient-population/#sthash.X9whD34M.dpuf>

<http://www.ncbi.nlm.nih.gov/pubmed/19194343>