

Meeting of the States Parties to the Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on Their Destruction

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Consideration of the factual reports of the Meetings of Experts reflecting their deliberations, including possible outcomes

Current Trends and their Implications to the Biological Weapons Convention

Submitted by the United States of the America

1. The Biological and Toxin Weapons Convention (BWC) is the cornerstone of efforts to strengthen international security against the threat of biological weapons. For its more than 180 States Parties, the Convention bans the development, production, stockpiling, transferring, or otherwise acquiring or retaining biological and toxin weapons, and effectively prohibits their use. Although the threat of biological weapons persists, the nature of the biological threats we face has evolved since the Convention's entry into force more than four decades ago. Efforts to strengthen the Convention must take these changes into account in order to keep it relevant in the face of evolving and emerging threats, whether they stem from misuse of advances in science and technology or from the changing nature of conflict.

I. Science and Technology Trends

2. The United States remains concerned about the threat of biological weapons from state or non-state actors, as relevant biological agents, materials, knowledge, and expertise have become more widely available and less costly. Rapid advances in science and technology have expanded the ability to manipulate biological agents and toxins, potentially enabling production and delivery or allowing for more facile engineering of agents with enhanced characteristics. For instance, some toxins that exist in nature have traditionally been considered to have a low likelihood of weaponization because of a limited ability to isolate the toxin from its host microbe. Today, several of those toxins can be produced in higher quantities, using genetic engineering or chemical synthesis techniques, thus making them more accessible as a potential weapon.

3. Moreover, increased access to resources and advances in biotechnology has led to the diffusion of associated technologies, knowledge, and skills throughout the world. While these advances in science and technology support peaceful purposes and applications that benefit all societies, there is also the potential risk that these same advances could lead to pathogens with enhanced pathogenicity and lethality, the ability to evade countermeasures, and decreased scientific and financial barriers for those with ill intent to develop or use as biological weapons. For example, the U.S. National Academies of Sciences, Engineering, and Medicine developed a framework to assess and better understand the risk of misuse of advances in synthetic biology technology. Applying this framework, several concerns were ranked and include, *inter alia*, increased concerns about making existing bacteria or viruses more dangerous, recreating de novo synthesis of extant and extinct viruses, making nefarious biochemicals via *in situ* synthesis, or manufacturing nefarious biochemicals by exploiting



natural metabolic pathways. Scientific advancements in this field and others can lower technical barriers to modifying pathogens to enhance pathogenicity or lethality or to render detection capabilities or countermeasures less effective. Critically, though, this type of risk assessment, when performed regularly as science and technologies advance, allows governments and scientific communities to enhance biosafety and biosecurity to properly manage risk while still developing the science, technology, and innovation for public good.

II. Biological Weapons Trends

4. Advances in biotechnology provide for new capabilities at lower cost, leading to an expanded footprint of potentially dual use life sciences research around the world and also complicating efforts to ensure that biological weapons are never used. Additionally, many of the traditional “signatures” that once characterized an offensive Biological Warfare (BW) program are no longer valid. BW programs are now more likely to be much smaller in scale compared to historical BW related efforts that involved large scale weapons production programs, sizeable quantities of agent, and numerous facilities.

5. As previously noted in working paper [BWC/MSP/2018/MX.5/WP.3](#), the United States perceives three broad categories of BW threats with significant trend implications to the Convention, which are further emphasized here:

(a) Nation-state programs: As underscored by the United States’ annual Compliance Report, some countries’ past biological weapons programs continue to exist, and may have increased in their sophistication, contrary to States Parties’ legal obligations under the Convention. The existence of state BW programs, in addition to the interest of other nations, presents a real, serious threat to the norm against the use of biological weapons as well as a national security threat to all States Parties to the BWC. Owing to this degrading norm against the weaponization of biology, the United States is increasingly concerned about the threat of deliberately caused infectious disease and attacks on crops and livestock. Although overlapping in health impacts, but diverging in security implications, international efforts should focus on developing tools and institutional capabilities to investigate and discriminate between naturally occurring, accidental, and deliberate biological events.

(b) Non-State Actors: In addition to a handful of states with either assessed or historical BW programs or concerning dual-use capabilities, non-state actors have repeatedly demonstrated the desire to acquire, develop, produce, transfer, and use biological weapons. Terrorists’ lack of success to date is not a guarantee that non-state actors will not eventually succeed. The evolving threat of the use of biological weapons by such actors can be best addressed through the use of effective controls on transfers in accordance with Article III and a range of effective national measures taken in accordance with Article IV. Any effort to strengthen the Convention would need to assign particular priority to improving the adoption, implementation, and enforcement of those national measures required by the BWC.

(c) Small-scale/deniable use: State and non-state actor BW programs could be particularly hard to detect if their aim is for small-scale, deniable use. Such a program might require only small-scale production equipment and very little in the way of delivery systems, especially if used for assassination; if targeted against civilian populations or crops and livestock; or if employing a naturally occurring, highly contagious or virulent pathogen. Every effort should be made to enhance detection, attribution, and countermeasure capabilities for these types of programs, to counter and hold accountable those that may have such intentions.

C. Looking Ahead

6. Since the BWC’s entry into force over four decades ago it is clear that the Convention increasingly faces new challenges to its implementation. Improvements in science and technology have expanded the biological threat landscape and the range of infectious organisms and biological agents that can be weaponized. Simultaneously, there remain persisting threats from those that continue to defy and undermine the Convention. As seen

with COVID-19, the threat of disease does not respect national borders, and anyone, anywhere could be affected by the use of biological weapons.

7. As we approach the upcoming Ninth BWC Review Conference, the United States urges States Parties to recall why biological weapons were first banned and the importance to strictly uphold their obligations under the Convention. The United States believes that steps should be taken to promote compliance, a key step in strengthening the Convention.
