# Legal Issues Surrounding Public Health Emergencies

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## THE SPECTER OF EVIL SCIENCE

The growing concern about the use of a biological weapon by a state or, more likely, a terrorist organization against the United States often focuses on the potential that new advances in science, especially biotechnology, will be used for evil purposes. It is this potential that George Poste described as the "peril" lurking in the promise of biotechnology.

In many meetings on bioweapons that I have attended, discourse frequently turned to this specter of evil science. Individuals skilled in science and biotechnology ponder what kind of awful bioweapons competent (but warped) scientists could create. The conversation then typically delved into the horrors that engineered pathogens could inflict on human societies.

As a lawyer, I am not trained to put people in ambulances but rather to chase ambulances. When I listen to scientists and biotechnologists ponder the specter of evil science, I sit in mute fascination and horror. However, I have nothing to add to these conversations. I would not know a plasmid if it smacked my transposon. Having an ethical duty to justify billable hours exerts, however, pressure on the creative juices of the lawyer. I was becoming concerned that, in connection with bioterrorism, scientists were getting all the attention. However, after sitting silently through many evil microbe engineering sessions, it finally dawned on me that even evil scientists interested in bioterrorism might need a lawyer.

Let me take you, therefore, with Dr. Evil as he visits the law offices of Rumpole the Malevolent.

## THE LEGAL ADVICE OF RUMPOLE THE MALEVOLENT

Dr. Evil has developed a nasty bioengineered microbe, but he wants to make sure he uses the microbe against a very vulnerable society. He pays a visit to the law offices of Rumpole the Malevolent to inquire about what kind of legal system would be most vulnerable to a bioterrorist attack. After commiserating with Dr. Evil about how bioterrorists and lawyers are misunderstood by society, Rumpole's advice might go something like this:

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Your ideal legal target for a bioweapon attack is a country that, first of all, has a fragmented legal system in that relevant legal powers to respond to a public health emergency are divided among actors at the national and local levels. Federalism is, for instance, a fragmented legal system.

A federal legal system would be an attractive target because the overlapping competencies of national and local actors will create conflicts about who's in charge of a public health emergency caused by a bioweapon.[1] While national and local authorities struggle to figure out who is in control, the epidemic spreads to other local areas, and the "who's in charge" comedy of errors begins all over again.

In addition, a federal legal structure will create cumbersome decision-making processes in which national and local governmental entities and personnel need to participate. Can you imagine, Dr. Evil, trying to control a public health emergency through an ad hoc committee process operated by conference calls among the relevant national and local actors?[2]

Second, your ideal legal target would be a federal system that has placed public health powers predominantly at the local level.[3] If local governments possess the bulk of public health powers legally and constitutionally, then the fragmentation of a federal system is exacerbated in the context of a public health emergency because the main responsibility for protecting public health will be at the local, not national, level.

With public health powers vested primarily in local governments, defenses against bioterrorism are only as strong as the local governments' commitment to public health.[4] In addition, with public health powers at the local level, there is more room for diversity and difference across the nation, which undermines a harmonized or coordinated approach to a public health emergency. A chain is only as strong as its weakest link.

Third, your ideal legal target should manifest a long, historical neglect of public health law concerning infectious diseases.[5] Such neglect will signify that (a) local public health officials and their legal advisers, if any, will lack familiarity and competence with the powers that they have; and (b) the laws on the books will not have kept pace with the changes in public health and legal principles, making them difficult or even inappropriate to apply effectively in an emergency situation.

Fourth, I would target a legal system that has not adapted the emergency powers of local and national governments to the specific challenges of a bioweapon attack. Local and national governments have broad, emergency powers that would allow them to respond to a public health emergency caused by a bioweapon attack. However, if the governmental authorities have not adapted and refined such broad emergency powers for the unique crises a bioweapon attack would create, then the exercise of those emergency powers will work to your benefit, Dr. Evil, by allowing ill-informed judgments and political panic to make the government look inept. Faith in government collapses, and civil chaos begins. Equally important is the fact that the existence of broad governmental emergency powers lulls officials into complacency that they have sufficient legal authority to respond to a bioweapon attack. Complacency then is the unwitting companion of chaos.

Fifth, you want to locate a legal system that has approached emergency planning for a bioweapon attack by lumping bioweapons with other weapons of mass destruction. Locate a legal system that has appropriated money and personnel to train firefighters and police to be the first-responders to a bioweapon attack.[6]

Sixth, your ideal legal target would be a legal system that emphasizes the protection of individual rights and restricts governmental powers to impinge on such rights. In such a system, the citizenry is always wary and skeptical of governmental incursions on its rights, creating a climate of distrust that works against governmental efforts to contain an epidemic. In this climate, citizens may well ignore governmental orders concerning isolation, travel bans, compulsory treatment, and quarantine. Such individual behavior will force the government to escalate its efforts to contain the epidemic, which might involve using military forces to implement and enforce public health measures. Escalation of this kind will fuel citizenry distrust of the government even more, particularly if heavy-handed governmental tactics fail to stem the spread of the epidemic.

Seventh, I would find a legal and political system that has neglected its public health infrastructure and personnel for decades.[7] Such neglect works to your advantage, Dr. Evil, in two ways: (a) The public health resources will be insufficient to handle the emergency created by your microbe; and (b) when the local and national governments exercise their broad emergency powers, they will realize to their chagrin that they have insufficient resources to implement the legal authorities they have. Imagine, for example, local and national governments exercising their powers of quarantine only to discover they have inadequate resources, personnel, training, and expertise to implement the action.[8] People forget that the "rule of law" goes beyond, and must go beyond, merely having legal powers on the books. The legal power to act in the public good must be supported by resources, personnel, train-

ing, and equipment to undertake effectively the legal authority that exists.

When Rumpole finishes his monologue, Dr. Evil has only one question: "Rumpole the Malevolent, can you identify a legal system in the world today that has all the characteristics you describe?"

## LEGAL CHALLENGE OF BIOLOGICAL WEAPONS TO THE US

As a lawyer, my fictitious conversation between Dr. Evil and Rumpole the Malevolent scares me as much as fears of doomsday microbes engineered in the laboratories of loony scientists. The legal vulnerabilities of the United States to a bioterrorist attack are the same whether a traditional bioweapon agent or a doomsday microbe is used. Further, some of the weaknesses of the American legal system in connection with bioterrorism, such as federalism and the commitment to individual rights, constitute fundamental pillars of the rule of law in the United States that cannot be abandoned.

As a country dedicated to the rule of law, the United States has always structured its responses to national security threats through legal frameworks. Bioterrorism does not, however, fit within the two prevailing legal frameworks for dealing with national security threats (Figure 1, Table 1). The first existing framework structures the United States' responses to national security threats from foreign states. Because the Constitution vests in the federal government the power to provide for the nation's security against other countries,[9] this legal framework is unitary in that state governments have no role in countering threats from foreign nations.

The second existing legal framework shapes the United States' responses to terrorist threats. Crudely speaking, counterterrorist legislation in the United States reflects a federal law enforcement model: Federal law enforcement officials are empowered to prevent acts of terrorism and apprehend and punish perpetrators of terrorism. While terrorist acts affect state governments and legal systems, counterterrorism law is predominantly a federal affair.

Neither of these existing legal frameworks for national security threats applies well to bioterrorism. The gravest threat from the use of a biological weapon is a public health threat.[10] Under the Constitution, state governments, not the federal government, have primary responsibility for public health.[11] This allocation of public health authority makes state governments and legal systems critical in preparing for and responding to national security threats from bioterrorism (Figures 2 and 3, Table 1). This country has never developed a legal framework for a national security threat in which state governments are as or more important than the federal government.

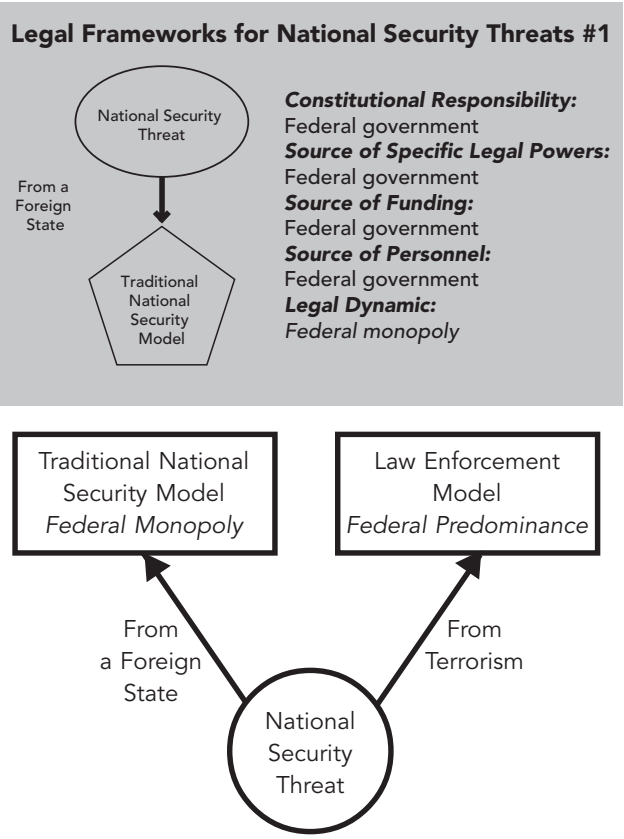


**Figure 1. Traditional legal models for dealing with national security threats.**

The complexity of the legal challenges posed by bioweapons deepens when one considers the diverse areas of law that bioterrorism would bring into play. Figure 4 depicts five different categories of law that all feed into the legal challenge posed by bioterrorism. This complexity, particularly the presence of public health law, further underscores the inappropriateness of traditional legal frameworks for responding to national security threats.

## NEED FOR A LEGAL STRATEGY

The key message to take home is that the United States needs to formulate a legal strategy as part of its efforts to bolster its defenses against potential biological weapon attacks. In the bioterrorist context, the American legal system is a complicated mechanism that is currently unprepared to deal with the public health emergency that a bioweapon would create.

**Table 1: General Comparison of Legal Models for National Security Threats**

| *Legal Model* | *Constitutional Responsibility* | *Source of Specific Legal Powers* | *Source of Funding* | *Source of Personnel* | *Model's Legal Dynamic* |
|---|---|---|---|---|---|
| Traditional National Security Model (Foreign State Threat) | Federal government | Federal government | Federal government | Federal government | Federal monopoly |
| Law Enforcement Model (Terrorist Threat) | Federal government/ State government | Federal government/ State government | Federal government/ State government | Federal government/ State government | Federal predominance |
| Public Health Threat Model (Bioweapons Threat) | State government/ Federal government | State government/ Federal government | State government/ Federal government | State government/ Federal government | State/Federal partnership |

I will now sketch out one approach to crafting a legal strategy to support bioweapon defense. The first step in constructing a legal strategy is to identify what functions we as a nation want law to fulfill in connection with defense against bioweapons. I believe that five essential functions can be identified:

1. Deterring individuals, groups, and states from developing and using bioweapons;[12]
2. Preparing governments and private enterprises for a bioweapon attack;
3. Empowering governments to respond effectively to public health emergencies;
4. Disciplining the exercise of government power in public health emergencies to ensure that individual rights and freedoms are respected to the fullest extent possible;
5. Facilitating government efforts at attribution of biological weapon attacks and at retribution against the perpetrators.

This list of basic legal functions reveals three important aspects of the legal challenge posed by bioweapons. First, the functions cut horizontally across many kinds of governmental activities: from diplomacy to law enforcement, from public health to management of emergencies. Second, the horizontal comprehensiveness is exacerbated by vertical complexity: Numerous legal issues and controversies arise under each legal function (see Table 2 for a nonexhaustive list). Third, the public health threat model connects directly to all five functions of law, whereas the traditional national security and law enforcement frameworks have only limited application to the functions law should serve in the defense against bioweapons (Figure 5).

The second step in constructing a legal strategy to support bioweapon defense is, for each function of law, to:

1. Identify applicable laws;[13]
2. Interpret the relevant laws to evaluate whether they provide the needed authority for responding to the threat posed by bioweapons;[14]
3. Modify existing law or, if necessary, create new law to strengthen the legal regimen supporting defense against bioweapons;[15]
4. Coordinate legal authorities among departments of the same governmental level (i.e., coordination within the federal government and within state governments) and between the federal government and state governments;[16]
5. Implement the legal authority properly through adequate funding, personnel, training, technology, and equipment.

The five functions of law and the five objectives can be combined in a matrix (Figure 6) that may be useful in structuring a legal strategy for strengthening our defenses against bioweapons. The matrix can, of course, be expanded to include the detailed issues presented in Table 2 to produce a more sophisticated and comprehensive approach to the legal challenges created by bioweapons.

I attempt in Figure 6 a crude evaluation of where we stand today in terms of fulfilling the five objectives for each basic function of law. The solid black circles indicate that the objective has more or less been

**Table 2: Non-Exhaustive List of Legal Issues**

| *Deterrence of Bioweapons Use and Development* | *Preparedness for Bioweapons Attack* | *Empowerment of Government Responses* | *Disciplining Exercises of Governmental Power to Protect Rights* | *Facilitation of Attribution and Retribution* |
|---|---|---|---|---|
| Prohibitions on development of bioweapons | Reform of legal requirements for surveillance | Provision of public health authorities with access to important records and data | Identification of needed government actions that threaten freedom of movement and travel | Powers of temporary detention of persons suspected of involvement in bioweapon attack |
| Prohibitions on use of bioweapons | Privacy law concerns and surveillance | Provision of public health powers to control private property during emergency epidemic | Identification of needed government actions that threaten freedom of association | Powers to investigate groups under lower standard than "reasonable" suspicion |
| Prohibitions on illegitimate possession of bioweapon agents | Informed consent and active surveillance for infectious diseases | Provision of public health with powers to control and manage persons during emergency epidemic | Identification of needed government actions that threaten personal integrity and security of person | Powers to conduct searches and seizures under looser standards than permitted in criminal law |
| Prohibition on possession of certain pathogens or toxins without certification | Reform of international law on infectious disease reporting (i.e., revision of the International Health Regulations) | Creation of public health/ emergency management framework focused on epidemic control not law enforcement | Identification of needed government action that threaten privacy rights | Use of federal military troops and assets in hunting down suspects |
| List of pathogens and toxins subject to criminal law | Ensuring existence of needed public health powers | Clarification of roles of state and federal governments in response to emergency epidemics | Identification of needed government actions that threaten freedom of speech | Coordination between law enforcement and public health authorities on forensic evidence |
| Authority for rapid intervention against suspects | Ensuring that emergency management powers are tailored to bioweapons event | Clarification of power to use federal military forces in support of public health efforts | Identification of needed government actions that threaten private property rights | International law and retribution against terrorists located in other states |
| Exemptions for legitimate possession and use of pathogens and toxins | Creation of legal framework for effective, coordinated governmental responses to public health emergency | Clarification of state and federal quarantine powers in connection with emergency epidemic | Clarification of how emergency epidemic context effects rights of due process | |
| Regulation for legitimate creation, storage, and and transfers of pathogens and toxins | Authorization of creation of vaccine and drug stockpiles | Clarification of state and federal powers over National Guard forces | Formulation of legal strategy for balancing public health and civil rights in context of bioweapons attack | |
| Regulation of sale and transfer of equipment critical to bioweapon development | Regulation of the quality and sufficiency of vaccine and drug stockpiles | Clarification of government power to order emergency production of essential food, water, and medicines | Requirements that existence of infectious disease threat to the public's health | |
| Development of verification regime for Biological Weapons Convention | Regulations/protocols on the distribution of federal stockpiles to state authorities | Clarification of government power to order use of vaccines and drugs not approved by the FDA | Requirement that public health interventions are necessary to contain infectious disease risk. | |
| Regulations for cooperation between public health and law enforcement | Regulations/protocols on distribution of state stockpiles to the federal government | Liability protection for public health, health care, hospital, and other personnel responding in emergency epidemic | Requirement that public health interventions are required by law | |
| Making bioweapons use or possession an international crime subject to universal jurisdiction | Regulations/protocols on distribution of state stockpiles to other states | Clarification of powers of martial law | Requirement that violations of rights are reasonable compared to the benefits of epidemic control | |
| Efforts to harmonize internationally domestic law on development and use of pathogens and toxins | International agreements on sharing stockpiles between U.S. and other countries | | Requirements that the public health intervention be the least restrictive measure possible | |
| Powers to investigate groups under lower standard than "reasonable suspicion" | Prophylactic use of vaccines in selected groups of public health and medical personnel | | Provision for timely judicial review of all government interventions that infringe on civil rights | |
| | Stimulating new vaccine and drug development | | | |
| | Reducing regulatory costs of vaccine and drug approval process | | | |
| | Liability protection for companies making bioweapon vaccines and/or drugs | | | |

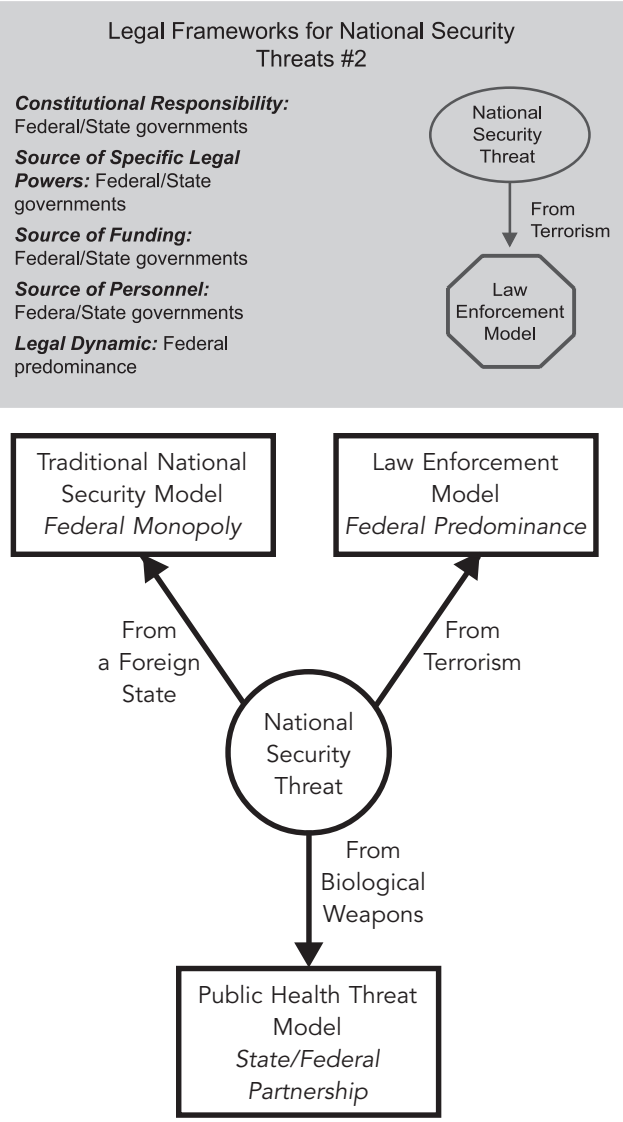


**Figure 2. New legal model for dealing with biological weapons threats.**

**Figure 3.**

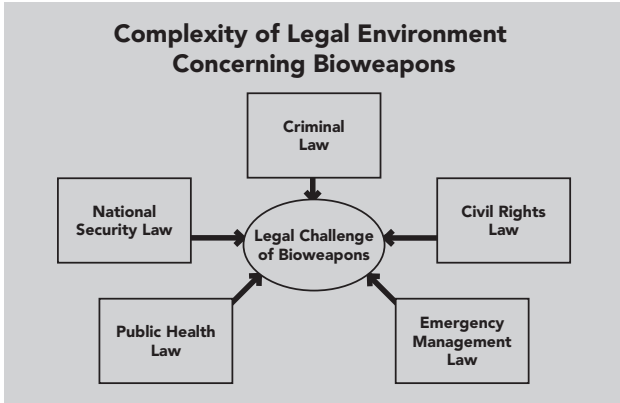


**Figure 4.**

**Legal Frameworks and the Five Functions of Law**

| Function of Law | National Security Model | Law Enforcement Model | Public Health Threat Model |
|---|---|---|---|
| *Deter* | X | X | X |
| *Prepare* | | | X |
| *Empower* | | | X |
| *Discipline* | | | X |
| *Facilitate* | X | X | X |

**Figure 5.**

**Legal Strategy Matrix for Bioweapon Defense**

| Function of Law | Identify | Interpret | Modify or Create | Coordinate | Implement |
|---|---|---|---|---|---|
| *Deter* | ● | ○ | ○ | ○ | ○ |
| *Prepare* | ○ | ○ | ● | ● | ● |
| *Empower* | ○ | ○ | ● | ● | ● |
| *Discipline* | ● | ○ | ● | ● | ● |
| *Facilitate* | ● | ○ | ● | ● | ● |

**Figure 6.**

achieved; diagonally striped circles indicate that incomplete progress has been made toward achieving the objective; and white circles indicate little or no progress in satisfying the objective. Overall, the matrix suggests that the United States is very unprepared legally for a bioweapon attack.

Undoubtedly, people with more expertise than I have would completed this matrix differently, with more or less pessimism that I have expressed. Other experts would construct an entirely different kind of analytical matrix that is more sophisticated than my crude attempt. However, it is precisely those kinds of debates and that kind of constructive dialogue that are needed to advance a US legal strategy against bioweapons.

## CONCLUSION

The need for a legal strategy to bolster US national security against bioweapons is manifest and deserves the attention of the highest levels of federal and state governments. A legal strategy is necessary but not sufficient to protect the American people from the threat of bioweapons. We will never outlawyer the threat of bioterrorism. However, we will not be smart in engaging in the battle against biological weapons without acknowledging that our vulnerability to these weapons stems in part from the structure, substance, and current state of the American legal system. It is time to make the rule of law a weapon rather than a weakness in confronting the specter of biological terrorism.

## REFERENCES


1. Inglesby T. et al. A plague on your city: Observations from Top Off. Biodefense Q 2000;2:4 (reporting on confusion among Top Off participants about which agency was in charge of the exercise).
2. Id. ("The Governor's Emergency Epidemic Response Committee and the larger committee of community-wide decision-makers communicated mostly via conference calls. Almost all observers and participants reported that the process of decision-making by conference call was highly inefficient and led to indecision and significant delays in taking action.")
3. Institute of Medicine. The future of public health. 1988, p. 48 (noting that "under the Constitution, the states are repositories of powers not specifically delegated to the federal government. They have the primary responsibility for the well-being—including the health—of their citizens.")
4. Garrett L. Betrayal of trust: The collapse of global public health. 2000, p. 531 (citing Michael Osterholm arguing that "the degree to which any municipality was prepared for such an abomination [use of a biological weapon] would depend not on emergency personnel such as police, but on the strength of the city's basic public health infrastructure.")
5. See, e.g., Gostin LO et al. Improving state law to prevent and treat infectious disease. 1998; Gostin LO et al. The law and the public's health: a study of infectious disease law in the United States. Columbia Law Rev 1999;99:59.
6. O'Toole T. Testimony at Hearing on Terrorism Preparedness before the House Subcommittee on National Security, Veterans Affairs, and International Relations, September 22, 1999 (noting that under the Nunn-Lugar-Domenici Domestic Preparedness Programs the focus to date has been "primarily on responses to terrorist attacks using conventional explosives or chemical weapons. Training exercises focused on chemical attacks or conventional explosions have appropriately targeted traditional 'first-responders'—firefighters, emergency response technicians, law enforcement personnel, and the like. Few cities have considered or practiced responding to an attack that employs biological weapons.")
7. Id. ("Unfortunately, the public health infrastructure in the US has been neglected for decades. In 1988, the Institute of Medicine wrote that 'public health in the United States has been taken for granted' and that 'our current capabilities for effective public health actions are inadequate' . . . In the ensuing decade [of the 1990s], the situation has only gotten worse.") See also Garrett L. Betrayal of trust, supra note 4, pp. 266–480 (analyzing the plight of the American public health system).
8. See Hoffman R, Norton JE. Lessons learned from a full-scale bioterrorism exercise. Emerg Infect Dis 2000;6 (noting that in the Top Off exercise "an executive order was issued quarantining all persons in metropolitan Denver in their homes. . . . However, quarantining two million persons is not simple. . . .[A] one-time, blanket quarantine order is unlikely to be successful and cannot be enforced unless . . . many . . . issues are addressed.")
9. US Constitution, Article I, Section 8 (granting Congress the powers, among others, to raise and support armies, to make rules regulating the armed forces, and to maintain a navy).
10. O'Toole, Testimony, supra note 6 ("The outcome of a bioterrorist attack on US civilians would be an epidemic.")
11. Institute of Medicine, supra note 3, p. 48.
12. This paper does not address the controversy over whether the threat of bioterrorism is exaggerated. For a discussion of this debate, see The invisible enemy. Economist, November 18, 2000 p. 93. However, improving deterrence is an objective that even skeptics of bioterrorism could support.
13. For an example of the importance of the identification objective, see National Commission on Terrorism. Countering the changing threat of international terrorism. 2000, p 38 (recommending that the "president should direct the preparation of a manual on the

implementation of existing legal authority necessary to address effectively a catastrophic terrorist threat or attack.")

14. Hoffman and Norton, supra note 8 (Colorado state epidemiologists, reflecting on Top Off, recommending "that state health agencies review their statutory authority and evaluate whether these laws would be adequate to deal with the threats of bioterrorism and pandemic influenza.")
15. National Commission on Terrorism, supra note 13, p 38 (recommending that the "president should determine whether any additional legal authority is needed to deal with catastrophic terrorism and make recommendations to Congress if necessary.")
16. O'Toole, Testimony, supra note 6 (stressing the importance of coordination among the institutions involved in bioterrorism preparedness planning and response).