The Threat of Biological Weapons—Prophylaxis and Mitigation

Call for Papers

Recent advances in molecular biology have important implications for human welfare. On the one hand, they help man to a deeper understanding of his own evolution and functioning as the most complex of life forms on earth.... On the other hand, molecular biology might be exploited for military purposes and result in a biological weapons race whose aim could well become the most efficient means for removing man from the planet.... My gravest concern is that similar scientific breakthroughs of a rather predictable kind will be made and their potential military significance exploited, so as to result in a transformation of current doctrine about unreliable biological weapons.[1]

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These statements about the threats of biological weapons (BW) were presented a quarter of a century ago during testimony before the United Nations Committee on Disarmament.

See also p. 349.

Two years after this testimony, the committee negotiated an international treaty, the Biological and Toxin Weapons Convention,[2] to supplement the Geneva Protocol of 1925, which was a promise against first use. The 1972 convention prohibits the development, production, and stockpiling of biological and toxin weapons. Twenty-five years ago, no na-

tion appeared to have staked its security to any significant degree on biological weapons armament,[1,2] an enabling factor in the initiative taken by leading powers to renounce BW. Today, the treaty notwithstanding, a number of nations are alleged to have BW programs, including Iran, Iraq, Israel, Libya, Syria, China, North Korea, Taiwan, and Russia.[3] These programs vary in scale. The vagueness of the language in the 1972 treaty and the necessary reliance on sensitive intelligence make it difficult to render irrefragable proof of a formal violation of the terms of the treaty. Under heavy diplomatic and military pressure, Russia and Iraq have admitted recent and substantial transgressions.

The main effect of the treaty has been the declining legitimacy of ongoing BW offensive programs among major powers, which has driven these programs underground in Russia and in some smaller states on the fringes of commitment to international law. Of particular concern is the sponsorship of terrorist activity on the part of many of those states.

Skeptics should answer to the terrorist attacks with sarin at Matsumoto, Japan, and then later in Tokyo's subway in March 1995.[4] The Aum Shinrikyo terrorists had recruited 40 000 cult members, including scientists, physicians, and engineers. Unbeknownst to any Western intelligence agency,[5] the group had acquired both anthrax and botulism toxins. Cult members also had visited Zaire during the Ebola outbreak, had built dedicated laboratories as early as 1990, and had purchased a helicopter equipped with agricultural spraying devices originally designed for crop dusting.

Closer to home, reports have included incidents of extremists obtaining bubonic plague culture in Ohio,[6,7] ricin in Minnesota, Alaska, and London.[7,8] In Oregon, a member of the Baghwan cult caused a *Salmonella* outbreak after poisoning the salad bars of local restaurants on the eve of an election in an attempt to manipulate the election results.[9]

During a June 1996 meeting, "Strategic Implications of Global Microbial Threats," funded by the US Army War College and the Robert R. McCormick Tribune Foundation, scientists, military strategists, and government officials took note of emerging infection outbreaks, whether of natural or malicious origin, as a neglected but urgent issue for national security. Many reports,[5,10,11] including those sponsored by the former Office of Technology Assessment,[3] have shown that for unprotected civilian targets, biological attacks could engender casualties on the same scale as nuclear weapons, albeit less reliably and with minimal structural damage. These conclusions have not been refuted in any serious study. Unlike nuclear trauma, the outcome of exposure to biological agents can be profoundly altered by medical interventions, so preparedness is of the essence.

Since 1983, *JAMA* has published an annual theme issue commemorating Hiroshima to encourage readers to address the realities of nuclear war and the health effects of nuclear radiation. In recent years, the annual issue has expanded its scope to address all issues relating to health and human rights during war, conflicts, and disasters. Articles in this issue of THE JOURNAL reflect the recent and welcome shift in fascination away from cold war nuclear threats toward other means of threat to personal and national security: state-sponsored and individual-orchestrated terrorism, torture, and conflicts resulting in massive numbers of victims, injured survivors, and refugees with preventable illnesses and diseases.

Medical and scientific professionals have already played a major role in the progress that civilized nations have made to date toward abolition of biological weapons[11,12] This time next year, we will devote an issue of *JAMA* to commemorate the 25th anniversary of the 1972 Biological and Toxin Weapons Convention. We invite papers focusing on all aspects of the BW threat and the measures needed to control their use and mitigate the consequences: historical overviews; research on new, reemerging, and genetically altered microbes that could be used covertly to create widespread disease outbreaks among citizens, targeted vulnerable populations, agricultural crops, and livestock; analyses of means of prevention, detection, and surveillance; reports on the development of antidotes and vaccines; guidelines for management of those exposed to a biological attack; evaluations of civil emergency preparedness and military defense; reports on biological weapons proliferation; recommendations for enhancing enforcement of the 1972 convention; and commentaries on the political, social, economic, and ethical consequences of continued professional and public complacency. In short, we seek information on how the global community can help assure our common security from this threat to civil life and information that physicians, other health professionals, and local health officials might need for dire contingencies.

The date for the BW theme issue is August 6, 1997. Papers received by February 1, 1997, will have the greatest chance for acceptance. All manuscripts will undergo our usual rigorous peer review before decisions regarding publication will be made. Please follow THE JOURNAL's Instructions for Authors (*JAMA*. 1996;276:19-26 or on the *JAMA* home page at http://ama-assn.org) for information about preparing and submitting manuscripts. Queries can be sent to our attention at *JAMA*, 515 N State St, Chicago, IL 60610; fax: (312) 464-5824 (e-mail: annette_flanagin@ama-assn.org).

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