Physicians and public health officials would bear the brunt of the health nightmare unleashed by an act of bioterrorism. Mass casualties and the "worried well" would swamp hospitals and health care facilities that barely cope with normal health care needs. Confusion and fear would haunt infectious disease specialists trying to control the aftermath of an attack with biological weapons (hereafter "bioweapons"). Supplies of antibiotics and equipment would likely be quickly used up. Efforts to treat the sick and control the spread of the pathogenic microbe could be hampered by shortages of medical staff and absenteeism. Public order would be imperiled.

What is often neglected in thinking about the threats bioweapons pose to public health is the foundation that law provides for effective public health activities. Focusing on the link between public health and the law reveals that bioterrorism would also constitute a grave threat to the role law plays in regulating public and private behavior in the United States. In this article, I examine 3 significant challenges that the malevolent use of microbes would pose for the rule of law in the United States.

**BIOLOGICAL WEAPONS USE AS THREAT TO THE RULE OF LAW**

The use of a biological weapon in the United States would trigger a public health and political emergency. Governmental responses to national emergencies in many countries have historically brought the rule of law—the idea that human affairs are governed by law, not the arbitrary exercise of power—under immense pressure, sometimes resulting in the abandonment of fundamental legal protections for populations. The United States' internment of Japanese-Americans after Pearl Harbor stands as a somber reminder that governmental action in an emergency can push commitment to the rule of law to its boundaries and beyond [1].

The use of a biological weapon in the United States would threaten the rule of law because the American legal system is simply not designed to deal with such a complex and insidious act of violence. The 2 areas of the American legal system most immediately affected by a biological weapons attack would be public health law and the law on managing disasters or emergencies (natural or caused by humans). Each of these 2 areas of law has provisions and powers that would be relevant in responding to a biological weapons attack, but those powers were crafted to deal with other kinds of emergencies, not something as unique and terrifying as the intentional use of pathogenic microbes to kill large numbers of people and undermine political and social institutions.

Neither public health law nor the law on emergency management has ever (fortunately) been implemented in a real biological weapons attack. Tabletop exercises and simulated bioterrorism incidents, such as the May 2000 TOPOFF exercise in Denver, Colorado, demonstrate that neither public health law nor emergency management law could currently support an effective response to a major biological weapons incident [2]. The ineffectiveness of existing legal frameworks in a real bioterrorism crisis would exacerbate pressure on governments to take drastic actions that might sweep away the rule of law in the midst of panic or uncertainty.

To analyze the threat of bioterrorism to the rule of law, I examine the structural, substantive, and implementation challenges bioterrorism poses for legal systems in the United States (figure 1). The structural challenge involves how federalism—the constitutional separation of legal authorities into federal and state jurisdictions—affects efforts to prepare for and
respond to a bioterrorist attack. Beneath the structural challenge, concerns arise about whether the substance of relevant areas of law can support effective responses and state and federal governments can effectively implement legal authorities into the actions needed to respond to a bioterrorist attack. The substantive and implementation challenges are interdependent in that failure to deal effectively with one undermines the ability to deal with the other.

THE STRUCTURAL CHALLENGE

In the United States, political power is divided between state and federal governments. Under the US Constitution, state governments rather than the federal government have primary legal authority and responsibility for public health [3, 4]. Because use of a biological weapon in the United States would trigger a public health emergency, the way the Constitution structures public health powers means that state governments and legal systems are critical in addressing bioterrorism and its aftershocks. On the other hand, the legal authority and power to respond to traditional threats to American national security, such as attacks by foreign nations or terrorists, rest predominantly with the federal government. Bioterrorism’s structural challenge to the rule of law means that state governments and public health law are as or more important than are the federal government and federal law. The United States has never developed a legal framework for dealing with a serious national security threat that depends so heavily on the quality of state public health law and institutions.

The division of legal authority between the state and federal governments requires effective and efficient coordination of responses to a bioterrorist attack. Participants in simulated bioterrorist events attest to how difficult cooperation between state and federal government personnel can be in times of emergency [2]. In the TOPOFF exercise, some participants thought the state public health department was in charge, whereas others thought the US Justice Department was in charge [2]. In the context of an epidemic caused by a bioweapon, federal-state turf battles and lack of coordination could be deadly in preventing effective public health responses to the outbreak.

THE SUBSTANTIVE CHALLENGE

Bioterrorism’s substantive challenge to the rule of law comprises a number of components. First, use of a bioweapon would implicate many different areas of the law, including public health, emergency management, civil rights, criminal, and national security law. Coordination problems, which federalism already complicates, are exacerbated when bioterrorism engages so many areas of law.

Second, the law must serve numerous complex functions in connection with bioterrorism. They include (1) deterring the development and use of bioweapons; (2) preparing state and federal governments for the possibility of bioterrorism; (3) empowering state and federal governments to respond effectively in the event of an act of bioterrorism; (4) disciplining governmental exercises of power in order to protect individual rights as much as possible; and (5) facilitating identification of and retribution against the bioterrorists [5].

Third, public health law would be on the front lines in the event of a bioterrorist act. Nevertheless, experts in US public health law argue that this body of law is antiquated and in need of serious reform to deal with even ordinary public health problems [6]. Gostin et al. argue that many existing state public health statutes “often do not reflect contemporary scientific understandings of disease, current treatments of choice, or constitutional limits on states’ authority to restrict individual liberties” [6, p. 106].

These arguments raise further doubts about whether existing approaches to public health law at the state level in the United States can support effective responses to bioterrorism without special reform efforts being undertaken. A bioweapons event would create a host of legal worries, including the liability of overrun hospitals and health care professionals operating in an emergency environment, the liability of drug and vaccine manufacturers, and the inevitability of lawsuits after the crisis, to name a few.

Fourth, similar concerns exist about federal and state emergency management laws. Both state and federal law deal with emergency management extensively, and some of this law is relevant to managing a public health emergency triggered by bioterrorism. By and large, however, emergency management law supports governmental efforts to deal with natural disasters, such as floods and hurricanes, or industrial accidents, such as chemical spills. Such emergencies briefly threaten human health, with much of the emergency management occurring in the calm aftermath of the event. A bioterrorism emergency does not fit this profile. Emergency management law in the United
States has never been designed to deal with the type of sustained, life-and-death crisis a bioweapon attack would create.

Fifth, the US legal system is highly protective of individual rights. The American conception of government is of a limited government—one that cannot infringe arbitrarily on the rights and freedoms of citizens. Any governmental entity that restricts a civil or political right protected by law has to satisfy strict procedural and substantive criteria. A bioterrorist attack could create enormous pressure on governments at all levels to infringe in drastic ways on individual rights and freedoms without working through the normal procedural and substantive tests for such restrictions. Public health actions to contain an epidemic may require violation of individual rights through such acts as forced quarantine or isolation, compulsory treatment or vaccination, and seizure and destruction of property. Bioterrorism could create a substantive challenge for state and federal governments to balance public health and civil rights in the context of an epidemic—a balancing act of great delicacy in the midst of political confusion and conceivably even social unrest.

Further, the structural and substantive challenges reinforce each other. To correct the substantive deficiencies in existing law and to plan properly for balancing civil rights and effective public health actions, coordinated public health and legal action is needed at state and federal government levels—a Herculean task, even under the best of circumstances. The federal government should take the lead, and the coordination effort should seek to produce harmonized public health and legal strategies for bioterrorism within the individual states.

THE IMPLEMENTATION CHALLENGE

Bioterrorism also presents an implementation challenge because state and federal governments need effective and efficient procedures through which to exercise the public health and emergency powers they possess. In simulated bioterrorist exercises, implementation of legal powers to respond to a public health emergency often failed because the government lacked personnel, resources, strategies, and protocols to carry out the actions required.

In the TOPOFF exercise, Colorado officials issued orders quarantining all persons in Denver in their homes [2]. As Colorado public health officials noted in the aftermath of this exercise, “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” [7, p. 653]. The implementation challenge deepens when state and federal governments have to coordinate their response procedures, which further illustrates how intertwined the legal challenges posed by bioterrorism can become.

The TOPOFF quarantine experience also demonstrates the interdependence between the substantive and implementation challenges. The State of Colorado had the legal authority to quarantine populations in Denver, but the inability to implement the quarantine effectively undermined the substantive power to implement quarantine as a public health measure. This interdependence suggests that a great deal of effort has to be focused in legal reform in the bioterrorism context on implementation.

The implementation challenge not only touches on formal legal rules but also engages larger social values and norms, such as fairness and equity, that will influence how public authorities have to ration scarce resources, such as antibiotics, in the event of a bioweapons attack. Forging law in this area will require the government and society to confront difficult ethical conundrums.

THE NEED FOR A LEGAL STRATEGY AGAINST BIOTERRORISM

The 3 legal challenges outlined above point to the need for a legal strategy to cope with the possible problems against bioterrorism. Fortunately, governmental agencies, such as the US Centers for Disease Control and Prevention (CDC), and non-governmental organizations are raising awareness about the need for people concerned about bioterrorism to include analysis of law in the evaluation of American preparedness. The call for a legal strategy should not surprise anyone familiar with public health. Bioterrorism would predominantly cause a public health emergency. As Frank Grad has argued, “The field of public health is firmly grounded in law and could not long exist in the manner in which we know it today except for its sound legal basis” [8, p. 4]. The same principle applies in the context of public health emergencies and, perhaps more so, in light of the way emergencies tempt governments and populations to abandon fundamental principles of behavior in the name of expediency.

CONCLUSIONS

As a nation dedicated to the rule of law, the United States cannot improve its defenses against bioterrorism without grounding defensive strategies in the law. Much legal analysis and reform needs to be done in connection with preparing for bioterrorism. A great deal of this legal work is not complicated or theoretically difficult but requires lawyers to work through the legal issues with public health officials and other relevant constituencies. The CDC has, for example, encouraged state public health officials to review their statutory authority to ensure they have the powers necessary to deal with a bioweapons event [9]. In addition, lawyers and public health experts can contribute to the bioterrorism defense effort by collaboratively crafting de-
tailed operating protocols and procedures that will make the exercise of public health powers in a time of an emergency epidemic more effective. Working diligently and creatively on the legal strategy for biological weapons defense will help ensure that the rule of law does not become one of the casualties of the malevolent use of microbes against American society.

References

3. US Constitution, amend. 10.