1. Briefing Paper – Health CommitteeA logo with a shield and unicorn

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Topic: **The issue of** **Bio preparedness and Biosecurity Measures– examining policies and practices to prevent the misuse of dangerous biological agents and to enhance the security of laboratories and research facilities**

Background information:

Recent global health crises, such as the COVID-19 pandemic, Ebola, and Zika, have exposed vulnerabilities in global pandemic preparedness. The ability to detect and respond to emerging infectious diseases and pandemics is intricately linked to bio preparedness and biosecurity. The potential use of biological agents by terrorists presents a grave security threat. Biosecurity measures are crucial to prevent the misuse of these agents for acts of bioterrorism, which could have catastrophic consequences.

The Biological Weapons Convention, established in 1975, is the principal international treaty addressing the use and prohibition of biological weapons. Despite its significance, there are concerns regarding the BWC's effectiveness in a changing landscape.

Biological Threats: Biological agents, including pathogens, toxins, and genetic materials, can be misused for malicious purposes, posing a significant threat to global security and public health. The 2001 anthrax attacks in the United States are an example of bioterrorism. Letters containing anthrax spores were mailed to various locations, resulting in several deaths and illnesses.

While laboratory accidents involving dangerous pathogens are relatively rare, they can have serious consequences. In 2020, a laboratory accident at The Pirbright Institute in the United Kingdom resulted in the escape of live foot-and-mouth disease virus (FMDV). The incident was caused by human error, and the virus was released from a high-security containment facility. While no outbreak occurred as a result of this incident, it raised concerns about the potential consequences of such escapes, as FMDV can have devastating effects on livestock and agriculture. It underlines the critical importance of rigorous safety measures and biosecurity in laboratories handling dangerous pathogens like FMDV.

Dual-Use Research: The same research and technologies that hold promise for addressing public health issues can be exploited for harm, making the regulation of dual-use research a challenge. An example of that can be the CRISPR-Cas9, a powerful gene-editing tool, that has dual-use potential for both curing genetic diseases and modifying pathogens for bioterrorism.

**Sources and further information:**

[International health regulations (who.int)](https://www.who.int/health-topics/international-health-regulations#tab=tab_1)

[Foot-and-mouth outbreak's parallels with Covid pandemic - BBC News](https://www.bbc.co.uk/news/uk-england-cumbria-55981681)

[Biological Weapons Convention – UNODA](https://disarmament.unoda.org/biological-weapons/)

[Anthrax Fast Facts | CNN](https://edition.cnn.com/2013/08/23/health/anthrax-fast-facts/index.html)

[Biosecurity: An Integral Part In Safeguarding The Nation - Minister (newtelegraphng.com)](https://newtelegraphng.com/biosecurity-an-integral-part-in-safeguarding-the-nation-minister/)