



**Issue Paper #12:**

***A LONG-TERM RESPONSE TO  
BIOLOGICAL TERRORISM:***

**HOMELAND SECURITY LEADERS NEED SHARED INTELLECTUAL  
FRAMEWORK AND GREATER INTERNATIONAL COOPERATION**

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*Managing risk as far as possible from U.S. shores is the most effective anti-terrorism strategy, particularly when confronting the bioterror threat. Doing so requires close U.S. cooperation with foreign countries.*

*A successful international strategy will connect constituencies not traditionally engaged in security. Today, most people in law enforcement communicate with others in law enforcement; the same is true in public health and the private sector. Rarely do relevant practitioners cross institutional and professional boundaries at the international or national levels.*

*To accelerate international cooperation, homeland security leaders need to develop an intellectual infrastructure based on shared assumptions and compatible conceptual tools. Such a foundation shapes tradeoffs and priorities. Moreover, policymakers need to develop a public communications strategy for responders and the public and initiate a robust national research and development agenda to detect and possibly deter a bioterror attack.*

In *Report to the President-Elect 2000: Triumphs and Tragedies of the Modern Presidency*, the Center analyzed Presidential leadership through the lens of more than seventy-six case studies. These Issue Papers provide a forward-looking complementary series of short, single-author papers that frame and briefly analyze key issues that the Administration must address to sustain a full range of strategic options. Views expressed in these papers are those of the authors.



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**HOMELAND SECURITY LEADERS NEED SHARED INTELLECTUAL  
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By

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It has become cliché to note that promoting domestic security is an effort that must be conducted on a global basis. However, like most clichés, it is also true. Promoting international cooperation is especially important in confronting unconventional terrorist attacks. The biological challenge is relatively new, and the United States and its friends and allies have neither a commonly accepted view of the problem nor a shared strategy to respond effectively. Divergent opinions continue to exist about the nature of the challenge and the appropriate set of policy responses.

Combating the threat of biological terrorism demands effective international cooperation for several reasons:

- **International efforts to defeat terrorism represent the first line of defense for the U.S. homeland.** An effective anti-terrorism strategy extends outward to defeat threats and manage risk as far away from U.S. shores as possible. Doing so requires thorough cooperation with friends and allies.
- **Efforts by other countries could have important implications for dealing with the domestic challenge.** How other countries act in a crisis could influence the domestic U.S. situation in at least three ways:

First, other countries have resources from which the United States may wish to draw. Knowing what other countries are doing and what resources they have is vital to planning U.S. domestic preparedness and response efforts. The recent fiasco over flu vaccine highlights this issue by showing that international cooperation is essential to providing needed countermeasures to a transnational threat. Within the context of bioterrorism, effective solutions are international.

Second, other countries' response capabilities – or lack of them – could have an important impact on the United States domestically. For example, the inability to contain an infectious agent elsewhere could result in a widening attack and preventable contagion. Moreover, differences in national preparedness and

response efforts could influence terrorists' cost/benefit assessments. Some analysts argue that robust U.S. preparedness efforts – for better or worse – are increasing the attractiveness of Europe as a target.

Third, the United States can learn lessons from others. Although efforts to confront the biological challenge are not as well developed in many countries as they are in the United States, some of America's friends and allies have conducted valuable exercises and activities. Washington can benefit from sustained exchanges with these states.

- **International cooperation can reduce unintended consequences from domestic regulation.** Because work in the life sciences – whether academic or business – has become a global enterprise, national efforts to restrict, control, or regulate may cause turbulence within the community. Researchers, corporations, or investors could gravitate to parts of the world less stringently regulated. Such an outcome would not only diminish the security benefits of restrictions, but it could also reduce economic and scientific progress in the life sciences sector for countries or regions where such regulation does exist.
- **Building bridges and raising awareness among constituencies not traditionally engaged in security are critical.** Most international cooperation occurs on a “like-with-like” basis. Law enforcement communicates with law enforcement, public health with public health, but rarely do relevant practitioners across institutional and professional boundaries engage on an international level. Enhanced cooperation between the government and the private sector on both a national and international basis is also crucial, but lacking.

While the need for international cooperation is clear, its promotion nonetheless remains challenging for a number of reasons. The absence of common perceptions of threats and risks between the United States and others in Europe and Asia result in an insufficient basis for developing shared priorities to guide strategic planning efforts.

In every country, especially in the social sector, homeland security requirements confront competing domestic priorities. Different countries reconcile that competition differently. Both the United States and its friends and allies also pursue wide-ranging non-security interests, especially in the economic and commercial sphere, that can bear heavily on homeland security investments. Examples include corporate competition in important developing countries, differing approaches to improving global health, and the prioritization of science policy at the national level.

Finally, international institutional mechanisms unfortunately remain inadequate to promote cooperation. Although a number of forums exist, e.g., the G-8, the Global Health Security Action Group, Interpol, and the World Health Organization, they either attend to narrow aspects of such problems or lack the follow-through to match their rhetoric. Some potentially useful international actors, such as NATO, have played almost no role at all.

## ***Shaping a Shared Response***

International cooperation to effectively address the bioterrorism challenge relies on a shared conceptual approach. However, a unanimously agreed upon risk assessment, is neither possible nor necessary. Success requires finding enough common ground on which to work together to meet shared needs. Such common ground begins with certain shared assumptions that can inform planning and cooperation, such as:

First, “biological threats to security” are not problems to be solved, but risks to be managed. The sources of concern cannot be eliminated. Work in the life sciences will continue for legitimate reasons. Still, the potential for misuse of the life sciences will remain a permanent reality.

Second, because biological risks to national and international security span a spectrum from the naturally occurring to the deliberately provoked, policy measures designed to deal with one aspect of the problem (i.e. intentionally introduced pathogens) will have important implications for others (i.e. anti-biotic resistance, accident, or unintended consequences of otherwise benign activities).

Third, even if risks cannot be totally eliminated, the scope of risk created by deliberate misuse can be reduced. At the same time, preparation must continue for dealing with the consequences should a threat materialize. Risk reduction is a complex challenge that requires a multifaceted response of deterrence, norm building, prevention, preparedness, defense, and consequence management/mitigation. No single instrument is sufficient.

Fourth, risk management is not, and cannot be, a job for governments alone. It requires involving a range of partners, some of whom historically have not been particularly involved in security affairs. Most important in this regard are the academic science community and the life sciences industries.

Finally, combating biological terrorism will occur in a fiscally constrained environment. Even if many countries are involved, the resources are not endless. In order to maximize the impact of limited resources, smart choices must be made and informed priorities must be set internationally.

## ***Defining Requirements for Effective International Cooperation***

Effective international cooperation begins with a common intellectual infrastructure based on shared assumptions and compatible conceptual tools. An intellectual infrastructure shapes choices, prompts a set of priorities, and identifies new policy options or promotes existing tools in novel ways.

Yet today, an intellectual infrastructure for understanding the biological challenge – similar to that which emerged in the second half of the 20<sup>th</sup> century to address the challenges posed by nuclear weapons – has yet to emerge. While certainly not preventing all disputes from

arising between friends and allies over the proper strategies or tactics, it serves as a constructive model today: Most key actors worked from a shared conceptual approach to critical issues and tough policy decisions for more uniform action. Such constructive inclusion must now find a place in the biological arena. Doing so requires a conceptual shift from threat and vulnerability assessments to risk-management approaches. An approach that focuses only on a nation's vulnerabilities is self-defeating.

Effective risk assessments are strategic, but today the biological threat is often explained in terms of a single factor (smallpox, anthrax, etc.). Another single-factor approach, often characteristic of historical assessments, focuses on the actor seeking to use such weapons. Such single factor analyses are inadequate; they oversimplify and imply a precision in our ability to identify bioterrorism threats that simply do not exist.

In reality, the biological challenge is the product of a complex interaction among numerous factors—actors, agents, targets, operational considerations, and countermeasures—each of which includes several variables. Taken together, these variables produce a matrix of pathways to possible outcomes, including catastrophic consequences, significant casualties, or even no consequences at all.

Traditional assessments treat different potential outcomes as equally likely, whereas risk assessments introduce probability. Analyzing various pathways would likely suggest that an adversary using biological weapons to generate catastrophic casualties or widespread disruption has fewer available means. A risk assessment approach may conclude that the degree of risk declines as the level of desired casualties or disruption increases, insofar as it becomes less likely. Such a finding could have important implications for national planning and resource allocation decisions.

The ease or difficulty of terrorists' ability to exploit existing or future science and technology is the subject of intense debate. Current threat and vulnerability assessments tend to emphasize the biological weapons user's technological capacity to conduct an attack. However, excessive consideration of a terrorist's technological capabilities diverts attention away from his creativity. Preparedness planning is best approached with the mindset of the military planner who notes that battle plans become irrelevant with the first shot. Events are likely to proceed in ways quite different from those anticipated and planned for. Policy makers and planners should be mindful that their creativity must match the terrorist's.

Predicting precisely what form of biological attack will occur is a non-starter. The goal of bioterror prevention should be to prepare for the widest range of contingencies. The United States must develop a robust set of critical response defense capabilities that include prevention, preparedness, and response elements. This entails the difficult tasks of identifying requirements, establishing criteria to determine the appropriate capabilities, balancing a wide set of competing interests, and involving the right set of players.

### ***Adapting Institutional Agility***

This approach demands flexible and adaptive capabilities for the full range of likely scenarios. NATO's strategy of flexible response provides a helpful analogy. During the Cold War, NATO allies prepared for a range of contingencies in which certain response options were deemed unacceptable. For example, the costs of an overwhelming nuclear response to a limited conventional attack were considered too high. Given the wide band of potentialities and corresponding policy reactions, NATO emphasized developing capabilities whose hallmarks were flexibility and practical adaptability.

A similar strategic approach to the biological challenge is required today. However, developing appropriate capabilities requires managing several difficult trade-offs. Some of the most difficult tradeoffs involve the choice between emphasizing prevention or preparedness, the investments made in people and technology, and the relative importance given to immediate requirements versus long-term needs (i.e. immediate R&D for specific vaccines versus development of new platform technologies).

A flexible and adaptive strategic response to bioterrorism focuses on facilitating prevention as well as preparedness. *Prevention* includes such critical areas as law enforcement, intelligence, pathogen security, export controls, and cooperative threat reduction. *Preparedness* capabilities include, among other things, effective disease surveillance and reporting, health monitoring, quality epidemiology, robust laboratory-based analysis, appropriate diagnostics and medical countermeasures, and sufficient medical stockpiles. A national effort to develop these capabilities also requires a robust research and development (R&D) agenda and an effective communications strategy for policy makers, responders, and the general public.

### ***Establishing Novel Partnerships***

Critical players must become partners in practice. On a national basis, links between health entities and other agencies (i.e. law enforcement) are improving. In the United States, for example, bridges between the FBI and CDC are now established, especially since the anthrax letter attacks in late 2001 when such connections failed or appeared nonexistent.

Also, strengthened links between health and law enforcement in other countries are encouraging. In the United Kingdom, the relatively new Health Protection Agency (itself created from the integration of disparate health-related agencies) works closely with police and other homeland security officials in the Home Office. Integration in other countries is lagging. Some coordination with and among international organizations is promising, but much remains to be done. Interpol, for example, is seeking to have a representative from the World Health Organization (WHO) seconded to its staff.

One area that remains in need of attention is the integration of food supply and agriculture security into national planning frameworks. In the United States, even though food and agriculture account for about 15 percent of the nation's gross domestic product, agriculture

was slow to be included in the context of critical infrastructure protection. Efforts in the food and agricultural sectors remain less developed than attempts to respond to bioterrorism in other areas. Moreover, integration of veterinary expertise and capabilities in such areas as disease surveillance remains insufficient.

Surveillance, epidemiology, countermeasures, and other capabilities integral to a comprehensive defense require a strategic national R&D agenda. For this to take place, a number of tensions must be reconciled. These include differences between basic and applied research, medical and non-medical countermeasures, and civilian- and military-oriented research.

R&D should be used to foster rather than hinder international cooperation. The world's science and technology base is thoroughly globalized. Capabilities are available worldwide that can contribute to domestic security for many nations. But, national R&D programs must be informed of international program developments, and then if possible, harmonized with these international efforts. No country will have the resources to fund all its demands for security investments.

### ***Making the Private Sector a Partner***

Meeting this requirement and fostering an effective response require strong partnerships between government and the private sector. It is particularly crucial to involve the life sciences community, both in academia and industry.

Those involved in research and commerce in the life sciences and related technology emphasize the enormous contributions their work makes to improving quality of life around the world. Efforts to manage the misuse of science and technology deserve greater attention from both private sector innovators and policy leaders.

Once again, the attitudes of those working in the life sciences contrast sharply with the nuclear community. Physicists since the beginning of the nuclear age, including Albert Einstein, understood the dangers of atomic power, and the need to participate actively in managing these risks. The life sciences sectors lag in this regard. Many neglect thinking about the potential risks of their work. For example, an aerosol device for needle-less skin absorption of medicines could be of significant medical value. But this innovative technology may also be useful to terrorists dispersing biological agents. On a larger level, the high mobility of experts in the life sciences industry creates opportunities for the ill-intentioned to operate with near anonymity.

At the same time, the life sciences community can make direct contributions to managing biological risk through such efforts as developing sensors for enhanced detection, identifying new medical treatments, and improving passive and active protective gear.

While attitudes within the life sciences community appear to be changing, we still have a long way to go before creating needed leadership and sustained engagement. Life scientists and governments should collaborate to help strengthen the norms against

biological weapons research, acquisition, and use. Codes of conduct, peer reviews, and self-regulation that define appropriate restrictions in scientific research are all ways in which the scientific community can contribute to the development of a culture of responsibility in today's threat environment and globalized economy.

For its part, governments must encourage this development further. Doing so requires engaging the life sciences community in a way that takes into account legitimate security concerns without harming the innovation and creativity on which these industries thrive. Governments must exercise caution to ensure that they do not drive scientists away from this agenda. Onerous requirements may force scientists or companies to conclude that potential benefits are not worth the burdens they create. Therefore, governments must focus on developing means for managing security-related risks that achieve an acceptable balance between the requirements of the scientific process and sound business practices.

### *Final Thoughts*

Responding to the biological challenge is a complex imperative, especially at the international level where it is needed most. The demands are daunting, the requirements significant, and the players many and varied. The process of cooperation between the United States and its friends and allies in addressing this challenge will not be smooth. No single institution will provide the necessary framework for cooperation or accommodate the full range and diversity of players involved. No single forum will foster the necessary degree of dialogue and debate. No single cooperative process will engender the full measure of needed coordination.

More discipline in forging a coordinated international response is obviously necessary. That discipline will emerge only with clear priorities, commitment to act, and convergence among key actors in national governments, international institutions, and the private sector globally. Much remains to be done.

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