BIPARTISAN SECURITY GROUP

INTERNATIONAL POLICIES TO REDUCE BIOTHREATS

by Barry Kellman

There is a danger to national security. In many respects, this danger is being met with effective policies, but in other respects there are huge policy gaps. In a few respects, the danger has been used to provoke unjustifiable calls to constrict science, promote intrusive surveillance, or develop military preemptive capabilities – the danger, while significant and serious, should not give rise to such fear-mongering. In fact, to construe this danger as justification for circumventing or disregarding law is precisely backwards: this danger is an argument for advancing international security under the rule of law.

I use the term *bioviolence* to refer to the danger that accelerating scientific disciplines, notably genomics and nanotechnology and generating tools uld enable a small group of people to inflict harm, perhaps at catastrophic levels, perhaps on a global scale. These scientific disciplines offer profound benefits for humanity, yet there is the looming security challenge of how to minimize the risk of their hostile application.

Consider how national security can truly be threatened today. Of course, explosives and hijacked planes can kill, but they can't incite levels of chaos that could rattle the pillars of modern civilization. But if someone really despises 21st Century civilization, there are very few ways to malevolently cause widespread harm. At some point, perpetrators of hate have to realize that conventional attacks are just not doing the trick. The 9/11 attacks, the bombing of the Madrid and London subways, and numerous smaller plots have all put civilization on edge, but history marches inexorably forward more or less as it was before.

There is, however, one way to shred the prevailing social fabric. It is how the deity has done it since the days of pharaoh: inflict a scourge. My thesis is that one day a combatant or fanatic will choose to raise the stakes by using a weapon that altogether multiplies casualties. Just as planes flying into towers on 9/11 instantly became an historical marker dividing strategic perspectives before from after, that day will herald the onslaught of disease as an instrument of malevolence, profoundly changing everything.

A malevolent perpetrator would face significant hurdles in planning and executing such an attack, but emerging scientific capabilities are eroding those hurdles. For example, diseases

once thought to be eradicated and for which scant natural immunity remains can be re-synthesized; processes of contagion can be specifically accelerated for already lethal agents or contagious agents can be made more lethal; highly dangerous agents can be made vaccine or antibiotic resistant; or advanced mechanisms of drug delivery can be adjusted to effectively disseminate lethal agents to broad populations. These techniques were perceived to be fanciful only a decade or two ago; soon, they may be pedestrian. Notably, these techniques offer life-enhancing opportunities, but these same techniques can threaten catastrophic violence.

The essence of scientific inquiry -- opening ever more fascinating windows into the structure of life and matter -- necessarily opens ever more dire potential to make violence easier, more lethal, more untreatable, or more contagious. In combination, these emerging techniques could convey to a small group of malcontents capabilities for making catastrophic weapons that can inflict ever greater harm to ever larger populations, engendering specters of mass panic that undermine public confidence in governments' ability to maintain security.

More fundamentally, biology, genomics, nanotech and other microsciences are a dynamic phenomenon that stretches from inquiries about humanity's most existential search – what is the architecture of life? – to the development of life-saving medicines. Unfortunately, these advances can endow bioviolence perpetrators with unprecedented capabilities. There will remain profound obstacles. Yet, whatever is the assessed risk today will be slightly less tomorrow, and the dangers posed tomorrow will be different than what we face today.

This danger has unique characteristics. First, there is a veritable menu of agents to hit any of a wide array of targets. They can be used anonymously, and the delayed effects following incubation would give a perpetrator more than enough time to escape undetected, perhaps to commit the attack repeatedly.

Moreover, this kind of attack sends a unique message. Any other type of attack, no matter how severe, happens at an identifiable moment in time at an identifiable place. If you aren't there, you are angry and upset but not, strictly speaking, injured by the attack. Thus, a terrorist that wants to hurt London must attack London. But if contagious agents are used, the attack can happen anywhere and spread to the target. If a highly contagious agent is used somewhere, everyone is in peril. And, obviously, the terrorists' goal is to spawn terror, and nothing quite creates horrors comparable to disease.

This is the key point of my talk today: dangers associated with biology and emerging sciences internationalize the pursuit of security. The inherent nature of these dangers is global: malevolent actors from anywhere using agents obtained anywhere and refining them in a lab anywhere can release them anywhere to affect people anywhere. Both terrorists and lethal disease agents can slide across national boundaries and release pathogens obtained anywhere to affect people everywhere. This is the only threat that is capable of spreading from the time and place of attack; a contagious agent would spread with total disdain for national boundaries.

Moreover, the accelerating global proliferation of bioresearch labs has expanded risks that lethal agents could be diverted and misused. Emerging science is extensively distributed worldwide – both a product of and a stimulant to globalization that takes advantage of rapid trade in ideas and materials. The more that science spreads, the more that a discovery that enables catastrophic violence could come from anywhere.

Altogether, the dangers of bioviolence are the dark side of globalization, calling for global implementation of prevention and response strategies. It is imperative to recognize that these dangers inherently shrink the planet into an interdependent neighborhood. The core of prevention policies must be their international character, and coordination of policies should be vested in authorities with substantial international responsibilities.

Yet, USG anti-bioviolence policies have tended to focus on domestic preparedness and response as if threats of malevolently inflicted disease are merely a subset of disease threats generally and as if a bioviolence attack somewhere else in the world would affect U.S. interests only upon its arrival on our shores. In the years following the 2001 anthrax attacks, as Project Bioshield authorized billions for domestic stockpiling of medications and as coordination of local response capabilities for pandemics improved, the Biological Weapons Convention has been eviscerated, and international cooperation in this issue arena has been undermined, excessively imperiling us all.

At the State Department, anti-bioviolence policies have been widely and disjointedly allocated to offices where this issue's unique challenges were too often subsumed amid other agendas and where the unique linkages that could sustain a coherent anti-bioviolence strategy were neglected. In the Office of the Counter-Terrorism Coordinator, bioterrorism was just another form of terrorism. In the Cooperative Threat Reduction Office, addressing former Soviet

Union bioweapons stockpiles was just a subset of addressing the Soviet Union's mostly nuclear legacy. In the Office of International Health Affairs, mitigating the effects of intentionally inflicted disease was subsumed among broad application of policies to improve global public health. And in the Office of Chemical and Biological Weapons Threat Reduction (responsible for the BWC), promotion of national measures to strengthen bioviolence prevention became part of fledgling efforts to encourage BWC compliance.

Most tellingly were the facets of a comprehensive strategy that were neglected (or nearly so). Who should advance policies built upon the obvious premise that bioviolence is a crime and that law enforcers worldwide should be trained, equipped, and authorized to combat it? The answer was not at all clear. Who should advance policies to shore up security at biolabs and pathogen collections worldwide in order to diminish opportunities for covert exploitation? This challenge devolved primarily to the Bureau of International Security and Nonproliferation where it oddly fit with the Bureau's core nonproliferation and arms control responsibilities.

And some challenges seemed to have no answer whatsoever. Who should promote internationally coordinated policies for developing and distributing anti-bioviolence vaccines and medications worldwide? Who should promote development of international information-gathering and database capabilities to enable detection of covert bioviolence preparations? And who should promote development of international institutional capabilities with legal authority for implementing anti-bioviolence policies over time?

The good news is that in the last year initiatives have emerged from Foggy Bottom that suggest a renewed appreciation for international biothreats. Albeit hardly a bright dawning of a potent, comprehensive anti-bioviolence strategy, there are subtle indications of progress. Even as perpetuating policy gaps must be underscored, these progressive initiatives could congeal into such a strategy if aggressively pursued along multiple lines that are coherently supervised.

Biosecurity – Fortunately, accomplishing a mass bioattack is difficult, but some of that difficulty can be abated if perpetrators acquire specialized pathogen strains or advanced weaponizing technology. This calls for policies to deny illicit access to pathogens and laboratories, including: tightening security at former Soviet Union bioweapons sites, implementing global standards for securing pathogen collections, and training laboratory operators on security procedures.

The Cooperative Threat Reduction (CTR) programs, which have channeled resources into securing the former Soviet Union's nuclear facilities, have increasingly shifted priorities to promote security at former bioweapons facilities, and European allies are increasing their contribution to these efforts. More significant is CTR's positive commitment to full spectrum science and technology collaboration as a policy pillar for addressing bioviolence globally; no longer is biosecurity just about "guns guards and gates". And in the last year, resources devoted to biosecurity-engagement programs have been extended outside the FSU, notably to south and southeast Asia.

Yet, large regions of the world, especially sub-Saharan Africa, continue to be bypassed due to resource limitations. Moreover, the international community has been slow to work with the USG to counter biothreats. International organizations, notably the WHO and OIE (animal health) have promulgated biosafety guidelines but have hesitated to embrace obligatory biosecurity standards. A notable initiative has come from the Organization for Economic Cooperation and Development which has developed biosecurity guidelines (also, regrettably, not mandatory) for its proposed global network of biological resource centers to implement.

More broadly viewed, there is too much that is unknown. We do not know where every well-equipped laboratory is; we suspect that not all dangerous pathogens can be accounted for; there is no census of bioscience facilities; we have inadequate systems for tracking the movement of pathogens and equipment; and we have grossly inadequate capabilities of putting information together to give us the best chance to detect bio-offenders. International policies are not meeting the challenge of creating systems to track pathogens and critical equipment or to identify laboratories worldwide.

Interdiction – Police, customs officials, and other law enforcers worldwide are the first and most important line of defense against bioterrorism. However, most law enforcers are untrained, ill-equipped, and lack legal authority to investigate and interdict bioviolence preparations. Throughout the vast majority of the world, outside perhaps two dozen developed States, bioviolence preparations could proceed without substance chance of detection and could inflict unimaginable damage against unprotected populations.

Progress began in 2004 with United Nations Security Council adoption of Resolution 1540 which requires States to prohibit transfer of WMD capabilities to non-State actors.

Although the mandate of the 1540 Committee was extended in 2006, initial optimism that UNSCR 1540 would spur vigorous national measures for interdicting bioviolence has been slow to materialize.

The Interpol Program on Preventing Bio-Crimes is the world's largest and most important program that is explicitly dedicated to raising capabilities for interdicting bioviolence. The State Department has supported the Interpol Program, devoting $500,000 to its BioCriminalization Project to assist developing States in strengthening national biocrimes legislation.

Under the Proliferation Security Initiative, about eighty States have entered into bilateral arrangements with the USG to enable interdiction. However, PSI has focused predominantly on nuclear matters. Moreover, the PSI has no application to other States, and its modalities for interdiction on the high seas are highly questionable as a matter of international law.

Verification and Accountability – Only a small number of States present substantial concerns about bioviolence preparation, but these problems are grave because of the resources that a State could devote to creating truly catastrophic biological weapons. Officials have asserted that over a dozen nations have active bioweapons capabilities. These accusations, however, remain unprovable nor can they even be investigated; they get thrown in the stew of "problems in international affairs" with nary any progress from year to year.

The Office of Biological Weapons Affairs in the Bureau of Verification, Compliance, and Implementation represents a USG commitment of attention to suspicions about noncompliant activity. This Office is authorized to strengthen abilities to determine attribution in the event of a bioattack and to assess compliance with the BWC – notably, development of new detection technologies and to assess how scientific advances impact treaty obligations.

However, reform proposals for international investigatory modalities to address suspicious activities are stymied. An investigative capability is needed with objective criteria and threats and a process to determine whether global prohibitions against bioweapons programs have been violated. However, the dissolution of UNMOVIC has left the international system without any standing capability to investigate suspicions of bioterror or bioweapons preparations.

Public Health Preparedness and Response -- Strengthening national and international capabilities to detect and quickly respond to disease outbreaks could: improve consequence

management of a bioattack; reduce opportunities for terrorists to accomplish their objectives by using disease; and promote global cooperation on the broad array of bioterrorism prevention policies. However, global planning to improve cooperation among multiple response sectors – health, law enforcement, environment and agriculture protection, military – has been sporadic.

An important recent initiative has been formation of the Global Health Security Action Group (GHSAG) which is promoting modalities including common epidemiological terminology for collecting and exchanging information about disease outbreaks to facilitate communication and enable coordinated responses. The GHSAG has undertaken exercises to highlight the need for more effective coordination and preparedness for bio-emergencies.

However, despite widespread recognition that national and international responses will likely be insufficient to address a major bioattack, planning for such a contingency has been slowed by inadequate resources. Insufficient attention has been devoted to multi-dimensional threats, *e.g.*, bioterrorists taking advantage of a natural outbreak, intentionally disrupting response efforts to an initial natural or terror attack, or conducting repeated attacks that profoundly strain allocation of response resources ("re-load").

Not enough is being done to consider how making people safer from biothreats can be accomplished with benefits to professional communities and national economies throughout the developing world. Indeed, at this time, there is insufficient (essentially nil) serious discussion about how to best enable developing countries to prevent bioviolence. There has been no systematic effort whatsoever to link compliance with bioviolence prevention policies to measures for stimulating indigenous bioscience. It is unconscionable that major policy discussions about bioscience development are wholly and entirely separate from major policy discussions about biothreats to international peace and security. The result is that the entire world is more dangerous.

All this activity should not disguise what is not being done. The need to develop and globally distribute vaccines that confer immunity against viral diseases is indisputable; Project Bioshield is dedicated to reducing domestic vulnerabilities to bioterrorism (as well as natural pandemics) by developing better medical countermeasures to secure the health of Americans. However, there are scant efforts to internationally coordinate development of resistance capabilities**.** Measures for selecting available countermeasures and distributing them as

necessary have lacked comprehensive commitment that would be appropriate to address a bioviolence emergency.

All of the policies described above are weaker than they potentially could be due to the absence of strong coordination with the State Department. Within the State Department, the five offices that have been discussed here are in three separate bureaus which report to two separate UnderSecretaries. There is no single official responsible for addressing the challenge of how international security regimes can be strengthened to prevent biothreats; these five offices have no common oversight short of the Office of the Secretary. Thus, even aggressively pursued policies are managed at a bureaucratic level that is not conducive to developing multiple benefits from systemic cooperation and consolidation. The problem is not that nobody is doing anything; the problem is that senior officials need to create synergies among what many dedicated officials are already doing. Activities should be organized into a strategy.

Most fundamentally, there are no policies for promoting a responsible international authority that defines relevant prohibitions and responsibilities, much less evaluates whether obligations are being fulfilled. Here's the problem. Globally, there's nobody in charge. No one is responsible; no one is accountable. With regard to bioviolence, no international authority defines relevant prohibitions and responsibilities. Over the years, many good ideas have not been rejected but have died for lack of a responsible official who has authority to act. There is no authorized focal point for new initiatives and no central body with clear capacity to carry out prevention responsibilities evaluate who might be failing to meet their responsibilities, and investigate emerging problems. As a result, even well-regarded ideas have nowhere to grow. There is not so much resistance to initiatives as there is simply an absence of initiatives, and a manifest inertia has become a significant drag on even the best public servants' calls to action. No body exists to promote reasonable, even widely shared initiatives to advance progressive policies. International alarms of bioviolence ring nowhere?

The absence of authority endangers us because bioviolence prevention requires a sizeable orchestra, made up of various instruments, to play complicated music in harmony. Today there is not a bad conductor – there is no conductor at all. Sometimes the players rise to the occasion; too often there is little more than cacophony.

Altogether, here we may see 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. Progressing capabilities improve our lives and yet carry inextricably escalating risks to humanity. These growing threats do not argue for braking scientific progress, but they undercut notions that new threats can be effectively addressed with yesterday's policies.

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. As this is a struggle we must win, international legal pursue of prevention is a paramount priority.

Today, we are not winning. We are waiting.