WORLD HEALTH ORGANIZATION

MODERN-DAY BIOTERRORISM: WHEN SCIENCE BECOMES A WEAPON

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Glossary

Economy : *The system of trade and industry by which the wealth of a country is made and used (Cambridge Dictionary, 2025)*

Biological weapons : *Biological and toxin weapons are either microorganisms like virus, bacteria or fungi, or toxic substances produced by living organisms that are produced and released deliberately to cause disease and death in humans, animals or plants. (World Health Organization: WHO, 2019)*

Biological agents : *Biological agents are substances such as microorganisms which can create a hazard to human health, for example, through infection, allergy, toxicity, etc. (Ucl, 2026)*

Bioterrorism : *Bioterrorism refers to the intentional release of biological agents or toxins for the purpose of harming or killing humans, animals or plants with the intent to intimidate or coerce a government or civilian population to further political or social objectives. (INTERPOL, s. f.)*

Pathogen : *A pathogen is defined as an organism causing disease to its host, with the severity of the disease symptoms referred to as virulence. (Balloux & Van Dorp, 2017)*

Toxin : *A poisonous substance, especially one produced by bacteria, that causes disease. (Cambridge Dictionary, 2026)*

Isolation : *The separation of people who are infected with a contagious disease from those who are not infected. (U.S. Department of Health and Human Services, 2015)*

Agroterrorism : *The deliberate infection of animals with pathogenic microorganisms or the contamination of food of animal origin with toxic chemicals. (National Library of Medicine, 2010)*

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Official Websites and Comitee Introduction

Web sites :

- **Biological weapons | United Nations Office for Disarmament Affairs. (s. f.).** https://disarmament.unoda.org/en/our-work/weapons-mass-destruction/biological-weapons

- **UN. Office for Disarmament Affairs. (2021). The Biological Weapons Convention : an introduction. United Nations Digital Library System; UN,.** https://digitallibrary.un.org/record/3964615?ln=es&v=pdf

- **World Health Organization. (2025). Biological weapons. Who.int; World Health Organization: WHO.** https://www.who.int/health-topics/biological-weapons#tab=tab_1

What is The WHO?

The World Health Organization leads global efforts to expand universal health coverage. It is the central platform to keep the world safe and serve the vulnerable, so everyone, everywhere can attain the highest level of health. From laboratories to disaster-ravaged areas, founded in 1948, WHO is the United Nations agency that connects nations, partners and people to promote health.

It is guided by science and supported by its 194 member nations. WHO teams often go where others do not. They routinely evacuate injured patients and provide lifesaving equipment, supplies and services in conflict or disaster-ravaged areas.

WHO is leading efforts for a global treaty take a further, deeper step to strengthen pandemic prevention, preparedness and response, much along the lines of the founders of the 1851 International Sanitary Conference. It also encourages international coordination between public health, security, and other essential sectors in order to improve preparedness and containment during biological emergencies.

At WHO, we conduct a group effort analysis, to agree on global norms and proyects for progress, we aim for fair treaties among nations to ensure the highest level of health.

General information

Although the term "*bioterrorism*" is relatively modern, the use of diseases and biological substances as weapons has historical precedents dating back centuries (Franz et al., 1997). Throughout history, various actors have employed biological weapons against military and civilian targets. However, it was during the 20th century that the development of biological weapons took on a more technological dimension, particularly during World War II and the Cold War, periods in which several states developed secret offensive biological research programs. (Wheelis, 1998)

A biological attack is defined as the **intentional release of a pathogen** (a disease-causing agent) **or a biotoxin** (a poisonous substance produced by a living organism) **against humans, plants, or animals.** An attack against people could be used to cause illness, death, fear, social destabilization, or economic damage. In contrast, an attack against agricultural plants and animals would primarily cause economic damage, loss of confidence in the food supply, and potential loss of human life. It is helpful to distinguish between two types of biological agents:

- **Infectious agents** that spread from person to person or from animal to animal.
- **Agents that** can cause adverse effects in exposed individuals but **do not make those individuals contagious to others.**

Hazardous biological agents can cause life-threatening illnesses.
Biotoxins are, in essence, poisons that can be fatal in sufficiently high doses. Even a small amount of certain agents released into the air could result in significant loss of life, depending on factors such as the agent's infectivity, the agent's lethality, and the time it takes to detect and treat exposed individuals.

Context :

Growing international concern over the destructive potential of these weapons led to the creation of the Biological Weapons Convention (BWC) in 1972, an international treaty that prohibited the development, production, and stockpiling of this weapons. (UNODA, s.f)

Polyak et al. (2002) states that bioterrorism began to be perceived as a contemporary global threat following the September 11, 2001, terrorist attacks in the United States. Weeks after those attacks, letters contaminated with anthrax spores were sent to U.S. government offices, causing multiple infections and deaths, as well as a significant psychological and political impact.

Today, advances in biotechnology, and genetic engineering have heightened international concerns. Rapid scientific progress has created new challenges in the areas of biosafety and international control. In response, organizations such as the United Nations and the WHO have promoted international cooperation, recognizing that bioterrorism poses a threat not only to public health but also to global security. (United Nations, s. f.)

The increasing risks associated with advances in the life sciences have made responsible research and dual-use governance an increasingly important issue for global health security. (WHO, 2024)

Main problems :

- **Dual-Use of Life Sciences:** One of the main challenges is the dual-use nature of modern life sciences. Research and technologies developed for legitimate purposes can potentially be misapplied in ways that harm human health, animals, agriculture, or the environment. This creates the challenge of promoting scientific progress while preventing its deliberate misuse.

- **Economic impact of an event:** Once detected, an act of agricultural bioterrorism may quickly halt the movement and export of livestock or the affected crop, resulting in potentially severe economic consequences for producers, shippers, and consumers. It may also disrupt normal travel and commerce.

- **Gaps in Biosafety and Biosecurity:** Countries have different levels of capacity to prevent, identify, and manage biological risks. While some States have established regulatory frameworks, trained personnel, and adequate laboratory infrastructure, others face limitations in funding, technical expertise, legislation, and oversight. These disparities can create vulnerabilities in global health security and make coordinated international preparedness more difficult. (WHO, 2020)

- **Misinformation and Public Trust:** During a biological emergency, misinformation can spread fear, confusion, and distrust in public health authorities. This can make risk communication more difficult and hinder an effective response to a biological threat.

Points to discuss :

- **Immediate response to threats and containment measures**

What emergency measures does the delegation take in the event of a bioterrorist attack, such as quarantine measures, emergency medical response, and strategies to contain outbreaks?

- **International cooperation on public health and safety**

How governments, agencies, and health organizations work together to prevent, detect, and respond to biological threats.

- **The economic impact of bioterrorism on global trade**

Bioterrorist attacks can disrupt international trade, transportation systems, tourism, and supply chains, causing economic instability. What measures are delegations taking to address this issue?

- **Humanitarian aid and protection of vulnerable populations**

How are the challenges posed by the protection of the civilian population during incidents of bioterrorism addressed, particularly in the case of populations with limited access to health care?

- **Early detection and spread of biological agents**

Explains the importance of the delegation in quickly identifying intentionally released agents and understanding how infectious pathogens can spread.

- **Biosecurity and monitoring of high-risk agents**

The delegation focuses on preventing terrorist groups or non-state actors from gaining access to, stealing, or misusing dangerous pathogens.

- **Risks to agriculture, animals, and food supply chains**

How does the delegation respond to agroterrorist threats that cause food and economic damage, food shortages, and social instability?

- **Misinformation and public panic during biological emergencies**

Explores how fear, false information, and media manipulation during bioterrorist attacks can intensify chaos, undermine public trust, and complicate emergency response efforts.

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Related organizations and Actions taken

RELATED ORGANIZATIONS

- **World Health Organization (WHO)**
- **United Nations Office for Disarmament Affairs (UNODA)**
- **INTERPOL**
- **Global Health Security Agenda (GHSA)**

Actions Taken

Over the past decades, the international community has established several frameworks to address biological and CBRN threats. The Biological Weapons Convention (BWC) (1972) prohibits the development, production, acquisition, and stockpiling of biological and toxin weapons (UNODA, n.d.).

In 1987, Confidence-Building Measures (CBMs) were introduced to promote transparency under the BWC (UNODA, n.d.). UN Security Council Resolution 1540 (2004) requires States to prevent non-State actors from acquiring biological weapons and related materials through national legislation and domestic controls (United Nations, 2004).

Additionally, the International Health Regulations (IHR) (2005) established a framework for detecting, assessing, reporting, and responding to international public health risks

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Actions taken and importance of the topic

In November 2023, the World Health Organization established the Technical Advisory Group on the Responsible Use of the Life Sciences and Dual-Use Research (TAG-RULS DUR) to provide independent technical and strategic advice on biorisk mitigation, biosafety, biosecurity, dual-use research, and the responsible use of life sciences. The group held its first meeting in January 2024, where members discussed current and upcoming activities and established priorities for its work.

The group brings together expertise in emerging technologies, governance, risk communication, disinformation, ethics, international law, and global health security, reflecting WHO's efforts to address the risks associated with advances in the life sciences while supporting their responsible use. (WHO, 2024)

Importance :

Unlike a chemical or nuclear attack, a biological attack may go undetected for hours, days, or potentially weeks (depending on the agent) until people, animals, or plants show symptoms of disease.

If there are no immediate signs of the attack as with the anthrax letters, a biological attack will probably first be detected by local health care workers observing a pattern of unusual illness or by early warning monitoring systems that detect airborne pathogens. Evidence of an attack may appear in animals before humans. (U.S. Department of Homeland Security, 2022)

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Importance of the topic and objective of the comitee

Almost any pathogen or toxin can be used in biological weapons. These agents are considered weapons of mass destruction (WMDs) because their use can cause large-scale morbidity and mortality. Furthermore, they can be modified from their natural state to facilitate mass production, storage, and distribution.

In a model sponsored by the World Health Organization on hypothetical estimates of casualties resulting from the intentional release of 50 g of aerosolized anthrax spores upwind of a population center of 500,000 inhabitants, nearly 200,000 people could die or become disabled as a result of the event. (Artenstein, 2016)

Objective :

The work of the World Health Organization its to promote policies that guarantee that good health is recognized as a fundamental right for every individual. With the goal to give everyone, everywhere an equal chance to live a healthy life.

"In a world challenged by multiple crises at the same time, global agencies working better together in supporting countries to turn around the pandemic's impact on health and human capital is of paramount importance."

- Dr Mamta Murthi, Vice President, Human Development, World Bank

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