*An overview of the role of Veterinary Services in biosecurity and disarmament*

# Veterinary Services and the Biological and Toxin Weapons Convention (BWC)

## Veterinary Services and disarmament - making an important contribution to the Biological and Toxin Weapons Convention

### What are biological threats?

WOAH defines a biological threat (or 'biothreat') *as the accidental or deliberate release of a pathogen or toxin into a population*. Deliberate threats may come from state-sponsored biological weapons programmes, as seen in the past, or from criminals and terrorist groups. There have also been numerous documented laboratory accidents leading to infections in humans and animals.

Many of the pathogens which could be used as bioweapons are animal disease agents or zoonotic agents. New technologies—such as synthetic biology and artificial intelligence—make it easier to find, create or modify dangerous pathogens. Technologies, such as drones make it easier to disseminate them. This implies that the threat of deliberate misuse is becoming more likely.

Pathogens can be appealing to malign actors because they are often easy to find in nature or laboratories, simple to transport, and can cause serious harm and panic. They can affect animal health, human health, plant health, food safety and security, and economies.

At the same time, modern communication tools are being used to spread false information (misinformation and disinformation). This includes false information about peaceful and legitimate activities; the origins of outbreaks; the risks around, and impacts of disease events; and the safety and efficacy of control measures. Misinformation and disinformation can weaken trust in health services and the authorities, create fear, discontent and social unrest, and interfere with the preparedness for and response to disease outbreaks.

### Why should Veterinary Services be concerned?

While most disease outbreaks are natural, there is a real risk that some may be caused deliberately or accidentally. A deliberate introduction could aim to harm animals, people, or plants; create fear; or cause political and economic disruption.

Outbreaks of highly infectious diseases in animals—especially if caused intentionally—can have serious economic impacts. They may disrupt trade, affect jobs and livelihoods, and threaten food availability. If the

disease is zoonotic, it can also spark fear, social unrest, and political instability, particularly if lives are at risk or if further attacks are expected. These could be the effects that rogue actors, including criminals or terrorists, seek.

Misinformation and disinformation can also cause damage by undermining trust in the Veterinary Services, create fear about certain food products or farming systems, or interfere with outbreak preparedness or response measures.

Veterinary Services must therefore be aware of the risks posed by not only natural and accidental outbreaks, but also deliberate ones, and by misinformation and disinformation. They need to be ready to respond quickly and to work closely with human health services, diagnostic laboratories, law enforcement, and national security agencies.

This collaboration is vital: 60% of human infectious diseases are zoonotic; 75% of emerging infectious diseases (like Ebola, HIV, and influenza) come from animals; and up to 80% of potential bioterrorism agents are zoonotic pathogens.

**What is the Biological and Toxin Weapons Convention (BWC) and how is it relevant to Veterinary Services?**

The BWC is a disarmament treaty that bans biological and toxin weapons by prohibiting their development, production, acquisition, transfer, stockpiling and use. It entered force in 1975 and supplemented existing frameworks (such as the 1925 Geneva Protocol). As of July 2025, the BWC has 189 States Parties, of which 172 are WOAH Members.

Under the BWC, Veterinary Services play a key role, including:

- Safeguarding dual-use materials and knowledge.
- Preparedness for, early detection, response and reporting of unusual animal disease outbreaks.
- Coordinating with public health, law enforcement, and national security sectors.
- Contributing to and implementing national biosafety and biosecurity regulations.
- Supporting international cooperation while ensuring responsible use.

The BWC has 15 articles, several of which are directly relevant to Veterinary Services.

Summarised below are the provisions most applicable to Veterinary Services with an explanation for each of their relevance to Veterinary Services:

<u>Article I – General Obligations</u>

This is the core provision prohibiting the development, production, stockpiling, or acquisition of biological agents or toxins except for peaceful purposes.

Relevance to Veterinary Services:

Veterinary laboratories and facilities handling animal pathogens must ensure their work aligns with peaceful purposes, such as diagnostics, vaccine production, and research. This aligns with biosecurity and dual-use oversight responsibilities in the veterinary field.

Article III – Non-Transfer

States Parties must not transfer or assist others in acquiring biological weapons.

Relevance to Veterinary Services:

Veterinary authorities may be involved in regulating or monitoring the trade and transfer of animal pathogens or biological materials, ensuring they are not diverted for malicious use.

Article IV – National Implementation

States Parties must take national measures to implement the BWC, including laws and regulations to prohibit and prevent banned activities.

Relevance to Veterinary Services:

Veterinary Services may be responsible for:

- Implementing national biosafety and biosecurity standards in veterinary labs and animal health institutions.
- Participating in disease reporting systems that help detect unusual or suspicious outbreaks.
- Supporting awareness and training programmes on dual-use risks among veterinarians and researchers.

Article VII – Assistance

States Parties can request assistance if they are exposed to a biological weapons attack or threat thereof.

Relevance to Veterinary Services:

Veterinary Services may be first responders in animal disease outbreaks, including suspected deliberate events. Their role in early detection, reporting, and coordination is essential for mobilizing assistance and containment.

Article X – Peaceful Cooperation

Promotes the exchange of equipment, materials, and scientific information for peaceful purposes and ensures that legitimate uses are not hampered.

Relevance to Veterinary Services:

Supports international cooperation in veterinary science, surveillance, and diagnostics, while reinforcing the need for safeguards to prevent misuse.

**Why is it important for Veterinary Services to work with the BWC?**

Many pathogens previously used in bioweapons development have been animal pathogens (or zoonoses). Veterinary services have an important role in regulation (particularly for high consequence pathogens) and disease management. Veterinary Services are often the first responders in outbreaks of animal diseases (including zoonoses) whatever the source i.e., whether the outbreak be natural, accidental, or deliberate.

Unlike the Chemical Weapons Convention, the BWC does not have a verification mechanism (a means to assess compliance). Therefore, in addition to prevention and preparedness, it is important for the human, animal, and plant health sectors to play an active role in demonstrating national compliance with the BWC.

Implementation of the BWC requires a multisectoral effort at the health-security interface and it is important for Veterinary Services to play their part in close collaboration with their BWC counterparts at the national level.

The role of Veterinary Services in safeguarding national security is often not well recognized. Working with the BWC can help to raise the visibility and profile of Veterinary Services in national security. This also provides them with a seat at the table in cross government security mechanisms.

**What can the Veterinary Services concretely do to contribute to the BWC?**

Become familiar with the topic of biological threat reduction and why it is an important topic, and take the topic seriously.

Identify a designated focal point within the Veterinary Services. This should ideally be somebody who has an understanding of the BWC and is familiar with relevant topics such as laboratory biological risk management and regulation of pathogens and research. They should have the competencies and mindset to share knowledge with colleagues, to establish a relationship with the BWC National Contact Point, and to represent the Veterinary Services in BWC meetings.

The Veterinary Services should participate in national and regional BWC meetings.

As a starting point the Veterinary Services should work across government to contribute to the preparation of the annual BWC Confidence Building Measures reports which each BWC State Party is meant to submit annually.

The Veterinary Services should also offer expertise to the BWC on pertinent issues, such as microbiology, biological risk management, export controls, disease surveillance.

**Are there other international frameworks to prevent the misuse of pathogens?**

Yes. Whilst the BWC aims to prevent the development, stockpiling and use of biological weapons by states, United Nations Security Council resolution 1540 (UNSCR 1540) focuses on preventing the proliferation of weapons of mass destruction (WMD) to non-state actors e.g., terrorists and criminals. UNSCR 1540 obligates all UN Member States to prohibit and prevent the spread of Weapons of Mass Destruction or their delivery systems.

There are numerous international standards and guidelines which directly safeguard pathogens, thereby contributing to the strengthening of these international disarmament and non-proliferation instruments. For example, WOAH and WHO's international standards on biological risk management, and WOAH and WHO's guidance on reducing risks from dual use research of concern.

There are also international groups which are dedicated to reducing threats from biological weapons, including the Australia Group (an informal group of 42 countries (and the EU)) and the G7 Global Partnership Against the Spread of Weapons and Materials of Mass Destruction (the 'Global Partnership') which includes 30 countries and the EU.