# Remarks on the National Biodefense Strategy

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Good day, everyone, and thank you for giving me the chance to talk a bit about the challenges of biosecurity – and the work that we're doing at the State Department to help ensure the safety of the American people by making it as hard as possible for non-state actors or foreign state adversaries to develop biological weapons.

Our work on biosecurity is a part of our more general mandate, in the Bureau of International Security and Nonproliferation, to stem – and, if possible, to roll back – the spread of weapons of mass destruction (WMD), delivery systems, and advanced conventional weapons. This biosecurity work is also only one small part of the broader U.S. government approach to biodefense, which is conducted pursuant to the National Biodefense Strategy that was released last autumn.

**I. The National Biodefense Strategy**

The National Biodefense Strategy takes into account that biological threats are among the most serious potential threats facing the United States and the international community, and recognizes that it is a vital interest of the United States to manage the risks arising from such threats. You might ask, "Why is this strategy different? Hasn't biosecurity been a national security priority for many administrations?" Yes, but the 2018 National Biodefense Strategy presents a novel approach to addressing the issue. The Strategy, for the first time, encompasses mechanisms, and preventative and responsive policies that address both natural and man-made biological threats across human, animal, plant, and environmental health. The Strategy also puts in place a unique mechanism for bringing the interagency together to coordinate the wide-ranging biodefense enterprise, to promote a coordinated whole-of-government effort. Many departments and agencies play a role, including my bureau at the State Department.

Recognizing that infectious disease threats can endanger lives and quickly disrupt economies, trade, and travel, the Strategy includes a plan for dealing with natural disease outbreaks. Any of you who remember the international alarm and worry about the potential cascading spread of the Ebola virus in West Africa in 2014, or who have been following the recent resurgence of that terrible disease in the Democratic Republic of the Congo, understand how these naturally occurring outbreaks can ravage human populations. In my corner of the State Department, however, we approach biodefense primarily through the lens of trying to reduce the risk of biological incidents occurring as the result of human agency – that is, deliberate biological mayhem, caused intentionally by bloody-minded non-state actors such as terrorists, or employed by national governments as a weapon of murder or of war. The Strategy recognizes that effective detection and response capabilities to any such deliberate attack benefit from integration with systems to deal with natural disease outbreaks.

## II. Continuing Threats

Given the potentially catastrophic impact of such a man-made biological incident, there would be plenty of reason to take prudential steps to make such mayhem less likely even if the risk of such an incident occurring were quite remote. Unfortunately, however a biological attack is far from a mere hypothetical. As the National Biodefense Strategy notes, multiple nations have pursued clandestine biological weapons programs, and a number of terrorist groups have sought to acquire biological weapons.

It is now well understood that the terrorists of al-Qaeda sought weapons of mass destruction, including biological weapons, beginning in the mid-1990s – even to the point that al-Qaeda's then second-in-command, the former physician Ayman al-Zawahiri, personally oversaw an effort (fortunately unsuccessful) to attack the United States with anthrax. And indeed, a handful of bioterror attacks have actually been attempted or carried out, including an attack using salmonella bacteria in Oregon in 1984 by the Rajnishi religious cult, an anthrax attack by the Aum Shinrikyo cult in Japan in 1993, and the so-called "Amerithrax" anthrax attacks that killed five people and sickened many more in the United States in 2001 – including here in Washington, D.C., where the Hart Senate Office Building in which I worked at the time was closed for weeks to permit decontamination.

But the danger doesn't just come from radicalized terrorists or lunatic cultists: biological weapons in the hands of foreign governments are also a very real threat. President Nixon ended all U.S. offensive research on potential biological weapons in 1969, but after the end of the Cold War, Russian President Yeltsin admitted what we had long known – namely, that the Soviet Union had maintained its formidable and highly advanced offensive biological weapons program throughout the Cold War. Defectors from this program have claimed that it had notable successes in weaponizing high impact diseases such as Marburg hemorrhagic fever and tularemia or diseases like glanders that we have eradicated from America at great expense. The Soviet biological weaponeers also reportedly created a new, highly virulent, weaponized form of anthrax. A leak at one of their weapons facilities in 1979 in the Soviet city of Sverdlovsk caused an outbreak of anthrax that resulted in more than 100 deaths – that we know of.

Unfortunately, the Russians show no sign of ever having gotten rid of their biological weapons program. Indeed, far from demonstrating its elimination of this program as required by the Biological and Toxin Weapons Convention (BTWC), Russia has refused to properly declare the termination of the program under the BTWC – and Yeltsin's successor, Vladimir Putin, has gone back to denying that Moscow's biological weapons program ever existed in the first place. U.S. officials have raised BTWC compliance concerns with Russia for years, but the Russians have merely stonewalled. One shudders to think what such people could do when equipped with modern gene-editing technology and other tools of the modern biotechnology revolution.

We live today in a time in which norms against chemical weapons use are under coordinated international assault: the Syrian regime and ISIS terrorists have both used chemical weaponry repeatedly; Russia continues to do everything it can to protect Syria against accountability for its repeated chemical use; North Korea used the nerve agent VX as a tool of assassination in 2017; and Russia itself employed chemical weaponry in an assassination attempt on British soil last year. Given these grim developments, it is hard to feel much confidence that terrorists and irresponsible governments would show any more restraint with biological weapons if and when they acquire them.

That's why it is such an important part of our mission to prevent the spread of such horrific tools.

**III. Our Responses**

Under the National Biodefense Strategy and its associated implementation plan, U.S. departments and agencies are working to strengthen international partnerships related to identifying and controlling human, animal, and plant diseases, promoting the development and implementation of appropriate health regulations in partner states around the world, improving biosafety and biosecurity standards, and developing appropriate incident response plans. To reduce the risk of accidental or deliberate release of dangerous pathogens, they are also working to strengthen biosafety and biosecurity practices and oversight, both at home and in capacity-building work with partners abroad.

With respect specifically to deliberate threats from nation-state and non-state actors, the Strategy calls for comprehensive efforts to work with partners to attribute biological attacks and hold their perpetrators accountable, as well as to reinforce the obligations in the BTWC and UN Security Council Resolution 1540, and other standards and norms against the development, acquisition, or use of biological weapons, related materials, or means of delivery. Just as we also do with other forms of WMD and their delivery systems, departments and agencies are also directed to strengthen domestic and international capabilities to identify, deny, and disrupt biological weapon-related transfers, and to identify and disrupt adversary proliferation networks – denying the acquisition of pathogenic material, equipment, knowledge, or expertise for illicit purposes, and promoting appropriate measures to impede misuse of life sciences and biotechnology, while still facilitating legitimate use and innovation.

Let me provide some illustrations of this work, from the perspective of the Bureau of International Security and Nonproliferation (ISN). We lead in the U.S. government on policy toward, and organizing for participation in the activities of, the BTWC, which not only bans biological weapons and related delivery systems, but requires its Parties to take measures to prevent them from being developed or acquired. In addition, over the past decade, using our nonproliferation programming budgets and expertise, ISN has worked with over 40 countries worldwide to promote safe and secure biological risk management, enhance early diagnosis and control of dangerous diseases, and strengthen global health security capacity. ISN's efforts have included conducting laboratory biorisk management assessments and installing biosecurity upgrades to prevent terrorists and other nefarious actors from acquiring dangerous pathogens such as Ebola and anthrax. We also worked with international partners to secure a number of especially dangerous pathogens, thereby reducing the risk that they could fall into the wrong hands.

ISN has also engaged a wide audience of biological scientists, including human and animal health experts, law enforcement, and private sector stakeholders to build capacity to rapidly detect and control outbreaks of dangerous diseases, and prevent either natural or man-made outbreaks from becoming pandemics that endanger Americans and American allies. Our programming work also helps to strengthen and enforce critical international biological nonproliferation regimes, such as the BTWC, and to implement multisectoral and multi-government initiatives such as the Global Health Security Agenda – a partnership of nearly 70 nations, international organizations, and other stakeholders devoted to capacity-building collaboration and coordination against biological threats.

**IV. The Future of Biological Weapons Threats**

All of this work is clearly very important, and we're proud of it. But if the United States is to keep abreast of the evolving world of biological weapons threats, we have more to do. One aspect of the threat worries me in particular, for it has hitherto gotten too little attention from the broader policy community – the potential problem of "boutique," small-scale clandestine biological weapons programs, including by states within the BTWC regime.

Since World War II, we have traditionally emphasized strategic biological weapons threats – either a small-scale terrorist use intended to cause havoc or a large-scale use against a peer military or civilian population intended to deter. We only need to look at some of the examples of chemical weapons use in recent years that I mentioned to see chemical and biological weapons being applied to warfare in the 21st century.

The Syrian regime and ISIS in Syria and Iraq have been particularly rich with these examples – specifically, the Assad regime's multiple use of sarin and chlorine to seize opposition strongholds, instill fear and sow confusion among its own people, as well as ISIS's use of sulfur mustard to scare unprotected troops. Nevertheless, chemical weapons threats are not confined to that theater, nor to only situations of open conflict.

As I noted, North Korea and Russia have also used chemical weapons to assassinate targets on foreign soil. These incidents suggest that we also need to be alive to shifts and trends in chemical weapons threats, for they suggest some disturbing new dynamics.

For one thing, the Russian and North Korean incidents suggest that the problem is no longer just about chemical terrorism or the sort of potential large-scale battlefield use challenge that planners worried about during the Cold War. They suggest the emergence of a model of chemical weapons use more redolent of the "sniper" than of "artillery" – and an approach that apparently doesn't feel any need to confine itself to wartime, either.

Moreover, a salient aspect of each of these examples, even in the ISIS case, has been the importance of maintaining plausible deniability. In this respect, our efforts to build norms and institutions to counter chemical and biological weapons have been a success story – possessors do not seek to advertise their capabilities. Unfortunately, this has had the perverse effect of encouraging them to pursue agents and concepts designed to slip through the cracks of existing methods of detecting, treating, and attributing responsibility for an attack. This is what Russian military intelligence operatives tried to do in their effort to kill Sergei Skripal and his daughter in the British town of Salisbury in March 2018 using a so-called "novichok" nerve agent. It is not hard to imagine this evolving into a future trend of adversary states seeking out highly specialized, hard-to-detect, and hard-to-treat agents in an effort to maintain a degree of "plausible deniability."

If such individual-scale, attribution-resistant "bespoke" applications indeed represent part of the future for chemical weaponry, it is possible that bioweapons could also follow suit – thus lending a sinister and challenging new wrinkle to the already formidable existing biosecurity challenges we face. If that happens, it could become even more difficult than before to detect clandestine biological weapons programs, including by states pretending to be compliant members in good standing of the BTWC.

The scale of the facilities needed for such an approach to biological warfare would be notably easier to conceal than what one saw with Cold War-style facilities such as the Soviet anthrax factory at Sverdlovsk. Attribution of responsibility for an attack might also be considerably harder if modern gene-editing techniques were used to create a novel or modified biological agent to conceal the origins, or even

the very fact of a bioattack. (Raising concerns about specific clandestine programs in multilateral regimes such as the BTWC, moreover, could also be very difficult if knowledge of the very existence of such programs depends heavily upon very sensitive intelligence collection.) For all of these reasons, deterring bioweapons development and use could become more difficult, even as the possessors of such tools might feel themselves to have a disturbingly low threshold for use against discrete, individualized targets in deliberately ambiguous (and thus deniable) circumstances.

With modern biotechnology advancing at such a mind-boggling pace, of course, the advantage may not always lie with the attacker – and it's possible that clever bioscience on the detection, treatment, and attribution side could help surmount some of these problems. (British capabilities in dealing with the novichok nerve agent used in the Skripal attack, for instance, seem to have taken the Russians somewhat by surprise. One wonders whether the Kremlin would have tried to use such an illegal weapon if Russian officials had known how easily they would be exposed.) Nevertheless, the example of modern developments in chemical weapons usage suggests that we need to take such potential bioweapon threats seriously – and that this must begin with acknowledging these dangers and beginning to build a public discourse about appropriate responses.

**V. Conclusion**

So that's a little window into the biosecurity field, at least as it looks to those of us in the nonproliferation business. It's not exactly an uplifting tale, of course. I hope, however, that you will now better appreciate the degree to which with our new National Biodefense Strategy – supported by the hard work and dedication of thousands of expert professionals throughout the government, in the private sector, and around the world – we do take these challenges seriously and are working very hard to meet them.

Thank you.