

Organizing to Counter Bioterrorism

*One of the biggest challenges may be forging
working partnerships among groups and professionals
who interact only rarely, if at all.*

Biological weapons have often been grouped with other nontraditional but unrelated security threats. In the 1950s, biological weapons were commonly grouped with chemical and radiological threats (CBR) or nuclear and chemical threats (NBC).⁷⁸ More recently, biological weapons have been categorized as weapons of mass destruction (WMD), along with nuclear, chemical, and radiological weapons (dirty bombs).⁷⁹ Although lumping together these very different methods of attack may be useful in some ways for example, they are all threats to civilian populations doing so can also be misleading because preventing and/or responding to these dissimilar threats requires vastly different approaches, expertise, and organization.²⁸ Yet, even

as the US government was expanding its efforts in bioterrorism preparedness after 2001, the distinct challenges and requirements of bioterrorism were not generally understood.⁸⁰ Without that understanding, US government preparedness would falter.

In contrast to “lights and sirens” events, an act of bioterrorism could take days to declare itself, remaining undetected until the sick began to present in doctors’ offices and emergency rooms. The scale of an anthrax attack, for example, could range from focused and limited, as happened with the letters used in 2001, to a wide area dispersal, as would happen with an aerosol release.¹¹ The aftermath could unfold for an unpredictable number of days or weeks, with the number of casualties rising over time. Victims could be geographically dispersed, spreading over an area of unpredictable boundaries. Attributing a bioterrorism attack could be difficult: It took years to attribute both the 2001 anthrax attack⁸¹ and the 1984 salmonella salad bar attack in Oregon.⁸² Preparedness requires attention to numerous factors and variables, including the unique characteristics of the many biological agents that could be used as weapons.⁸³

Complicating preparedness further is that it requires coordination across many government agencies and the collaborative effort of experts from many different professions. As a result, one of the biggest challenges may be that of forging and maintaining numerous working partnerships among groups and professionals who may interact only rarely, if at all.^{28,84} For biopreparedness and response, medical and public health professionals have to coordinate; homeland security, the FBI, and local law enforcement have to cooperate; and public and private entities have to collaborate—all have expertise relevant to biopreparedness. Longstanding tensions have to be overcome, such as

those between security and law enforcement and between healthcare and public health. A good example: Disease outbreak investigation, an important function of public health, cannot be carried out without information about where infected people have been and who they have been with. People may not want to provide information if doing so could reveal criminal activity or illegal immigration status to law enforcement officials, even if they are interested only in identifying the source of a biological attack. Many such concerns have to be addressed.

This chapter describes key Sloan Foundation funded projects that fostered new thinking about and organizational approaches to bioterrorism

PREPARING FOR BIOTERRORISM IS
AN ONGOING PROCESS THAT
REQUIRES SUSTAINED ATTENTION
AND FUNDING, CONTINUOUS WORK,
AND PERSISTENT MONITORING.

preparedness. One was a 2003 workshop that gathered experts and leaders from various parts of the US government and academia and provided them the time and space needed to think through the challenges of biopreparedness and then

identify and assign essential roles and responsibilities. Sloan also funded two important international scenario exercises, *Atlantic Storm* and *Black ICE*, that helped world leaders understand the ways in which large scale bioterrorism differs from other, more familiar types of terrorism and crises. In those exercises, leaders had to build new partnerships among nations and had to facilitate cooperation between security and health agencies to stem the dangerous disease outbreaks threatening their countries. The groundbreaking research on Aum Shinrikyo that Sloan funded yielded important new information about how and why a terrorist organization would turn to bioterrorism, which, in turn, informed counterterrorism. Finally, Sloan

provided seed money for the WMD Center, whose members examined the progress of US bioterrorism preparedness from 2001 to 2011 and issued a report card that called the attention of Congress and the national media to areas where more effort and greater investment were needed.

All of these efforts, along with the work of many others in the field, helped advance bioterrorism preparedness in the decade after the anthrax letter attacks in 2001. All demonstrate that preparing for bioterrorism is an ongoing process that requires sustained attention and funding, continuous work, and persistent monitoring to ensure that improvements are made.



Coordinating Federal Government Responsibility for Bioterrorism

The Wye River Workshop

Responding to a biological attack is not the job of just one government agency. Instead, at the federal level, many agencies and departments may have a role in response: CDC, DHS, DOD, EPA, FDA, HHS, NIH, and the Departments of Agriculture (USDA), Commerce (DOC), Justice (DOJ), and State (DOS). Not surprisingly, their responsibilities overlap.^{47,85}

The organizational challenges in coordinating bioterrorism preparedness across all of these government entities are formidable, as was noted by Richard Danzig, former secretary of the Navy and a scholar on civilian biodefense, in his 2003 report *Catastrophic Bioterrorism What Is To Be Done?* In that report, Danzig described US government agencies as operating “now like independent fingers, each poking at a problem, while the hand is unable to grasp the task in totality.”⁸⁶ David Franz, former commander of the US Army Medical Research Institute of Infectious Diseases (USAMRIID), was concerned as well. Both were well aware of the complexities of bioterrorism preparedness and the ways it differs from preparedness for a natural disease outbreak or other types of terrorism. To describe one of the essential differences, Danzig articulated the idea of “reload.”

When we talk about terrorists’ acquiring a nuclear weapon, we’re talking about just that they’re acquiring a weapon. . . . With biological weapons, we’re talking about acquiring the ability to *produce* weapons. So if you acquire the ability to produce 100 grams of anthrax, you can keep doing that. You really have to think about biology as potentially the subject of a *campaign*, where somebody keeps attacking, rather than a one shot incident.⁸

In other words, if one bioweapon attack is detected, it should be assumed that others either have occurred or may occur.⁸⁶ Effective planning depends on thorough examination of such matters as reload to create what Danzig calls “a common, systemic, operational understanding” of how to respond.⁸⁶

Accomplishing the intergovernmental coordination necessary to identify and think through those types of problems has been extraordinarily difficult.

Danzig and Franz thought that experts and officials needed face to face meeting time for in depth, off the record discussions in which they could think together about the new challenges of bioterrorism and the best courses of action. Leaders of government agencies could agree on how to frame problems, identify sources of expertise, and set collective priorities.

In October 2003, Danzig and Franz convened a two day Sloan funded meeting at a conference center on the Wye River in Maryland. They brought together forty five senior leaders from the White House, DOD, HHS, and academia to discuss post attack environmental recovery, operational management, mass casualty care, and nontraditional biological threats.

The purpose of the meeting was summarized by the organizers in their report to the Sloan Foundation: “We have no legitimacy beyond the power of the ideas we present. We may catalyze action only insofar as some agreed ideas are evocative for all or at least most of us.”⁸⁷ Several valuable actions followed from that meeting. For example, DHS decided to fund a National Academy of Sciences panel to assess normal environmental levels of anthrax and then determine appropriate safety standards based on that assessment.⁸⁸ More broadly, the Wye workshop and other facilitated discussions inside and outside the government sharpened participants’ views on the most pressing issues in biopreparedness and helped them achieve broad consensus on priorities.



Working Through Foreign Policy Ramifications of Bioterrorism

Atlantic Storm and Black ICE *International Bioterrorism Exercises*

Disease knows no borders. This oft repeated truism about contagious disease outbreaks also applies to disease caused by biological weapons because even noncommunicable diseases, such as anthrax, can be spread worldwide in a matter of days via jet travel. Consider the case of a person exposed and infected in New York who can then travel to just about anywhere in the world within 24 hours postexposure well before an attack may be detected and not show signs of infection until hours or even days after landing. Multiply that scenario by the numbers of people who fly out of New York's airports in a day, and it becomes clear that a biological attack in one city could quickly become a global problem.

Also clear is that bioterrorism response planning must be an international effort to be effective, and it must, to the greatest degree possible, begin well in advance of a crisis. The complexities that attend international sharing of medical resources, managing movement of people across national borders, and coordinating logistics and communication strategies require thought, planning, coordination, and investment.

One proven method to help leaders recognize and work through the complicated international issues and decisions is a tabletop exercise based on a fictional but plausible bioterrorism scenario. Participants play specific roles in the scenario and are asked to interact with other players to decide how best to manage the crisis at hand and to work together on decisions. Leaders can develop a better understanding of what they will face and may have to do in a real crisis. After the scenario is played out, the participants engage as themselves in a “hotwash” discussion to evaluate their own and others’ actions and offer their views on what could be done to prepare better in the future.

In 2005, the Sloan Foundation, along with the Nuclear Threat Initiative and the German Marshall Fund, supported the international bioterrorism exercise *Atlantic Storm*.⁸⁹ The exercise was organized, scripted, and hosted by the Center for Biosecurity of UPMC, the Center for Transatlantic Relations of Johns Hopkins University, and the Transatlantic Biosecurity Network, a group of international experts in transatlantic and European security affairs.

The fictitious *Atlantic Storm* scenario placed eight heads of government from Europe and Canada, along with the director of the WHO and the president of the European Commission, in the United States for a transatlantic summit with the US president. While the leaders were at the summit, news broke that a small number of people in several European countries were infected with smallpox. Because smallpox has been eradicated from the natural world for decades, its appearance signaled that a biological attack had occurred. The scenario called for the world leaders to stay together to plan how the United States, Canada, and Europe could coordinate their responses to this global threat. Playing the US president, former Secretary of State

Madeleine Albright chaired the proceedings in which the former and current officials playing the scenario's world leaders grappled with strategies to contain the disease and apprehend the terrorists responsible for the attack.⁸⁹

The exercise was held in real time, which meant that participants reacted to the beginning stage of an outbreak when information was most uncertain and changing most rapidly. Over the course of the exercise, the reported

ISSUES OF BIODEFENSE ARE
EQUALLY ROOTED IN PUBLIC
HEALTH AND FOREIGN POLICY
BECAUSE OF THE NATURE OF
BIOLOGY AND DISEASE.

number of smallpox cases rose from fifty one in four European countries at nine o'clock in the morning to 3,320 reported cases throughout Europe and North America at one thirty in the afternoon, with projections indicating the possibility of 660,000 cases worldwide

within thirty days.⁸⁹ The rapid rise in cases was not because the disease was spreading quickly; instead, the increase in case numbers demonstrated that the full extent of the attack would take time to determine accurately.

The participants also received information about the approximate numbers of smallpox vaccine doses possessed by their respective countries. Although some nations, including the United States, had enough smallpox vaccine for 100 percent of its residents, smallpox vaccine was a scarce resource globally: Even some of the wealthiest European countries did not have enough to contain an epidemic, and many countries around the world had (and still have) no smallpox vaccine. The stark differences in preparedness from one country to another forced the *Atlantic Storm* participants to confront the dilemma of which countries to prioritize for receipt of vaccine and other medical resources.⁸⁹ That discussion gave rise to questions about whether previously agreed upon treaties, including the Schengen Agreement, which

allows EU citizens to freely cross from one EU nation to another,⁹⁰ could be maintained under intense political pressure to close borders, ostensibly to halt the spread of disease.⁹¹

Atlantic Storm focused on the foreign policy ramifications of a major epidemic, but every effort was made to ground the smallpox epidemiology firmly in past experience. D. A. Henderson, leader of the WHO smallpox eradication effort from 1966 to 1977, and the center's researchers and analysts based the exercise's epidemiological assumptions about the spread of smallpox on the data and practical experiences of the eradication program.⁹²

The exercise opened leaders' eyes to the unique characteristics of bioterrorism. Leaders were shocked and dismayed to discover that the tools needed to counter the threat, such as vaccine and diagnostic tests, were either not available or were in short supply. Also concerning was the lack of coordinated systems to provide situational awareness.⁸⁹ As a result of the considerable attention it received in the international media, the exercise opened the eyes of many others as well. More than forty original reports were filed in news outlets around the world. BBC provided in depth coverage, ABC's Nightline ran a two night feature hosted by Ted Koppel, and National Public Radio delivered a seven minute broadcast.⁹³

No appropriate political tools or organizations were available to manage the crisis either. Jan Eliasson, who played the Swedish prime minister in between his real life appointments as Sweden's ambassador to the United States and president of the United Nations (UN) General Assembly, described the situation: "We live in a time of new threats. . . . What we now see is that health and security go together, so we have to combine them, and I think the

lesson we should draw from this . . . is that we don't have the organizational structures to deal with the new threats."⁸⁹

Indeed, as *Atlantic Storm* world leaders hunted for a unifying expert authority that could manage both political and medical exigencies and priorities, they turned to the WHO. Their logic was understandable: The WHO is a specialized UN agency that acts as a coordinating authority on international public health. However, the agency is underfunded and understaffed, particularly for meeting global needs on a scale such as the one played out in this exercise. Gro Harlem Brundtland, the former WHO director general who played that role in the exercise, neatly summed up the problem with relying on the WHO: "The budget of the WHO has very considerable limitations. It's like a middle sized hospital in England in total resources. . . . If leaders at this level are realizing that you have a crisis and that you need the WHO . . . they also will [have to] support, with extra budgetary resources, what's necessary."⁸⁹

The participants' desire to rely on the WHO to coordinate response to an international bioterrorism event helped spur planning for another tabletop exercise, *Black ICE*, which took place in Montreux, Switzerland, on September 7-8, 2006, and was cohosted by the US and Swiss governments.⁹⁴ *Black ICE* was designed, developed, conducted, and evaluated by Applied Marine Technology, Inc., and funded by the Nuclear Threat Initiative and the Sloan Foundation. The name for the exercise is based on the acronym for International Coordination Exercise, and it refers to a smooth layer of ice that appears to be just water on a road's surface—it looks harmless but is treacherous.⁹⁴ The exercise was meant to provide greater clarity about the roles and responsibilities of international organizations after a biological

attack. A senior US State Department official told a reporter that “many countries had unrealistic expectations about what international organisations could do.”⁹⁵ *Black ICE* convened senior officials from twelve international organizations, including the WHO, the International Federation of Red Cross and Red Crescent Societies (IFRC), the International Maritime Organization (IMO), International Criminal Police Organization (Interpol), the North Atlantic Treaty Organization (NATO), the Pan European regional security body Organization for Security and Cooperation in Europe (OSCE), and the UN Department for Disarmament Affairs (UN DDA). Other groups that would play a role in caring for the sick, distributing countermeasures, or apprehending the perpetrators of an international biological attack were included as well. All participants were senior level officials who “could call their entire organization’s resources into action.”⁹⁴ To keep the focus primarily on international organizations and their respective roles, participants did not include individual countries. The United States and Switzerland were cohosts but did not have a role in the scenario.

Like *Atlantic Storm*, *Black ICE* was a tabletop exercise about a smallpox attack, in which self infected terrorists ensured spread. Unlike *Atlantic Storm*, which focused on the time immediately following recognition of an attack, the two day *Black ICE* exercise covered the first six weeks after a fictional attack.

The biggest lesson drawn from the *Black ICE* exercise was the great need for multisectoral engagement.⁹⁴ In other words, the exercise demonstrated the need for international humanitarian and health focused organizations to work with security and military organizations. The exercise also emphasized the need for *nations* to increase their attention to preparing for bioterrorism.

Because international organizations have finite resources, countries have to increase their national capacity to prevent and respond to bioterrorism.⁹⁴ After the exercise, the senior US State Department official who told a reporter that countries had unrealistic expectations added that many bioterrorism coordinators in Europe had never met each other before the exercise.⁹⁵

The success of *Black ICE* led to *Black ICE II*, which was also hosted by the US and Swiss governments and held in Montreux, Switzerland, but employed a scenario based on an attack with plague.⁹⁶ *Black ICE*, *Atlantic Storm*, and other international exercises can expose gaps in international preparedness for biological terrorism or natural disease epidemics. They also make clear the proper lens through which to view biodefense, as Marc Ostfield from the US State Department explained when he wrote that most people understand that issues of biodefense are rooted in public health, when actually “they are equally fundamentally rooted in foreign policy because of the nature of biology and disease.”⁹⁷



Learning from Aum Shinrikyo

Danzig and Colleagues Report on Aum's Use of Biological and Chemical Weapons

On March 20, 1995, a chemical attack with sarin gas in the Tokyo subway system killed thirteen people and caused six thousand others to seek treatment. The group responsible for the attack was Aum Shinrikyo, a Japanese apocalyptic cult. Chizuo Matsumoto had formed the group a decade earlier as a peaceful yoga school promising a path to spiritual enlightenment. Over time, though, Matsumoto led the sect in a violent direction, and Aum Shinrikyo (Aum) grew progressively more radical, dangerous, and dedicated to using chemical and biological weapons.¹⁶

Aum's use of biological science techniques offered a rarely available view of a terrorist group's attempts to acquire and use chemical and biological weapons. After the successful sarin gas attack, it was discovered that the group was attempting to develop a biological weapon with either anthrax or botulism; fortunately, those efforts failed utterly.¹⁶ Investigators later found at least one reason for the failure: Aum used a vaccine strain of *Bacillus anthracis* instead of a lethal strain.⁹⁸

The case of Aum Shinrikyo has since served as a kind of Rorschach test for biosecurity experts. Those who believed the dangers of biological weapons

were exaggerated after 2001 saw Aum's failure as evidence that bioweapons are too hard to come by and too difficult to use and confirmed that chemical weapons and explosives were much more accessible for misuse.^{99,100} Others interpreted Aum's intentions and attempts as a harbinger of terrorist acts to come.^{16,21}

Firsthand knowledge of what actually occurred with Aum and the reasons why a terrorist group might turn to biological weapons were scarce, and it has been difficult to know the stumbling blocks that a terrorist group might encounter in trying to develop a bioweapon. The Aum experience offered the possibility of insight into both. Even the circumstances that led to the group's acquisition of a vaccine strain of *B. anthracis* were not known. It was difficult to imagine that the group did not know the type of strain needed to create a weapon. This error led some to wonder whether Aum got cold feet.

In 2008, thirteen years after the sarin gas attack, Richard Danzig, former secretary of the Navy and current chairman of the board of the Center for a New American Security, secured funding from the Sloan Foundation to pursue answers to the many questions surrounding the cult's actions and experiences. Danzig also wanted to find the lessons in the Aum Shinrikyo experience that might inform current and future counterterrorism efforts. His investigation uncovered evidence that the cult's successes and its failings were both "greater than had been previously realized."¹⁶

In July 2011, Danzig and colleagues Marc Sageman, Terrance Leighton, Lloyd Hough, Hidemi Yuki, Rui Kotani, and Zachary M. Hosford published their findings in the report *Aum Shinrikyo: Insights into How Terrorists Develop Biological and Chemical Weapons*.¹⁶ The report is based on interviews with incarcerated Aum members, some of whom are on death row. It describes the

early days of the Aum movement, the group's embrace of violence, and its tests of biological and chemical weaponry.

The interviews did reveal some information about Aum's use of an anthrax vaccine strain, though Seiichi Endo, who was in charge of the biological weapons effort, declined to be interviewed. It seemed, for instance, that Endo did not want to order anthrax bacteria from a commercial company because it would be traceable by police authorities. Instead, it is believed, he hoped to use genetic engineering to create a lethal anthrax strain from two different less regulated vaccine strains—Sterne and Pasteur—that have complementary genetic elements required for lethality. Combining these bacteria may have been a more difficult task in 1993 than today, but Endo also did not test his results rigorously before proceeding with an attack. He also tried to use botulism as a weapon but encountered problems with contaminated fermenters.¹⁶ Ultimately, the person in charge of the group's chemical weapons effort was more successful.

Danzig and colleagues concluded that chemical weapons may be more accessible to terrorists than biological weapons, but dissemination of either would probably be challenging for a terrorist group.¹⁶ They also concluded that police pursuit, even if intermittent or just anticipated, may slow down terrorists in the future. Even though police pursuit of the Aum sect was lax, the group attended to what the police were doing and changed course or shut down operations when they suspected they were being pursued.¹⁶

Aum's efforts were hindered by compartmentalization as well. The cult's leaders worked alone on developing biological and chemical weapons, which helped keep the work secret, but that insular approach cut off access to people who might have had the skills needed to make more successful

weapons. Danzig expects this will be a problem for other terrorist groups: “Terrorists need time; time will be used for trial and error . . . [T]rial and error entail risk [of discovery], . . . but Aum found paths to WMD, and other terrorists are likely to do the same.”¹⁶

Finally, Danzig and colleagues offered a caveat regarding Aum’s significant failures: “When we encounter terrorist pursuit of these weapons, the failures may be less a source of comfort than a warning of activity that, if persistently pursued, may result in success.”¹⁶ Danzig’s description suggests that the beliefs and activities of groups like Aum Shinrikyo are perhaps most akin to Russian roulette. They may follow “notions that are bizarre, concepts that are sterile, [but] then one of those chambers turns out to be loaded.”¹⁰¹



Assessing the US Government’s Bio-Response Capabilities

The WMD Center’s Bio-Response Report Card

In 2004, the National Commission on Terrorist Attacks Upon the United States (also known as the 9/11 Commission) urged the US government to prevent the proliferation of WMD, writing that “the greatest danger of another catastrophic attack in the United States will materialize if the world’s

most dangerous terrorists acquire the world's most dangerous weapons.”¹⁰² In response, the US Congress created the Commission on the Prevention of Weapons of Mass Destruction Proliferation and Terrorism, also known as the WMD Commission, in 2008. The nine member bipartisan commission was led by former Senator Bob Graham (D FL) and former Senator Jim Talent (R MO). The commission was charged with examining US vulnerabilities to nuclear, biological, and chemical weapons and identifying the actions needed to reduce that threat.

The group interviewed more than 250 counterterrorism and intelligence experts in the United States and abroad, and their report, *World at Risk*, issued a strong warning for the US government and allies: “Unless the world community acts decisively and with great urgency, it is more likely than not that a weapon of mass destruction will be used in a terrorist attack somewhere in the world by the end of 2013.”¹⁰³ In 2008, that was only five years in the future.

Although the WMD Commission was concerned about the proliferation of nuclear weapons, it stressed that “to date, the US government has invested the largest portion of its nonproliferation efforts and diplomatic capital in preventing nuclear terrorism. Only by elevating the priority of preventing bioterrorism will it be possible to substantially improve US and global security.”¹⁰³ The commission was concerned about the proliferation of advanced biological technologies, which are necessary for gains in medicine and public health, but could be misused to create biological weapons. The group was also concerned about the security of dangerous pathogens in US laboratories: During the time when the commission was conducting

its research, the FBI declared Bruce Ivins, an army scientist, to be solely responsible for the 2001 anthrax letter attacks.¹⁰⁴

World at Risk presented thirteen recommended domestic and international measures to prevent bioterrorism and strengthen the nuclear nonproliferation regime. The report also highlighted areas in need of greater, more efficient,

THE GREATEST DANGER OF
ANOTHER CATASTROPHIC
ATTACK IN THE UNITED STATES
WILL MATERIALIZE IF THE
WORLD'S MOST DANGEROUS
TERRORISTS ACQUIRE THE
WORLD'S MOST DANGEROUS
WEAPONS.

and more organized US government effort to counter WMD threats. A year later, in 2009, Congress reauthorized the commission for an additional year, “to assist Congress and the Administration to improve understanding of its findings and turn its concrete recommendations into actions.”¹⁰⁵ At the end of its final year of work, the commission

produced a report card in which it assigned grades to the government’s efforts to address recommendations made in *World at Risk*.¹⁰⁵ Results were mixed. The government received some A’s, some B’s, and some C’s for its efforts to strengthen the nuclear nonproliferation regime, reinvigorate the BWC, develop a national strategy for bioforensics, and strengthen domestic and global disease surveillance networks.

The government got an F for its effort to “enhance the nation’s capabilities for rapid response to prevent biological attacks from inflicting mass casualties” and to “reform congressional oversight to better address intelligence, homeland security, and crosscutting twenty first century national security missions.” The number of committees and subcommittees that oversee DHS is estimated to be somewhere between 82 and 108, and virtually no progress had been made since consolidation was first recommended by

the 9/11 commission in 2004.¹⁰⁵ In reaction to the report card, there were headlines and hearings,¹⁰⁶⁻¹⁰⁹ but it was clear that the problems highlighted by the report card were not going to be fixed easily or swiftly and that continued oversight and monitoring was needed to make sure the government was working steadily on the problems identified by the commission.

Senators Bob Graham and Jim Talent wanted to continue that monitoring effort, as did Randy Larsen, who was executive director of the WMD Commission in its second year and the former chairman of the Department of Military Strategy and Operations at the National War College. The Sloan Foundation gave them seed funding to transition from a commission to a not for profit research and education center. They brought on Lynne Kidder, former senior vice president of Business Executives for National Security, and together launched the Bipartisan WMD Terrorism Research Center (WMD Center). In looking at the nation's preparedness for a biological event, the group focused on US capacity for detection, development, and delivery of medical countermeasures; attribution; and environmental recovery.

THE PROBLEMS HIGHLIGHTED
IN THE REPORT CARD WERE
NOT GOING TO BE FIXED
EASILY OR SWIFTLY.

In October 2011, ten years after the anthrax letter attacks, the WMD Center gave the government a different kind of report card, noting that “since 2001, the US government has spent more than \$65 billion on biodefense, and yet it has done so without an end to end, strategic assessment of the nation’s bio response capabilities.” They designed a report card to fill that strategic assessment gap.¹¹⁰

Drawing on a team of advisors and outside experts, the Bipartisan WMD Terrorism Research Center’s *Bio Response Report Card* offers a detailed

assessment of whether, for instance, the government's efforts to develop medical countermeasures meets the public's expectations, and whether the trend is going in the right direction. The report also gives a sense of scale to the government's efforts in that the group evaluated the ability to respond to a small scale noncontagious outbreak versus a large scale outbreak caused by a drug resistant pathogen or a global contagious epidemic. Larsen explains: "Defining categories of attack – big and small – was important and new. Before, if you were talking about a biological attack, one person might mean a limited attack like the anthrax letters, and another person might mean a large scale aerosol attack with a contagious disease. The government is not equally prepared to respond to both events."¹¹¹

In the end, the government's grades again were mixed – B's, C's, D's – with F's as the size of the attack and the complexity of the response grew. The WMD Center recommended that efforts to raise D's to C's will provide the best return on investment to help the nation prepare.

The *Bio Response Report Card* laid the groundwork for future report cards and ongoing evaluation of biopreparedness progress, but the successes required to raise those grades will not be achieved overnight. While the government is doing that important work, the WMD Center is going to turn its attention to state and local preparedness and will come back to re-evaluate the federal efforts in a few years, when, according to Lynne Kidder, it will be a good time to take another look.¹¹¹

