
Preface

The international community's efforts to combat the spread of nuclear, biological, and chemical weapons have not kept up with the pace of proliferation, and urgently require improvement. This was a major finding of the 2005 WMD Commission report and it was a key conclusion I reached while serving as the counterproliferation policy director for the U.S. Secretary of Defense from 1998 through 2000.¹ Probably the hardest challenge we faced in the Pentagon was (and probably still is) to understand, monitor, and combat the global diffusion of expertise and materials used to develop and deliver biological warfare (BW) agents. This is because biological weapons are cheaper and easier to make than nuclear weapons—and they could be more deadly. Only a handful of scientists are needed to isolate and disseminate harmful pathogens. Not much money is required, nor are specialized facilities and equipment. Almost everything needed to make and employ BW agents—from skilled people and source materials to production and dissemination technologies—is available in commercial and academic settings. Further, the manipulation of bacteria, viruses, or toxins to cause harm emits few observable signs, making it almost impossible to give policymakers timely warning that a BW development program of a given country or non-state actor is nearing a critical threshold or, more ominously, that BW agents are being readied for use against unprotected populations.

Critics argue that heightened fears about the acute vulnerability of the public and armed forces to the malicious use of pathogens have led the U.S. government to take an alarmist view of the BW proliferation threat.² The exaggerated assessment of Iraq's capacity to conduct biological warfare in the early 2000s is cited as a case in point. But just because many governments got Iraq wrong

does not mean that BW proliferation is waning, that the risk of biological warfare is any smaller, or that the steps required to counter this threat have become more manageable. The crucial lesson to be drawn from the Iraq WMD experience—one that the WMD Commission highlighted—is that the enormous dangers and complexities of the BW problem need to be approached with a new sense of urgency and with new strategies for information collection and analysis—not all of which require access to governmental sources or data.

BW agents have a number of attractive qualities from the perspective of their use, one of which is the wide spectrum of effects they can produce on humans—such as debilitating a large number of people or causing mass deaths—animals, and destroying agriculture without the likelihood of detection. Unlike nuclear or possibly chemical attacks, which can be traced back to a particular source, the conspirators behind a biological release have reason to believe they would not be attributed as perpetrators of the attack due to lack of identifying signatures. Moreover, because the effects of BW attacks often take days to manifest, and are potentially similar to the effects of naturally occurring diseases, it might not be clear if a BW agent has deliberately been released.

Because of these conditions, the history of biological warfare is replete with uncertainty, controversy, and innuendo. For example, only in 2002 did a district court in Japan formally acknowledge that Chinese prisoners and citizens had deliberately been infected with bubonic plague by Imperial Japan's notorious Unit 731. Controversy still exists on many other alleged BW outbreaks, including "Yellow Rain" in Southeast Asia and Afghanistan and the spread of Foot and Mouth Disease in Taiwan. In other known incidents of biological warfare or terrorism, the perpetrators remain unknown, including the "Amerithrax" case involving anthrax-filled letters in the United States. Biodefense planners thus face significant challenges in determining whether a deliberate BW attack has occurred, characterizing the agents involved, and identifying the perpetrators. This book is intended to help them.

The Naval Postgraduate School's Center for Contemporary Conflict and King's College London brought together academic and policy experts in a collaborative research project to highlight the difficulties involved in knowing when states or non-state actors have intentionally released pathogens in the past and to assess how governments fared in identifying and countering the agents used, managing the information campaign of attribution, and respond-

ing to allegations of attacks. The result of that effort—this book—features a broad collection of balanced, factual studies of confirmed, suspected, and fabricated BW agent releases, as well as an assessment of lessons that can be drawn and implemented by current-day policymakers to manage the problems of BW identification, characterization, and attribution.

This book could not have been produced without the valuable contribution of numerous organizations and individuals. David Hamon and Kerry Kartchner were instrumental in providing intellectual guidance and arranging financial support for the research effort from the Advanced Systems and Concepts Office of the U.S. Defense Threat Reduction Agency. Theo Farrell of King's College London organized a highly productive research conference in London. Randy Murch, Jim George, Kay Mereish, Paula DeSutter, David Omand, and Michael Goodman offered many valuable insights. And Elizabeth Stone of the Center for Contemporary Conflict provided all of the research support required for the project's success. The authors, of course, did the heavy lifting: any value this book might provide the communities seized with this problem is a result of their thoughtful, professional, and collegial contributions. Finally, my co-editors, Anne Clunan and Susan Martin, assumed the responsibility for editing the chapters of this volume in a highly attentive and efficient manner. Our aim was to make this book read as a coherent whole to a wide variety of audiences. If it does, it is entirely because of them.

Peter R. Lavoy

MacLean, VA, October 18, 2007

Notes

1. The Commission on the Intelligence Capabilities of the United States Regarding Weapons of Mass Destruction, *Report to the President of the United States*, March 31, 2005, <http://www.wmd.gov/about.html>.
2. Milton Leitenberg, *Assessing the Biological Weapons and Terrorism Threat*, Strategic Studies Institute monograph, U.S. Army War College, December 2005.