

INTERDICTING BIOVIOLENCE

Consider the implications of international trafficking of pathogens. Disease has always been ubiquitous, of course, moving via natural currents with little regard for national boundaries. Yet, when the element of human intention is added, the dangers of disease become transformed into an imperceptible weapon of mass destruction.

Today, policies to prevent bioviolence (the intentional infliction of disease) must be global. Perpetrators from anywhere can get pathogens from virtually everywhere.



Transnational criminal networks can easily prepare an attack; terrorists can slide across borders and release disease anonymously. A contagious agent would spread without regard for boundaries, race, religion, or nationality. Public health responses would have to be internationally coordinated. New modes of international legal cooperation would be needed to investigate the crime.

But while the mandate to develop global security policies against bioviolence should be readily accepted, technological and legal challenges complicate even the best-intended efforts to secure humanity's future. For example, does it really make sense to authorize and train border/customs officials to intercept pathogen trafficking? Pathogens are essentially invisible; they can be contained in a small shampoo or perfume bottle and taken through any airport or border check; no readily available technology can reliably pick up the scent.

What does it mean to instruct customs and border officials to detect micro-organisms among more than two hundred million containers transported annually? Moreover, "disease bombers" can be infected with contagious pathogens and carry disease throughout international transit hubs, at least until the symptoms become so patent as to rouse health inspectors' suspicions. In short, to presume that international trafficking of pathogens can be interdicted by traditional means of detecting contraband is to protract habit while denying reality. New policies for sustaining humanity's security are imperative.

No one can offer an accurate analysis of how much trafficking of pathogens occurs. It is well known that, at least until recently, some bioscientists from developed countries transported highly lethal pathogen strains across national (even continental) boundaries with little regard for prevailing record-keeping or safety standards. While these incidents did not involve criminality or terrorism, they demonstrate the ease of trafficking without detection.

In truth, it is the magnitude of potential horror, not the experience of intercepted trafficking that compels implementation of policies to interdict pathogen trafficking. Compared to the use of conventional or chemical weapons, the potential death toll of a bioattack could be huge. Although the number of victims would depend

on where an attack takes place, the type of pathogen, and the sophistication of the weapons maker, there is widespread consensus among experts that a high-end attack would inflict casualties which could be exceeded only by nuclear weapons. In comparison to nuclear weapons, bioweapons are far easier and cheaper to make and transport, and they can be made in facilities that are far more difficult to detect.

Moreover, terrorist organizations have overtly exhibited their interest in biological weapons and, in some instances, have tried to procure pathogens and equipment appropriate for weapons. Al-Qaeda has declared that biological weapons are the least complicated and easiest to manufacture of all weapons of mass destruction. This interest is a logical manifestation of their strategic aspirations to commit catastrophic and de-stabilizing crimes against civilian targets. Indeed, for people who seek to rattle the pillars of modern civilization and perhaps cause it to collapse, effective use of disease would set in motion political, economic, and health consequences so severe as to call into question the ability of existing governments to maintain their citizens' security. In the wake of an attack, no one would know when it was over, and no government could credibly tell an anxious population where and when it is safe to resume normal life.

This essay presents a two-initiative strategy to confront international trafficking of illicit biological agents and weapons. Simply viewed, the first initiative entails knowing much more about where legitimate bioscience involving highly lethal pathogens is taking place and where refined pathogen strains are moving. The second initiative entails improving capabilities for understanding how international criminal and terrorist networks are exploring the potential of biological weapons and enabling capabilities for interdicting their malevolent plans. As will be apparent, this strategy addresses more than the trafficking challenge; more broadly, it is the basis for addressing global biothreats generally. In that context, these initiatives are not effectively severable but should be seen as mutually reinforcing.

Census and Tracking Mechanisms for Pathogens

The primary problem with interdiction of the illicit traffic in pathogens is that there is inadequate baseline information about where such pathogens are located. In this context, the concern is not with natural disease agents but with refined strains of particularly lethal pathogens that could be malevolently disseminated. Throughout the world, biotechnological research is rapidly proliferating – a positive contribution to both economic development and public health – but it is also expanding the gaps of critical information and raising possibilities that lethal pathogen strains will be illicitly diverted.

We must not slow down the progress of global biotechnology, yet it is more than reasonable to insist that States undertake a comprehensive census of laboratories or culture collections that hold any of the small category of very dangerous pathogens and that this information be reported to a United Nations database. Within each State, all facilities that work with, store or transfer dangerous bio-agents should be registered; unregistered possession of such agents should be prohibited. As a requirement of registration, national laws should mandate compliance with globally accepted standards for security and safety.

Transfers of such pathogens, whether domestic or trans-national, should be permitted only between facilities that are properly registered, and transport of pathogens should be confined to properly authorized transporters. A manifest system should be established that includes sender, transporter, receiver, and all entities that might be in between so that records of such transfers are forwarded to the United Nations database.

A global pathogens census and implementation of tracking mechanisms will apply only to legitimate holdings and transfers, of course; criminal and terrorist operations will not likely participate in this process. These mechanisms will not, therefore, stop illicit trafficking by themselves. Their importance is two-fold. First, by establishing a global census and record of transfers, the ready availability of legal routes to move pathogens will be far less attractive to actors who fervently seek to shroud their activities from observation. Second, global implementation of such mechanisms will build a more accurate baseline of information about licit activity from which illicit activity can be accurately distinguished. In this regard, a global manifest system accompanied by criminal laws that prohibit possession or transfer of dangerous pathogens without the requisite paperwork will enable border and customs officials to stop shipments that are identified to lack proper authorization. With better data about legitimate bioscience, law enforcers can distinguish bio-offenders from scientists, enabling them to optimally focus scarce resources. Without that information, movements of pathogens and access to laboratories will be just a blur.

Information Sharing for Law Enforcement Interdiction

The information that Initiative 1 will generate and organize about legitimate biotechnology is only one half of what is necessary to interdict pathogen trafficking. That oversight and transparency will impel bio-offenders to abjure licit pathways in favor of darker smuggling routes. To interdict them, we also need mechanisms that enable law enforcers to observe and move against those bio-offenders as they move through those illicit routes. The problem is that, too often, law enforcers do not know where to look until after an attack when it is too late to stop a catastrophe. This problem is more serious with regard to bioviolence than with most other criminal activity because the attack itself – the release of pathogens – will likely go undetected for some days until symptoms of the disease are manifest.

The second half of the solution, therefore, is to develop analytically powerful techniques to identify anomalies – unusual situations that might be a clue of covert bioviolence preparations or pathogen smuggling. These techniques must be based on the following three core principles: (1) information environmental monitoring, transportation, intelligence can provide unique insights when combined with information gathered by law enforcement sources for purposes of combating crime and terrorism; (2) information sharing must be woven into all aspects of efforts to interdict pathogen trafficking including preventive actions and investigative activities; (3) systems that support information sharing must draw upon and integrate existing technical capabilities and must respect established authorities and responsibilities.

In brief, the international community must establish complex networks for sharing and integrating information about pathogen trafficking as well as crime and terrorism. Currently, discrete sectors such as public health or law enforcement have improved systems for gathering information, each for its own purposes. But, for example, public health authorities resist sharing information with law enforcement authorities, and intelligence networks resist sharing information with anyone. Indeed, a critical challenge to information sharing concerns mutual sensitivity between law enforcement and intelligence: disclosure of intelligence to law enforcers might jeopardize sources and methods; disclosure of law enforcement information to intelligence might jeopardize investigations and prosecutions.

These sensitivities are serious, yet coordination among specialized organizations (e.g. NATO and Interpol) and regional bodies (e.g. EU and AU) could improve detection capabilities. These initiatives include joint training operations, sharing of data on terrorist financing and border security, and making available technology that can facilitate information sharing. Moreover, sophisticated software that enables highly selective information sharing can address challenges associated with unlimited disclosure. In this context, outdated allegiance to claims of “national sovereignty” that undermine even the most innocuous proposals for sharing information with international organizations can no longer be accepted.

The point here is that multilateral information sharing to prevent bioviolence is not an all-or-nothing proposition. We do not have to choose between sharing no information with anyone and sharing all information with everyone. Modern information technology opens an array of intermediate options that could support analysis for purposes of detection and interdiction of pathogen trafficking without unduly compromising legitimate calls for confidentiality. Needed now is the commitment of expertise to developing those options and the negotiation of legal modalities for their effective operation in the international environment.

There is a danger to the politic body. The advance of science is enabling all sorts of devils to commit crimes against humanity – the notion that no one will ever use such capabilities to commit catastrophic violence is simply untenable. While it is difficult to judge when this danger will strike, there should be no doubt that we are vulnerable to a rupture. Moreover, the danger mutates due to the accelerating pace of scientific advance; tomorrow it will be slightly easier to commit a violent catastrophe than it is today, and so on. These dangers of bioviolence do not argue for braking scientific progress, but they undercut notions that new challenges can be effectively addressed with yesterday's policies.

Altogether, bioviolence presents one of the negative dimension of globalization, calling for global implementation of prevention and response strategies. Here may be seen the future of challenges to international peace and security at the beginning of the third Millennium: scientific progress intertwined with malevolent threats that have consequences for all humanity. Thus, bioviolence prevention portends a new chapter in the human species' most basic and most long-lasting struggle against lethal microbes and offers a new vision of how to globally organize strategic security under law. Failing to do the right thing could have consequences for all humanity.

Barry Kellman is Professor and Director of the International Weapons Control Center, DePaul University College of Law and author of BIOVIOLENCE – Preventing Biological Terror and Crime (Cambridge University Press, 2007).